BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2

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08-AFC-2
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BEACON SOLAR, LLC'S SUPPLEMENTAL BRIEF IN SUPPORT OF THE APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT

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Dated: June 1, 2010

I. INTRODUCTION

In its reply brief filed May 3, 2010, Energy Commission staff ("Staff") included a motion to reopen the record on selected topics. (See Staff Reply Brief at 1-5.) On May 13, 2010, the Committee responded to Staff's motion and issued a notice announcing that it would re-open the record on selected topics in this proceeding. Specifically, the Committee has reopened the evidentiary record to allow additional briefing and evidence on the following topics:

(1) The environmental review of the expansion of the Rosamond Community Services District and California City water treatment facilities;

(2) To hear evidence on Kern County's request for development fees from the Project; and

(3) To hear evidence on the Project's qualification for the American Recovery and Reinvestment Act.

(4) Additionally, in an email message from May 21, 2010, the Committee indicated that it would like clarification in the record as to exactly which nearby projects were analyzed in the cumulative impacts analysis in Soils and Water, and if none, an explanation of supporting the conclusion that there were no nearby projects to analyze.

(5) Finally, the Parties may comment or respond to the letter addressed to NextEra/Beacon from Dawn Martin dated April 20, 2010 and docketed in this proceeding on May 14, 2010.

Beacon Solar, LLC ("Beacon") hereby files this Supplemental Brief pursuant to the Committee's May 13, 2010 order.

II. WASTEWATER TREATMENT FACILITY EXPANSIONS

A. Where Review is Required, the Level of Detail is Guided by a Rule of Reason.

As discussed in detail in Beacon's and Staff's opening briefs, the WWTF expansions are separate activities that need not be reviewed as part of the Project's Application for Certification ("AFC") proceeding. (See Beacon Opening Brief at 30-32; Beacon Reply Brief at 5-12; Staff Opening Brief at 13; Staff Reply Brief at 5-9.) Nevertheless, the Committee has asked the Parties to supplement the record on this point. In doing so, it is helpful to begin with some background regarding the level of detail required by CEQA in an environmental impact report ("EIR").

The arguments set forth by California Unions for Reliable Energy ("CURE") regarding the WWTF expansions demonstrate that CURE has lost its broader perspective on what CEQA truly requires. The scope of an EIR's analysis of potential future environmental consequences is guided by standards of reasonableness and practicality. (*Environmental Council of Sacramento v. City of Sacramento* [2006] 142 Cal.App.4th 1018.) The fundamental goal of an EIR should be

to provide "a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." (14 C.C.R. § 15151; *Towards Responsibility In Planning v. City Council of the City of San Jose* [1988] 200 Cal.App.3d 671, 679.) In this case, the WWTF expansion projects simply have not advanced as far in the planning and development process as the Project. CEQA does not require environmental review to be indefinitely delayed until every last detail of the WWTF expansions can be ascertained. CEQA also does not require an evaluation of environmental effects of a proposed project to be exhaustive; instead, the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. (14 C.C.R. § 15151; *Towards Responsibility In Planning, supra,* at 679.) The courts have looked not for perfection but for adequacy, completeness and a good faith effort at full disclosure. (*Id.*) Beacon and Staff have gone far beyond the requirements of CEQA to gather a great deal of information about the scope of, and environmental impacts from, the WWTF expansion projects. (See this brief, at section II.B; Beacon Opening Brief at 31-33; Beacon Reply Brief at 5-12; Staff Reply Brief at 5-8.)

It is also important to note that the primary concern of CEQA's anti-piecemealing mandate is the concealment of potentially cumulative impacts. The recent decision in *Communities for a Better Environment v. City of Richmond*, discussed in Beacon's and Staff's briefs, reaffirmed that CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones – each with a minimal potential impact on the environment – which cumulatively may have disastrous consequences." (*Communities for a Better Environment v. City of Richmond* [April 26, 2010] 108 Cal.Rptr. 3d 478, 499; see also Beacon Opening Brief at 11; CURE Opening Brief at 20; CURE Reply Brief at 24.) In this case, the WWTF expansions are expected to have less than significant environmental impacts, given that they will be built within the existing site boundaries of the respective wastewater treatment facilities. (Ex. 341 at 3.) As discussed below, past similar expansions have not produced significant environmental impacts and have been addressed by negative declaration or mitigated negative declaration. (*Id.*) Furthermore, due to the relatively small environmental impacts from the WWTF expansions, and the large distances separating them from the Project site, there is no potential for any significant cumulative impacts from the Project and the WWTF expansions. (Id.; Ex. 353; Beacon Reply Brief at 2 and 12; Beacon Opening Brief at 30-31 [citing Ex. 500 at 4.9-55 through 4.9-57, 4.1-34, 4.5-9, 4.12-9].) Therefore, the core concern of CEQA's anti-piecemealing policy – that cumulative impacts are not artificially diluted – has already been addressed in this case.

In the context of a project-level EIR, it may also be appropriate to defer a complete evaluation of an environmental impact when the EIR contains information sufficient to determine that the impact can be adequately mitigated based on the results of further studies. (*Riverwatch v. County of San Diego* [1999] 76 Cal.App.4th 1428, 1440 [CEQA does not require a project "to bear unnecessary investigative and assessment burdens"].) In this case, the "further studies" are the project-level CEQA documents that will be prepared for the wastewater treatment facilities. The evidence in the record demonstrates that the impacts from the WWTF expansions will be adequately mitigated, as they will be constructed within the facilities' existing boundaries and are not different in scope from past expansions which were reviewed by negative declarations or mitigated negative declarations.

B. The Record Contains Sufficient Evidence Regarding the Wastewater Treatment Plant Expansions.

Beacon's opening and reply briefs describe in detail the information in the record pertaining to the WWTF expansions. Rather than restating all of this previously-filed information, Beacon incorporates the following information into this brief: Beacon Opening Brief at 30-33; Beacon Reply Brief at 5-12.

In addition to the information previously briefed, Beacon provides the following additional discussion regarding the WWTF expansions to address the issues identified in the Committee's May 13, 2010 order.

1. The Evidence in the Record Demonstrates the Wastewater Treatment Facility Expansions Will Have No Potential to Cause Any Significant Direct or Cumulative Impacts on the Environment.

The record for this proceeding demonstrates that the WWTF expansions will occur within the existing boundaries of the WWTFs, and are unlikely to cause any significant impacts to the environment. (Ex. 341 at 3; Ex. 353; Beacon Reply Brief at 2 and 12.) As discussed in Beacon's opening and reply briefs, previous expansions at both facilities have been reviewed by negative declaration (California City WWTF expansion in 1993) and negative declaration (California City WWTF expansion in 2000 and RCSD WWTF expansion in 2000). (*Id.*; see also Beacon Reply Brief at 2 and 12; Staff Reply Brief at 4.) Both California City and RCSD anticipate that the currently proposed WWTF expansions will also be analyzed via mitigated negative declaration. (*Id.*) As discussed in greater detail in Beacon's reply brief, RCSD completed a Recycled Water Facilities Plan Final Report ("Facilities Plan") in 2008 that addresses the upgrades to the WWTF. (See Beacon Opening Brief at 6; see also Exhibit 355.) RCSD also recently completed a document setting forth the anticipated environmental impacts of the WWTF expansion. (See RCSD, Additional Facts Regarding RCSD WWTP Conversion to Additional Tertiary Treatment Capacity [May 19, 2010].)

With regard to the California City WWTF expansion, California City's director of public works has provided a declaration describing the nature of the expansion in detail, including the history behind the proposal and a discussion of the previous planning efforts. (See Ex. 341.) Beacon also commissioned a biological resource assessment covering the 2.8 mile stretch of pipeline along Mendiburu Road, as well as the WWTF site. (See Ex. 352.) This assessment noted that the WWTF site contains no vegetation communities. (See Ex. 352 at Figure 3.)

All of the reasonably available evidence regarding the WWTFs indicates that these projects will not cause significant direct or cumulative impacts on the environment. CURE has submitted no evidence indicating otherwise.

All of the reasonably available evidence regarding the WWTFs indicates that these projects will not cause significant direct or cumulative impacts on the environment. CURE has submitted no evidence indicating otherwise. Therefore, Beacon and Staff have satisfied CEQA's requirements, as discussed in section I.B above.

2. The California City Sanitary Sewer System Master Plan and General Plan Contemplate Expansion of the California City Sewer System.

In 2002, California City developed its Sanitary Sewer System Master Plan (the "Sewer Master Plan"). This plan was released over seven years ago, further demonstrating the longtime plans for expanding California City's sanitary sewer system and reducing the number of lots relying on septic systems. This plan covers a 16.5 square mile with about 8,500 residents as of 2002 (that is, the bulk of California City's residents). This plan covers largely the same area as the area specified for sewer system expansion in California City's March 22, 2010 proposal. (See Ex. 346 at ES-1; see also Ex. 506.) Of the 8,500 residents in the area addressed by the Sewer Master Plan, approximately two thirds were not connected to California City's sewer collection system as of 2002. (Ex. 346 at ES-1 and 1-1.)

The Sewer Master Plan was "designed to forecast potential construction needs for the year 2020, for buildout of the study area within the 'first community', to accommodate potential industrial growth and, to a limited degree, to accommodate growth in areas bordering the study area." (Ex. 346 at 2-4.) The Sewer Master Plan will serve the study area to buildout. (Ex. 346 at ES-1.) Therefore, the Sewer Master Plan clearly has contemplated the expansion of California City's sewer system since 2002. It is completely inaccurate to claim that this expansion is being driven by the Beacon project, as CURE has repeatedly argued. (See CURE Opening Brief at 24; CURE Reply Brief at 21 and 27.)

The California City General Plan also strongly encourages efficient buildout and ensuring the availability of adequate public services. The General Plan encourages "a concentrated urban land use pattern which provides for the economically efficient provision of urban services to the central core area." (Ex. 345 at 2-14.). The General Plan encourages infill development, and requires an orderly outward expansion of new urban development to "allow for the incremental expansion of infrastructure and public services." (Ex. 345 at 2-20.) The General Plan also seeks to ensure that all portions of the community are adequately supported by infrastructure and services. (Ex. 345 at 2-20.) In conjunction with the Sewer Master Plan, California City has long planned improvements to California City's septic system as a means of achieving other important goals such as more efficient development patterns.

3. The Kern County General Plan Contemplates Expansion of the California City Sewer System.

The Kern County General Plan's Public Services and Facilities section includes many goals, policies, and implementation measures that demonstrate that these projects have been in progress for many years. The General Plan strongly encourages the conversion of septic tanks to public sewer systems. (Ex. 356 at 21.) It lays out procedures for establishing a timetable for siting and construction of necessary collection, treatment, and disposal facilities, leaving the precise details of this planning process to the sewer master plan (discussed below). (Ex. 356 at 63 [Policy 11] and 64 [Implementation Measure D].) The General Plan also requires a compact and orderly urban expansion pattern adjacent to established communities – a requirement not achievable under the existing conditions with septic systems. (Ex. 356 at 63 [Policy 13] and 21 [Policy 2];

see also Beacon Reply Brief at 7-8.) While the Kern County General Plan is not directly applicable to California City, it demonstrates that improvements to the area's sewer systems are a major high-level concern in Kern County.

The General Plan also includes several findings and goals recognizing the adverse health impacts resulting from individual septic systems, including impacts to groundwater resources. (See Ex. 356 at 18 and 19 [Goals 6, 9, and 11].) The conversion to a sewer system will be highly beneficial to groundwater quality in California City.

4. The 2.8 Mile Segment Along Mendiburu Road Has Been Previously Planned and Analyzed for the Project.

In its opening brief, Beacon noted the short segment of the California City pipeline route that was not included in the previous natural gas pipeline analysis. (See Beacon Opening Brief at 14.) This segment is included in the California City Sewer Master plan (discussed above). (See Ex. 346 at Figures 8 and 11.) This segment of the recycled water pipeline will be built entirely within existing disturbed roadbed areas. (Beacon Opening Brief at 14; Staff Opening Brief at 14-16.) Nevertheless, Beacon has commissioned a study of this section of the pipeline. This study concluded that because all activities associated with the pipeline will occur only in developed areas, the construction and operation of the pipeline will have no impact on vegetation or habitat. (Ex. 353 at 7.)

C. The New Analysis and Materials are Not Untimely.

Courts have cautioned against evaluating and mitigating impacts too late in the CEQA review process. For example, in invalidating the EIR in *Communities for a Better Environment v. City of Richmond*, the court noted that the lead agency "delayed making a significance finding until late in the CEQA process," provided little information supporting that finding, and offered no assurance that the mitigation for that impact would be successful. (*Communities for a Better Environment*, *supra*, at 497.)

Although new information has recently been added to the record to address the topics from the Committee's May 13, 2010 Order, the Commission's CEQA-equivalent process is extremely thorough and affords ample public participation opportunities up to the date of the final decision. In this proceeding, there are three hearings remaining, one to take additional evidence on certain issues identified by the Project Siting Committee (scheduled for June 8, 2010), one to receive comments on the Presiding Member's Proposed Decision, and one before the Commission on the Final Decision. The parties have the chance to submit additional testimony and briefing on selected issues until June 1, 2010, and comments on all aspects of the Project until the Project's adoption hearing, which has not yet been scheduled. When the Presiding Member's Proposed Decision issues, the public will have the opportunity to submit comments on that document during a period of at least 30 days. (See 20 C.C.R. § 1749[b].) Therefore, members of the public will have ample opportunity to review and comment on the information submitted at the June 8 evidentiary hearing.

D. Staff Has Independently Reviewed All Information Submitted in this Proceeding.

CURE has argued at various points in this proceeding that Staff has failed to conduct its own independent analysis of various materials and studies. (See, e.g., CURE Opening Brief at 27-28; CURE Response to Motion to Reopen Record at 11-12.) CURE would have the Committee believe that CEQA requires Staff to conduct all of the studies and analysis for the Project itself. However, as CURE should know from its years of participating in the CEQA process, this is neither required by CEQA nor a realistic way for a lead agency to review a project. CEQA allows a lead agency to rely on information provided by other persons or agencies, so long as the lead agency independently reviews and analyzes this information. (Cal. Publ. Res. Code § 21082.1[b] and [c].) This includes "[a]ccepting a draft prepared by the applicant, a consultant retained by the applicant, or any other person." (14 C.C.R. § 15084[d][3].) Of course, before relying on such information, the Commission must "subject the draft to [its] own review and analysis." (14 C.C.R. § 15084[e].)

CURE's arguments that Staff has improperly relied upon analysis prepared by a project applicant are not new. In a 1991 decision, a California appellate court rejected arguments that an EIR prepared by a consultant retained by the project applicant was invalid. (*Friends of La Vina v. County of Los Angeles* [1991] 232 Cal.App.3d 1446 [disapproved of on other grounds].) In that case, the court upheld an EIR that included responses to comments drafted by the applicant's consultant. In upholding the EIR, the *Friends of La Vina* court discussed several other cases on point, including one in which a court approved an EIR which an agency had received from an applicant's consultant and had adopted after changing one word and adding eight pages of introduction. (*Friends of La Vina*, supra, at 1455 [citing *City of Poway v. City of San Diego* (1984) 155 Cal.App.3d 1037].) The *Friends of La Vina* court held that the independent review, analysis, and judgment test, not the physical draftsmanship test, applies to all parts of an EIR. (*Friends of La Vina* at 1456.)

In another more recent decision, another California appellate court upheld a draft EIR prepared by counsel for the project applicants against claims that the EIR was "biased and legally inadequate." (*Eureka Citizens for Responsible Government v. City of Eureka* [2007] 147 Cal.App.4th 357, 369.) In that case, the court noted that the lead agency had conducted a comprehensive peer review of the draft EIR and made findings that the agency was directly involved in the review and preparation of the draft EIR and final EIR, and that the EIR at all times represented the independent judgment and analysis of the agency. (*Id.* at 370.)

Staff has independently analyzed every section of both the California City and Rosamond recycled water pipeline alternatives. (See Beacon Reply Brief, Attachment A, at 2-3; Staff Opening Brief at 13-17.) As discussed in Beacon's opening brief, Staff has independently reviewed Beacon's analysis of the impacts along the 17.6 mile segment of the Rosamond pipeline, which follows the same alignment as was extensively analyzed as the route for the Project's natural gas pipeline. (See Beacon Opening Brief at 11-13 and 30; Ex. 500 at 4.2-8, 4.2-13, 4.2-127, 4.2-135; see also Ex. 500 at Biological Resources Appendix A, Figures 1-6b.) Staff has also reviewed the documentation for the potential eastern alignment of the Rosamond recycled water pipeline extending through Edwards Air Force Base. (Staff Reply Brief at 4-5; Ex. 500 at 4-5.) CURE has submitted no evidence to contradict Staff's assertion that it has independently reviewed all of the information prepared by other parties upon which the Final

Staff Assessment relies. Therefore, Staff's analysis of all aspects of the Project satisfies all CEQA requirements.

III. KERN COUNTY DEVELOPMENT FEE

Beacon wishes to make clear at the outset that it remains willing to provide a voluntary contribution to the County to support the County's public services. However, the amount requested by the County at the Project's evidentiary is vastly disproportional to the Project's anticipated impacts, and would violate both state and federal law. (See Beacon Opening Brief at 23-25.). Beacon recently proposed an alternate amount that it believes will more than compensate Kern County for the anticipated impacts of the Project on public services, and will continue to negotiate in good faith with Kern County until a number is agreed upon that is acceptable to both parties. As discussed below, the County impact fee is not a law, ordinance, regulation or standard ("LORS").[1] For these reasons, and because Staff has already addressed the Project's impacts to public services, the Committee need not and should not require Beacon to pay a public services impact fee as requested by Kern County as a condition of certification.

A. The Kern County Public Facilities Impact Fee Request Is Facially Invalid, and Therefore Is Not a Valid LORS.

In calculating the fee applicable to the Project, the County relies on the Kern County Public Facilities Impact Fee Study, dated May 18, 2009 (the "Fee Study"), As the County correctly observes in the Fee Study, the establishment of a new fee is governed by section 66016 of the Government Code. This section provides clear limitations on the amount of fees that may be imposed:

> Unless there has been voter approval, as prescribed by Section 66013 or 66014, no local agency shall levy a new fee or service charge or increase an existing fee or service charge to an amount which exceeds the estimated amount required to provide the service for which the fee or service charge is levied. If, however, the fees or service charges create revenues in excess of actual cost, those revenues shall be used to reduce the fee or service charge creating the excess. (Govt. Code § 66016[a].)

The approximately $31 million fee requested by the County vastly exceeds the impacts the Project will have on public services, as discussed in detail in Beacon's opening brief in this proceeding. (See Beacon Opening Brief at 23-25.) Beacon has also responded directly to the County in a letter dated April 23, 2010. Beacon believes it is readily apparent that the $31 million fee requested by the County is not a reasonable estimation of the Project's impacts, as demonstrated by the faults in the Fee Study's assumptions and methodology. Therefore, even if the Fee Study had been adopted by the Board of Supervisors (which it has not), it would not constitute a valid law, ordinance, regulation

[1] In certifying a power plant site, the Commission's regulations require the Commission to make findings and conclusions on the extent to which the proposed facilities are in compliance with any "applicable local, regional, state, and federal standards, ordinances, regulations or laws." (20 C.C.R. § 1752.) It is therefore important to the Commission's review of the Project to establish whether the Commission may properly certify the Project before the Kern County ("County") impact fee has been paid if this fee could be considered a LORS.

or standard because it violates the requirements of the California Constitution and the California Government Code.

B. <u>The Impact Fee Is a Discretionary Condition of Approval, and Does Not Constitute a LORS.</u>

With certain exceptions, the Commission may not certify a facility if it finds that the facility does not conform to any applicable state, local, or regional standards, ordinances, or laws. (Govt. Code § 25525.) The Commission's regulations do not define the terms "law," "ordinance," regulation" or "standard." As a starting point, it is helpful to consider the definitions of these terms in Black's Legal Dictionary:

- Law: The aggregate of legislation, judicial precedents, and accepted legal principles; the body of authoritative grounds of judicial and administrative action; esp., the body of rules, standards, and principles that the courts of a particular jurisdiction apply in deciding controversies brought before them. (Black's Law Dictionary 962 [9th Ed. 2009].)

- Ordinance: An authoritative law or decree; esp., a municipal regulation. Municipal governments can pass ordinances on matters that the state government allows to be regulated at the local level. A municipal ordinance carries the state's authority and has the same effect within the municipality's limits as a state statute. (*Id.* at 1208.)

- Regulation: The act or process of controlling by rule or restriction. (*Id.* at 1398.)

- Standard: (1) A model accepted as correct by custom, consent, or authority. (2) A criterion for measuring acceptability, quality, or accuracy. (*Id.* at 1535.)

The Fee Report relies upon the Mitigation Fee Act (Government Code sections 66000-66025) for the authority to impose fees on development projects. In this case, the only LORS relevant to the County's fee request is the Mitigation Fee Act, not the Fee Report, and any fees imposed must meet the requirements of the Mitigation Fee Act by bearing a reasonable nexus to the actual cost of the impact, as discussed in detail in Beacon's post-hearing brief.

Moreover, while the Mitigation Fee Act allows the establishment of mitigation fees in certain circumstances, it by no means requires it. The Mitigation Fee Act certainly does not require cities and counties to impose development fees against any or all projects. Rather, it leaves the imposition of such fees to the discretion of those agencies, while establishing clear limits for the amount which may be demanded if the agencies decide to impose such fees. Furthermore, the Mitigation Fee Act does not require those subject to mitigation fees to pay them. Courts have recognized that "[t]he dedication of land or the payment of fees as a condition precedent to development is voluntary in nature," and that "[e]ven though the developer cannot legally develop without satisfying the condition precedent, he voluntarily decides whether to develop or not to develop." (*Trent Meredith, Inc. v. City of Oxnard* [1981] 114 Cal.App.3d 317, 328.)

The individualized and discretionary nature of the fees makes them dissimilar to the broadly applicable legal authorities that typically constitute LORS. For example, the Commission has

published a document titled "Power Plant Certification Process Laws, Ordinances, Regulations and Standards" to provide guidance as to the federal, state, and local LORS typically applicable and required for the construction and operation of power plant facilities in California.[2] The local LORS listed in this document include local air district rules, building and fire codes, zoning ordinances, and General Plan provisions. The Kern County General Plan includes provisions regarding recovery of fees for public services, and as discussed in the next section of this brief, these provisions have been fully satisfied as part of the Commission's socioeconomics analysis of the Project.

Furthermore, Kern County is currently in the process of establishing a process in which future renewable energy projects under consideration by the Commission will be brought before the Board of Supervisors for discussion of public service impacts and mitigation. (See Ex. 364 at 1.) This demonstrates that the County is considering a process under which each project is independently reviewed at least to some extent for impacts to public services. However, it is unclear how Kern County will coordinate this review with the Commission's review, which by statute is in lieu of all local permits and requirements. (See Govt. Code § 25500.)

As an additional reason why the impact fee does not constitute a LORS in this case, the County has no independent approval authority over the Project. The Commission has the exclusive power to certify thermal power plants in California. (See Pub. Res. Code § 25500.) Beacon will be required to obtain a parcel merger from Kern County Planning Department pursuant to Condition of Certification LAND-3. (See Ex. 500 at 4.5-11.) However, since the Commission's authority supercedes Kern County's local land use authority, Kern County ultimately does not have authority over the Project. Commission Staff studied the potential impacts of the Project on Kern County public services and found that there would not be a significant adverse impact and no mitigation was required.[3]

As discussed below, the Commission has already satisfied all of the requirements from all applicable LORS, including the Kern County General Plan. The County's development fee is not a LORS. Rather, it is a discretionary condition of approval that the County may choose to require for development projects over which it has approval authority.

C. <u>The Impact Fee Study Upon Which the County Relies Is Still In Draft Form, and Therefore Is Not a Valid LORS.</u>

The only authority cited by the County in support of the impact fee it has attempted to assess against the Project is the Fee Study. This document is still in draft form, and <u>has not been adopted by the County Board of Supervisors</u>. (See Ex. 361; see also Ex. 364 at 1.)

The California Government Code clearly lays out the requirements for adopting a new fee. The pertinent section provides:

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[2] Available at http://www.energy.ca.gov/public_adviser/documents/2004-11-09_LORS.PDF.

[3] Where the CEQA review for a project concludes that the project will not have a significant adverse impact on a given resource, that is evidence that a later request for public services fees by a local government lacks a rational nexus under the Mitigation Fee Act. (*See Rohn v. City of Visalia* (1989) 214 Cal.App.3d 1463, 1475-76.)

> Prior to levying a new fee or service charge, or prior to approving an increase in an existing fee or service charge, a local agency shall hold at least one open and public meeting, at which oral or written presentations can be made, as part of a regularly scheduled meeting. (Govt. Code § 66016[a].)

The local agency must follow specific noticing and public review requirements, including making available to the public the information supporting the fee at least 10 days prior to the fee adoption hearing. (Govt. Code § 66016[a].) Furthermore, the fee may not go into effect sooner than 60 days following the final action on the adoption of the fee or charge. (Govt. Code § 66017[a].)

There is no indication in the record for this proceeding that these steps have been undertaken. On March 23, 2010, the Board of Supervisors considered the Fee Report along with the County's Capital Improvement Plan. The Board of Supervisors did not adopt the fee documents at that time, but instead requested additional information in several areas. (See Ex. 364 at 1.) Specifically, the Board of Supervisors requested additional information on (among other topics) the potential to reduce fees for renewable energy projects, smart-growth projects, and job-generating projects. (*Id.*) Because the County has not adopted its own study to justify the fees it is requesting, it would be improper for the Committee to consider the Fee Report a LORS at this time, even if the amount requested appeared to be a reasonable approximation of the actual cost of the Project's impact (which it does not).

D. Energy Commission Staff Have Already Satisfied All Policies and Goals in the Kern County General Plan Pertaining to Public Services.

The Kern County General Plan, which certainly qualifies as a LORS[4], includes several provisions regarding mitigation for development impacts. These provisions require new development to pay its proportional share of the local cost of extensions in services, facilities, and infrastructure which it generates.[5] In the Final Staff Assessment ("FSA"), Commission Staff analyzed the Project's impacts to public services as well as the benefits offsetting those impacts. (See Ex. 500 at 4.8-1 to 4.8-14.) Staff ultimately concluded that the Project does not have the potential to cause any significant impacts to public services. (Ex. 500 at 4.8-4; see also Staff Opening Brief at 24.) With regard to law enforcement, Staff noted that because the change in

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[4] See California Energy Commission, Power Plant Certification Process Laws, Ordinances, Regulations and Standards (available at http://www.energy.ca.gov/public_adviser/documents/2004-11-09_LORS.PDF).

[5] See Kern County General Plan, Public Facilities and Services Goal 3: "Distribute the cost of new services or facilities equitably among the beneficiaries" (p. 19); Public Facilities and Services Policy 1: "New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development" (p. 21); Public Facilities and Services Implementation Measure B: "Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the time of approval of the Final Map. This implementation can be effectuated by the formation of a County work group" (p. 23); Public Services and Facilities Policy 9: "New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent" (p. 63); Public Services and Facilities Policy 16: "The developer shall assume full responsibility for costs incurred in service extensions or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance" (p. 64).

population would be slight or nonexistent, the Project will not cause any significant impacts to law enforcement services. (See Ex. 500 at 4.8-9.) Staff noted that while the Project will not cause a significant impact to fire and police protection nor any impact to other public services (and therefore no mitigation is required), the Project will provide fiscal benefits to the area including property taxes, sales taxes, and local development fees resulting from the construction and operation of the Project. (See Ex. 500 at 4.8-4.) Furthermore, Beacon is paying its proportional share of the costs to install pipelines and facilities for the conveyance of recycled water to the Project. (Beacon Reply Brief at 9; Ex. 506.) Despite the claims made by the County, Staff and Beacon have introduced sufficient substantial evidence into the record to demonstrate that the Project's contributions will fully compensate the local districts and agencies for the public services required to serve the Project.

E. The Kern County Capital Improvement Plan and Fee Study May Be a "Project" Subject to CEQA.

CEQA does not apply to the "establishment, modification, structuring, restructuring, or approval of rates, tolls, fares, or other charges by public agencies which the public agency finds are for the purpose of…meeting operating expenses." (Pub. Resources Code § 21080[b][8]; 14 C.C.R. § 15273.) However, CEQA does apply to "rate increases to fund capital projects for the expansion of a system." (14 C.C.R. § 15273[b].) Case law has clarified that capital projects with the goal of meeting operating expenses and maintaining service within existing service areas (as opposed to expanding service areas) qualify for this exemption. (See *Bus Riders Union v. Los Angeles County Metropolitan Transp. Agency* (2009) 179 Cal.App.4th 101, 109-110.) However, the establishment of fees for the purpose of expanding public services remains subject to CEQA.

The Kern County Capital Improvement Plan indicates that the County is planning 28 new facilities, including 23 new fire stations, a new emergency communications center, three training facilities, and three helicopter hangers. (Ex. 365 at 79.) The County is also planning an expansion of the Fire Department Headquarters in connection with the expansion of fire services throughout the County. (*Id.* at 83.) The Capital Improvement Plan lists development impact fees as one of the funding sources for this expansion. (*Id.*) The establishment of a fee to raise funds for such expansion is a "project" subject to CEQA. Because the County has not conducted CEQA review for this action, the fee study would not be a valid LORS in any event.

F. Proposal to Address Kern County Funding Deficits.

Despite no evidence in the record to support Kern County's request for an impact fee, the Project is willing to provide an enhancement payment to the County consistent with the payments proposed by Staff for other solar projects proposed in the Southern California desert area. Beacon notes the FSA does not find and the record does not contain any evidence to support a claim of actual impacts and increased costs to the County. Because this provision is not being proposed as mitigation, should Kern County legally adopt and impose a different impact, mitigation or other fee upon the Project, Beacon will no longer pay the fee proposed below but will provide compensation based upon mutually acceptable terms to Beacon and Kern County. Beacon proposes the Committee include the following condition of certification in the Presiding Member's Proposed Decision.

WORKER SAFETY-7 The project owner shall either (1) reach an agreement with Kern County regarding funding of its project-related share of Kern County's request for an impact fee; (2) pay a legally enforceable impact fee adopted by Kern County, **or**, if no agreement can be reached with Kern County and Kern County does not enact a legally enforceable impact fee shall (3) provide capital costs in the amount of $350,000 plus provide an annual payment of $100,000 to the KCFD for the support of additional fire department staff commencing with the date of site mobilization and continuing annually thereafter on the anniversary until the final date of power plant decommissioning.

Verification: At least 30 days prior to the start of site mobilization not including work performed prior to the end of 2010 conducted to qualify for ARRA funding, the project owner shall provide to the CPM either a copy of the agreement or documentation that the $350,000 payment and the first annual payment has been made.

In the annual compliance report submitted to the CPM, the project owner shall provide documentation that the annual payment has been made unless an agreement is reached with the KCFD that an annual payment is not required.

IV. AMERICAN RECOVERY AND REINVESTMENT ACT FUNDING

In its reply brief, Beacon asked the Committee to consider adopting a condition of certification that would allow Beacon to commence construction to satisfy requirements for obtaining federal funding under the American Recovery and Reinvestment Act (ARRA). (See Beacon Reply Brief at 15.) CURE attempts to characterize Beacon's request as a sleight of hand. (See CURE Response to Motion to Reopen Record at 17.) CURE claims that starting physical construction is not necessary because ARRA's start of construction requirements may be satisfied merely by paying more than 5 percent of the total cost of the property. (*Id.*) Beacon finds it ironic that CURE (California Unions for Reliable Energy) would be encouraging a company with a project in California to take advantage of the safe harbor provision when the location of the work supported by an expenditure could easily be outside of California. Instead, Beacon would like the option of initiating actual work on site and generating jobs in California.

Beacon notes that even though it has paid for the real property upon which the Project is proposed, that payment does not qualify the Project for funding under the safe harbor provision CURE references. (Payment for Specified Energy Property in Lieu of Tax Credits under the American Recovery and Reinvestment Act of 2009 at 14-15 [July 2009/Revised March 2010].) Unlike the guidance provided on the requirements for the safe harbor provision upon which CURE relies, the guidance on beginning construction is easier to define and poses less uncertainty in meeting the requirements to qualify for funding. The requirements specify beginning work of a significant nature that includes excavation for foundations, setting of anchor bolts or pouring of concrete pads. (*Id.* at 6.) In contrast, the safe harbor provision has very specific rules about which costs can be included and which costs qualify. (*Id.* at 7.) These types of tax rules always leave details to be resolved over time in the implementation of the provision. The problem is that Beacon will not get a second chance to qualify since the provision sunsets on December 31, 2010. To be sure the Project will qualify, it is much more certain to construct a foundation than to attempt to qualify under the safe harbor provision.

Beacon would look for a defined task that would meet the requirements for physical work of a significant nature but not require grading of the entire site, which does not count as beginning construction. (*Id*. At 6.) One action that may qualify and could be defined narrowly includes reconditioning an existing well. Limited and defined items like this are being considered because they have a small footprint and avoid areas of particular environmental concern such as high potential for cultural resources. This work is not intended to avoid or ignore the conditions of certification but only to define a small scope of work that could begin prior to completion of all of the preconstruction conditions of certification. The ARRA funding opportunity is a unique incentive created to begin work on renewable energy projects and put Americans to work. Beacon would like to take advantage of this incentive should the Commission grant Beacon's application.

V. CUMULATIVE IMPACTS

The Committee would like clarification in the record as to exactly which nearby projects were analyzed in the cumulative impacts analysis in Soils and Water, and if none, an explanation of supporting the conclusion that there were no nearby projects to analyze.

With regard to soil resources, Beacon's AFC lists the Pine Tree Wind Development Project and the Barren Ridge-Castaic Transmission Project as projects with the potential to cause cumulative impacts. (Ex. 16 at 5.12-8.) However, these projects are subject to the same water quality-related regulatory programs (such as NPDES permits and grading ordinances) which would ensure that these projects do not cause any significant cumulative impacts to soils. (*Id.*) Because the Project will not impact any agricultural resources, it will not contribute to any cumulative impact to agricultural resources. (*Id.*)

With regard to water resources, the AFC also considered impacts from the Pine Tree Wind Development Project and the Barren Ridge-Castaic Transmission Project. The Pine Tree Wind Development Project does not propose to use groundwater as a water supply during construction or operation. (Ex. 21 at 5.17-36.) The Barren Ridge-Castaic Transmission Project was at an early stage of the environmental review process at the time the AFC was prepared. (*Id.*) However, the AFC notes that transmission line projects are typically not heavy consumers of water and no significant impacts to groundwater supply are expected. (*Id.*)

As discussed above in section I.C.1 of this brief, the Project does not have the potential to cause any significant cumulative impacts in connection with either the California City or Rosamond wastewater treatment facility expansions.

VI. RESPONSE TO LETTER FROM DAWN MARTIN

The residents of the community of Rancho Seco have throughout the proceeding expressed their concerns about maintaining the quantity and quality of their water supply. Beacon understands these concerns. The letter from Dawn Martin dated April 20, 2010 and received by the docket unit on May 14, 2010 ("Ms. Martin's Letter") expresses a concern about the water quality impacts of using "recycled water and other hazardous chemicals" at the Project. Based upon this concern Ms. Martin's Letter requests the Project pay for well testing of the well that serves the Rancho Seco community.

Regarding recycled water Beacon has not proposed to use recycled water for construction dust control or for mirror washing, uses that would put recycled water on the ground. Staff has requested and Beacon has agreed to use recycled water for power plant cooling purposes. (See Ex. 337.) The power plant cooling water will be used in a contained system – contained in the pipeline from the treatment plant, transferred to a tank at the project, used in the cooling tower, and finally evaporated in the ponds. (*See* Ex. 2 at 2-17 to 2-18.) The evaporation ponds will be double lined. (Ex. 2 at 2-19.) In addition, a monitoring well will be located down gradient from the evaporation ponds and the land treatment unit such that any leaks from either system will be detected and addressed long before they could impact the water supply at Rancho Seco. (Ex. 500 at 4.9-207 through -208; see also Beacon Opening Brief at 39.)

Nonetheless, Beacon notes recycled water is generally approved for use for landscape irrigation purposes and is required to be used for these purposes where it is available at similar cost. (Cal. Water Code § 13551.) As an example, California City currently uses their tertiary treated water for landscape irrigation and intends to use the additional capacity in a similar way if the recycled water is not used by Beacon. (3/22/10 RT at 151:12-15.)

Regarding hazardous materials Beacon proposes to store and use hazardous materials consistent with all requirements. (Ex. 10 at 5.6-19 to 5.6-21; Ex. 172.) Beacon and Staff have also addressed potential spills of heat transfer fluid. (See Beacon's Opening Brief in Support of the Application for Certification for the Beacon Solar Energy Project, Section V, April 19, 2010.) Beacon will prepare detailed plans that will describe the specific actions and notifications to regulatory agencies Beacon will take to ensure proper cleanup of leaks of heat transfer fluid. (See HAZ-2 requiring a hazardous Materials Business Plan; Ex. 332 at 2 specifying the requirement to prepare a Spill Prevention, Control and Countermeasure Plan.) Furthermore, to ensure these and other hazardous materials are handled properly, and contained and cleaned up if spills occur; Staff has included Conditions of Certification HAZ-1 through 7. (Ex. 500 at 4.4-15 to 4.4-18; Ex. 504.)

Ms. Martin's Letter also requests groundwater level testing during construction and thereafter. The modeling and analysis of potential groundwater impacts does not show a decrease in water levels in the community of Rancho Seco. (Ex. 335 at Figure R4 [demonstrating no significant change in the water level rise over 30 years].) Impacts to groundwater levels are addressed by the monitoring program contained in Conditions of Certification SOIL & WATER-1. (Ex. 337.) If the well at Rancho Seco is included in the monitoring program required by SOIL & WATER-1, it will be included in the monitoring program and tested at the intervals described in that program. If not, any impacts from Project water use will be detected by the monitoring program and addressed in accordance with the specific requirements contained in SOIL & WATER-1.

The analysis and protections already in place do not show impacts to either the water quality or water level in the community of Rancho Seco. To ensure these impacts do not occur to any surrounding property owners and water users, the Project is already subject to monitoring requirements for both water level and water contamination impacts. The Project will be required to store and use hazardous materials to avoid, contain and minimize releases of these materials. In the event of a spill the Project will have plans in place that specify the clean up steps and agency notification requirements for any spills of hazardous materials. Therefore, the testing and mitigation requested in Ms. Martin's Letter is either already included in the form of monitoring

and testing programs for both water level impacts and for any leaks from containment areas. Thus, the requested additional testing is not justified by the potential impacts from the Project.

VII. CONCLUSION

This supplemental brief addresses the remaining issues identified by the Committee since the parties' reply briefs were filed, including the issues identified in the Committee's May 13, 2010 Order. The Project continues to garner the nearly uniform support of the local citizens and surrounding communities, and has not been opposed by a single environmental group.

The record in this proceeding shows the Project:

- Will comply with applicable laws, ordinances, regulations and standards,
- Will not create any significant adverse environmental impacts, and
- Will not create a public health risk alone or in combination with other existing or reasonably foreseeable project.

Beacon respectfully requests the Committee find this Project meets the requirements of the Warren-Alquist Act and the Commission's regulations and present a recommendation to the Commission to approve the Project's Application for Certification.

DATED: June 1, 2010

DOWNEY BRAND, LLP

By:_____/s/_____

Jane E. Luckhardt
Attorney for Applicant

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2 **PROOF OF SERVICE** (Revised 2/8/10)

APPLICANT	**COUNSEL FOR APPLICANT**	**ENERGY COMMISSION**
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APPLICANT CONSULTANT Sara Head, Vice President AECOM Environment 1220 Avenida Acaso Camarillo, CA 93012 Sara.head@aecom.com	**INTERESTED AGENCIES** California ISO e-recipient@caiso.com	Eric Solorio Project Manager esolorio@energy.state.ca.us Jared Babula Staff Counsel jbabula@energy.state.ca.us
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Declaration of Service

I, Lois Navarrot, declare that on June 1, 2010, I served and filed copies of the attached **BEACON SOLAR, LLC'S SUPPLEMENTAL BRIEF IN SUPPORT OF THE APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT.** The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/beacon. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service List) and to the Commission's Docket Unit, in the following manner:

(check all that apply)

For Service to All Other Parties

__X__ sent electronically to all email addresses on the Proof of Service list;

__X__ by overnight delivery fully prepaid and addressed as provided on the Proof of Service List above to those addresses **NOT** marked "email preferred."

AND

For Filing with the Energy Commission

__X__ sending an original paper copy and one electronic copy, mailed and e-mailed respectively, to the address below **(preferred method)**;

OR

_____ depositing in the mail an original and 12 paper copies as follow:

California Energy Commission
Attn: Docket No. 08-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

_____/s/_____
Lois Navarrot

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2

BEACON SOLAR, LLC'S SUPPLEMENTAL EXHIBIT LIST IN SUPPORT OF THE APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT

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Attorneys for Applicant
Beacon Solar Energy, LLC

Dated: June 1, 2010

BEACON SOLAR ENERGY PROJECT
Supplemental Brief
List of Additional Exhibits
June 1, 2010

Exhibit 340 Declaration of Michael Bevins (May 28, 2010)

Exhibit 341 Declaration of Michael Bevins Regarding California City Wastewater Treatment Facility Expansion (May 3, 2010)

Exhibit 342 Declaration of Jennifer Guigliano (sponsoring biological assessment for Mendiburu Road segment)

Exhibit 343 Declaration of Scott Busa (sponsoring letter responding to Kern County regarding the impact fee)

Exhibit 344 California City General Plan 1993-2012

Exhibit 345 California City Draft General Plan 2009-2028

Exhibit 346 Sanitary Sewer System Master Plan for California City (September 2002) (attached to Reply Brief)

Exhibit 347 Memorandum of Understanding Between the California Water Quality Control Board (Lahontan Region) and the City of California City Regarding Septic Tank Guidelines (March 1989)

Exhibit 348 California City Wastewater Treatment Facility Site Map (attached to Reply Brief)

Exhibit 349 California City Wastewater Treatment Plant Expansion Initial Study and Negative Declaration (January 1993)

Exhibit 350 California City Wastewater Treatment Plant Expansion Conditional Use Permit Application, Initial Study, and Negative Declaration (April 2000)

Exhibit 351 Request for Proposals from California City for the Wastewater Treatment Facility Expansion Project

Exhibit 352 AECOM Biological Resource Assessment for Mendiburu Road Water Pipeline (May 2010)

Exhibit 353 AECOM California City WWTP Upgrade and Recycled Water Pipeline Cumulative Impacts Summary for the Beacon Solar Energy Project (May 28, 2010)

Exhibit 354 Comment Regarding the California City and Rosamond Community Services District Wastewater Treatment Facility Expansions (from December 1, 2009 Status Conference Transcript)

Exhibit 355 Rosamond Community Services District Recycled Water Facilities Plan Final Report (July 2008)

Exhibit 356 Kern County General Plan (selected sections pertaining to Public Facilities and Services)

Exhibit 357 Letter from Beacon Solar, LLC to Kern County Regarding Beacon Solar Energy Project – Offer of Voluntary Contribution to Kern County (June 1, 2010)

Exhibit 358 Kern County Regional Blueprint (December 2008)

Exhibit 359 [Reserved]

Exhibit 360 United States Department of Agriculture, Rural Utilities Service, Report Regarding Sewer Infrastructure Improvement Project For The City of California City, California New Sewer Backbone Lines Construction (April 2006)

Exhibit 361 [Reserved]

Exhibit 362 [Reserved]

Exhibit 363 Letter from Beacon Solar, LLC to Kern County Regarding Mitigation for Impacts to Public Services from the Beacon Solar Energy Project (April 23, 2010)

Exhibit 364 Kern County Status Report on CEQA Mitigation Methodology (April 27, 2010)

Exhibit 365 Kern County Capital Improvement Plan

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	Docket No. 08-AFC-2
Beacon Solar Energy Project	**Declaration of Michael Bevins**

I, Michael Bevins, declare as follows:

1. I am presently employed by the City of California City as the Director of Public Works. I have been in this position for two and a half (2 1/2) years. As a result of my responsibilities as the Director of Public Works, I have personal knowledge of the planning and development of wastewater and recycled water infrastructure within California City.

2. A copy of my professional qualifications and experience is attached to this Declaration.

3. My comments pertaining to the California City recycled water issues at the December 1, 2009 Status Conference (contained in **Exhibit 354**) are true and correct to the best of my knowledge. If asked to testify on the same topic, my sworn testimony would be the same.

4. My testimony in my declaration regarding the California City wastewater treatment facility expansion, dated May 3, 2010 and included as **Exhibit 341**, remains true and correct to the best of my knowledge. To the extent that this testimony contains opinions, such opinions are my own or those of other professionals that I judge to be qualified.

5. To the best of my knowledge, the following are true and correct copies of documents created by the City of California City:

   Exhibit 344 California City General Plan 1993-2012

   Exhibit 345 California City Draft General Plan 2009-2028

   Exhibit 346 Sanitary Sewer System Master Plan for California City (September 2002)

   Exhibit 347 Memorandum of Understanding Between the California Water Quality Control Board (Lahontan Region) and the City of California City Regarding Septic Tank Guidelines (March 1989)

   Exhibit 348 California City Wastewater Treatment Facility Site Map

Exhibit 349 California City Wastewater Treatment Plant Expansion Initial Study and Negative Declaration (January 1993)

Exhibit 350 California City Wastewater Treatment Plant Expansion Initial Study and Negative Declaration (April 2000)

Exhibit 351 Request for Proposals from California City for the Wastewater Treatment Facility Expansion Project

6. I am familiar with the facts and conclusions in this declaration and if called as a witness could testify competently thereto. I make these statements freely and under oath for the purpose of constituting sworn testimony in this proceeding.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at CALIFORNIA CITY, CALIFORNIA on 28 MAY, 2010.

Michael J. Bevins

MICHAEL JOHN BEVINS

541 East C St, Tehachapi, CA 93561
(661)823-7486
mjbevins@hotmail.com

EXPERIENCE

PUBLIC WORKS DIRECTOR 2007 to Present
City of California City, California Municipal Government
Directed Operations, Staffing, Capital Acquisition and Budgeting for Potable Water, Sanitary Sewer, Roads, Public Transportation, Building, Grounds, Facilities Maintenance and Planning Departments for a city of 204 square miles. Negotiated with Regional and State regulatory agencies, OSHA and Union representatives to resolve conflicts with the City.

MANAGING PARTNER 1999 to Present
Water Gnome, L.C. Community Water Consultant
Design, construction and operation consultant for community potable, irrigation, storm and waste water systems. Construction project supervision and budget creation. Water right research. Rate study generation. Public/Private venture consulting. *(See www.watergnome.com)*

PROJECT ANALYST 2002 to 2006
John Dee Jacob Company Regional Water and Land Developer
Reviewed designs and supervised construction of community potable and secondary water systems. Negotiated, researched and processed water right sales and point of diversion transfers. Researched real estate title transactions. Designed record keeping system. Served as transitional accountant. Responsible for future project definition and financial pro forma generation.

GENERAL MANAGER 1996 to 2000
Draper Irrigation Company Potable/Irrigation Utility
Implemented standardized development specifications in printed and electronic format. Implemented a structured policy and procedures manual. Implemented computerized accounting. Negotiated franchise and service agreements. Implemented a record management system. Directed media relations and litigation.

CONTROLLER 1991 to 1996
Magna Water Company, An Improvement District Potable/Wastewater Utility
Performed a variety of professional, administrative and supervisory duties related to planning, organizing, controlling, developing and coordinating the implementation and monitoring of District accounting, management information and financial systems. Performed investment activities in accordance with state approved policies and procedures. Managed investments to accommodate cash flow requirements. Coordinated District budget process. Implemented a structured policy and procedures manual.

SYSTEMS ANALYST 1987 to 1991
QualiSoft, Inc. Computer Consulting Services
Supervised the design, coding and support for custom application software for IBM System 36 computers in municipal and commercial settings. Designed charts of accounts and provided General Ledger, Accounts Payable, Accounts Receivable and Payroll support to clients. Installed and upgraded IBM System 36/AS400 computer systems and peripherals.

ADMINISTRATIVE ASSISTANT 1986 to 1987
Little and Company Mortgage Field Service
Supervised Accounts Payable and Accounts Receivable. Coordinated hardware upgrade for IBM System 36 mini computer system and attached peripherals. Coordinated, developed and coded operational and financial software.

STAFF ACCOUNTANT 1985 to 1986
Radix Corporation Electronics Manufacturer
Monitored open contracts using Lotus 1-2-3. Processed Accounts Receivable. Resolved credit and payment problems with public/private utilities and banks.

DISTRICT SUPERVISOR 1978 - 1981
CORPORATE TRAINING SUPERVISOR 1977
UNIT MANAGER 1974 - 1976
Calby Corporation (Cal Lewis, Inc.) Food Service
Recruited, trained, promoted and disciplined unit management personnel in California, Nevada and Utah areas. Evaluated area financial performance. Set and implemented area operation policy. Created and implemented a structured written orientation and training system. Directed new product development.

EDUCATION

B.S. Degree - ACCOUNTING University of Utah 1985
M.A. Degree - HISTORY California State College Stanislaus 1974
B.A. Degree - HISTORY/PSYCHOLOGY California State College Stanislaus 1972.

COMMUNITY SERVICE

Webelos Instructor - Cub Scout Roundtable Staff 1988 - 1995
Director, Draper Historical Society 1996 - 2000
Webelos Den Leader 2001 - 2002
Assistant Scout Master 2003 – 2005

CERTIFICATIONS

Utah Water Quality Board, Wastewater System Operator - Treatment II - 2002
-Collection II - 2002
Utah Drinking Water Board, Utah Water System Operator - Water Treatment Operator II - 2002
-Water Distribution Operator IV - 2000
Irrigation Association, Landscape Irrigation Auditor - 1999

PUBLICATIONS and PRESENTATIONS

"VASP Allows Local Water Works Dept. To Streamline Processing"
IBM System /3x Newsletter, Vol.3 Issue 2, Page 4.
Review of Magna Water Company's shell menu based mini computer software concept.

September, 1999 AWWA Intermountain Section Conference
Technical Presentation "Multi-source Consumer Confidence Reports"

October, 1999 Caselle User's Conference
Technical Presentation "Ascending Rate Block Structure "

December, 1999 Utah Water Conservation Forum Conference
Technical Presentation "Ascending Rate Block Structure Implementation"

REFERENCES

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(801) 955-5605

Larry Gilson, P.E.
Gilson Engineering
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Draper, UT 84020
(801) 571-9414

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	Docket No. 08-AFC-2
Beacon Solar Energy Project	**Declaration of Michael Bevins**

I, Michael Bevins, declare as follows:

1. I am presently employed by the City of California City (City) as the Director of Public Works. I have been in this position for two and a half (2 1/2) years.

2. As a result of my responsibilities as the Director of Public Works, I have personal knowledge of the planning and development of wastewater and recycled water infrastructure within the City.

3. The proposal by the City to provide recycled water to the Beacon Solar Energy Project's ("Project") was prepared at my direction. In addition, I am familiar with the improvements necessary to generate and convey a supply of recycled water from the City wastewater treatment facility (WWTF) to the Project site.

4. The City has proposed to expand the WWTF's recycled water production capacity from 1.5 million gallons per day (mgd) to 3.0 mgd (the "WWTF expansion"). The WWTF expansion and the addition of sewer mains and connections to residences and businesses currently on septic has been in the planning stages for eight (8) years. In general terms the WWTF expansion, addition of sewer mains and connections would involve: the installation of new sewer mains and connections to be located within City streets on City owned land or within City owned easements as shown in the City's proposal to provide recycled water to the Project, the installation of a recycled water pipeline from the WWTF to the Project, and the upgrade of the head works, aerator, clarifier, tertiary filter and replacing the chlorination equipment with UV disinfection at the WWTF.

5. The WWTF expansion is contemplated in the City's Sewer Master Plan, dated 30 September 2002. This plan was incorporated into the City's existing General Plan for

1993-2012 (pg 17) and carried forward into the City's 2008-2028 General Plan update (pg 5-10), though the specific reference to the expansion to 3.0 mgd was not included.

6. The City was incorporated in 1965 as a preplanned community. At that time, the City encompassed an area of over 160 square miles. Today, the City is the third largest city in California by land area, although it has a relatively low population of 10,685 residents (as of 2007).

7. The lack of a citywide sewer system creates wastewater treatment and disposal problems. As a result, in 1989, the City and the Lahontan Regional Water Quality Control Board entered into a Memorandum of Understanding (MOU) which limits development to two dwelling units per acre on lots without a connection to the City's sewer system.

8. Because of the development density restrictions contained in the MOU, the lack of access to the City's sewer system has prevented much of the City from being developed to its planned density, and has prevented approximately a third of the previously-platted building lots from being developed. All cities in the State of California are mandated to provide for planned growth. California City as a 'planned community' has already provided for its growth needs for the balance of this century.

9. The lack of citywide sewer infrastructure will prevent the City from obtaining the housing density needed to comply with the City's plans for reducing greenhouse gas emissions. Recent air quality constraints, AB 32 and SB375, as defined by the Blue Print Program, and related climate change policies, of our metropolitan planning agency, Kern Council of Governments (KernCOG) are forcing us to mandate infill densities that cannot be achieved under the Lahontan MOU without the conversion from septic tanks to a community based WWTP system. The only way that we can reduce vehicle miles traveled to 1990 levels is to increase our residential density and add the corresponding urban commercial opportunities.

10. The proposed WWTF expansion includes a sewer main expansion, which would bring an additional approximately 2,500 septic tanks onto the City's sewer system. This added infrastructure would allow existing lots to connect to the sewer system. This would bring these lots into compliance with the MOU, and would allow these lots to be developed as planned rather than limited to a density of two dwelling units per acre.

11. Allowing the existing lots in the City to come into compliance with the MOU would confer significant benefits upon the City and California as a whole by consolidating development, reducing vehicle miles traveled, and thereby reducing greenhouse gas and other air emissions associated with transportation.

12. As discussed above, the City is already required to expand its WWTF. The WWTF expansion will therefore occur regardless of whether the Project is built.

13. The City is already moving forward with the WWTF expansion project, and it has issued a request for proposals for the proposed expansion to the WWTF on 3 March 2010, published in the Mojave Desert News; Bakersfield Californian and Antelope Valley Press. On April 21, 2010, the City of California City awarded the contract and issued the

notice to proceed on a Upgrade Feasibility Plan For The California City Tertiary Waste Water Treatment Plant (Feasibility Plan) to Aqua Gilson Engineering Team, Bountiful, UT (Gilson).

14. The City is proceeding with the WWTF expansion consistent with previous conversations with Lahontan Regional Water Quality Control Board memorialized in a letter dated 3 January 2008 from the City of California City to the California Regional Water Quality Control Board, South Lahontan Basin Division (Lahontan). The reply from Lahontan requested information that California City was not able to supply until the Feasibility Plan is completed by Gilson later in June, 2010.

15. The WWTF expansion is not in any way required as a condition of approval for the Project.

16. If the City is selected as the source of recycled water for the Project, the Project will pay for only its proportional share of the WWTF expansion cost.

17. If the Project does not use the recycled water produced from the WWTP expansion the resulting tertiary effluent will be used for a proposed expansion and upgrade of Balsitis Park or will become a point discharge disposal problem for California City.

18. The WWTF expansion will occur at a distance over ten miles away from the Project. The WWTF expansion will be implemented by the City, and Project will not be responsible in any way for constructing or operating the WWTF expansion.

19. The WWTF was initially designed to be expanded to accommodate flow from residences and business within the City that are currently on septic and to handle future growth within the City. The current WWTF site is 47.36 acres. The WWTF expansion will occur in previously disturbed areas, within the existing WWTF site boundaries.

20. The City will undertake its own environmental analysis of the WWTP expansion including additional sewer mains and connections to residences and businesses pursuant to the requirements of the California Environmental Quality Act.

21. A past expansion to the WWTF was addressed in a mitigated negative declaration. Given that the proposed WWTF expansion is not anticipated to cause any significant environmental impacts and the new sewer mains and connections will occur in existing streets within the City, the City is expecting to prepare another mitigated negative declaration for the proposed WWTF expansion.

22. I am generally familiar with the environmental impacts analysis for the Project. Due to the WWTF and sewer pipe addition's low level of environmental impacts and distance from the site of the Project, I do not anticipate the WWTF expansion would create any environmental impacts which would be cumulatively considerable with those from the Project.

23. I am familiar with the facts and conclusions in this declaration and if called as a witness could testify competently thereto. I make these statements freely and under oath for the purpose of constituting sworn testimony in this proceeding.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at the City of California City, California on May 3, 2010.

Michael J. Bevins

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	Docket No. 08-AFC-2
Beacon Solar Energy project	**Declaration of Jennifer Guigliano**

I, Jennifer Guigliano, declare as follows:

1. I am presently employed by AECOM (formerly EDAW) as a Project Director.

2. A copy of my professional qualifications and experience is attached to this Declaration.

3. The attached Beacon Solar Energy Project Biological Resource Assessment for the Mendiburu Road Water Pipeline ("Biological Resource Assessment") **(Exhibit 352)** was prepared by me or under my direction. The Biological Resource Assessment identifies habitat types and potential impacts to special status species that are consistent with the surveys conducted for the remainder of this pipeline alignment where extensive surveys were conducted. The Biological Resource Assessment was not intended to take the place of DT protocol surveys or focused western burrowing owl surveys. The intent of the Biological Resource Assessment was to determine whether there are unusual conditions along this section of the recycled water pipeline route or within the wastewater treatment plant that are significantly different from the remainder of the pipeline route such that they would be difficult or impossible to mitigate or would change a mitigated impact to a significant and unmitigable impact. The Biological Resource Assessment finds habitat types present that are similar to and in some cases more developed or degraded than the remainder of this recycled water pipeline alignment. The pipeline along Mendiburu Road is proposed to be built within the existing disturbed roadway. The construction of the pipeline is not expected to disturb undeveloped areas along the roadway. Should such disturbance be necessary the mitigation measures proposed by Staff in Conditions of Certification BIO-8 would provide the appropriate parameters to protect special status plants and animals and address any impacts to habitat. In conclusion, the potential impacts of construction of the recycled water pipeline along Mendiburu Road and expansion of the wastewater treatment plant would not create impacts to special status plants or animals that could not be mitigated to a level of less than significant by themselves or when viewed in combination with the impacts already identified for the project site and its linears.

4. The attached AECOM California City WWTP Upgrade and Recycled Water Pipeline Cumulative Impacts Summary for the Beacon Solar Energy Project (May 28, 2010) **(Exhibit 353)** was prepared by me or under my direction.

5. To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent that this testimony contains opinions, such opinions are my own or those of other professionals that I judge to be qualified.

6. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Falls County, Texas on May 28, 2010.

Jennifer Guigliano

Jennifer Guigliano

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	Docket No. 08-AFC-2
Beacon Solar Energy project	**Declaration of Scott A. Busa**

I, Scott A. Busa, declare as follows:

1. I am a Director at NextEra Energy Resources, LLC.

2. A copy of my professional qualifications and experience is attached to Exhibit 309 and is hereby incorporated by reference.

3. The attached Letter from Beacon Solar, LLC to Kern County Regarding Mitigation for Impacts to Public Services from the Beacon Solar Energy Project (April 23, 2010) **(Exhibit 363)** and Letter to Kern County Regarding Fee Proposal (June 1, 2010) **(Exhibit 357)** were prepared by me or under my direction, and I am familiar with their contents.

4. To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent that this testimony contains opinions, such opinions are my own or those of other professionals that I judge to be qualified.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Juno Beach, Florida on June 1, 2010.

Scott A. Busa

Scott A.Busa

CALIFORNIA

CITY

GENERAL PLAN

2012

LAND USE CIRCULATION OPEN SPACE CONSERVATION
SAFETY NOISE

GENERAL PLAN 2012

LAND USE • CIRCULATION • OPEN SPACE
CONSERVATION • SAFETY • NOISE

CITY OF CALIFORNIA CITY

Adopted By
The City Council
Of
California City
August 17, 1993

ENVIRONMENTAL IMPACT REPORT

Resolution No. 8931512
SCH # 92062069

GENERAL PLAN UPDATE

Resolution No. 8931513

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INTRODUCTION
California City

100 GENERAL PLAN INTRODUCTION

101 SCOPE AND PURPOSE

A general plan is a comprehensive, long-range policies document, which, when adopted by a city council, comprises the official statement of a city toward the future character and quality of development in the planning area. State planning law (Section 65300 of the California Government Code) requires each city to prepare and adopt a general plan consisting of seven mandated elements: Land use, Circulation, Housing, Conservation, Open Space, Safety, and Noise. The law also provides that a general plan may contain those additional elements which, in the judgement of the planning agency, relate to the physical development of the community.

The California City General Plan is intended to conform with the Government Code sections relevant to the mandatory general plan elements. In addition to containing the mandated elements, the Plan includes certain permissive elements, such as a comprehensive Transportation/Circulation Element which contains non-mandated sections on bikeways, public transit, rail, and air transportation facilities, and truck routes. The Plan provides the basis for establishing consistency between the General Plan and the City Code, entitled "Zoning", as required by Section 65860 of the Government Code.

The policies in this Plan are designed to enhance California City's planning area and existing urban environment. Further, they seek to manage anticipated urban growth and development, so that such growth will have minimal adverse impacts upon the environment, will enhance the stability of the local economy, and will be within the capability of the City and other service entities to provide necessary urban services.

102 PLANNING AREA

The California City planning area is comprised of 130,200 acres (203.44 square miles). This represents an increase of 11,200 acres resulting from a 1992 reorganization that comprised a 16,000 acre annexation and 4,800 acre detachment. The total 203.44 acre planning area also represents the official City limits of California City.

103 PLANNING PERIOD

Although the General Plan is placed within an initial time frame through the year 2012, the Plan may be amended during that period of time. Policy adjustments required by changing public attitudes and differing circumstances can be made to each of the mandatory elements of the Plan as often as four times per year. This opportunity for review and update insures that the Plan can remain current, thus extending its continued effectiveness to the City as an expression of official policies concerning the future.

104 PLAN FORMAT

The General Plan is composed of text and maps. The text identifies and analyzes the principal physical development issues facing the Planning Area, describes Plan proposals, and includes statements of Plan objectives, policies, standards, and definitions. while objectives and policies are presented in the text of the Plan, standards, definitions and general background information are generally found in the Appendices. General Plan implementation methods and procedures are presented as policy statements. the General Plan diagram shows the planned land uses and indicates the street and highway functional classification system. Other descriptive maps and plan maps are also included in the document.

The General Plan is intended to present a clear and concise statement of City policies toward development and to accommodate additions and modifications necessary for future updating. The following numerical codes identify the various sections of the Plan, aid faster reference, and allow for amendment by code section.

- Section 100 is this introduction to the Plan.
- Section 200 is the Land Use Element which describes the projected population and other growth indicators, the limits to development, the urban growth management policies and the agricultural, residential, commercial, industrial, and public land uses and policies.
- Section 300 is the Circulation Element which incorporates the streets and highways, bikeways, public transit, rail, airport systems, and the truck route system.
- Section 400 is the Housing Element.
- Section 500 is the combined Open Space, Conservation Element.
- Section 600 is the Safety Element.
- Section 700 is the Noise Element.
- Section 800 combines the Appendices of all the General Plan Elements.

105 COMMUNITY PROFILE

City History

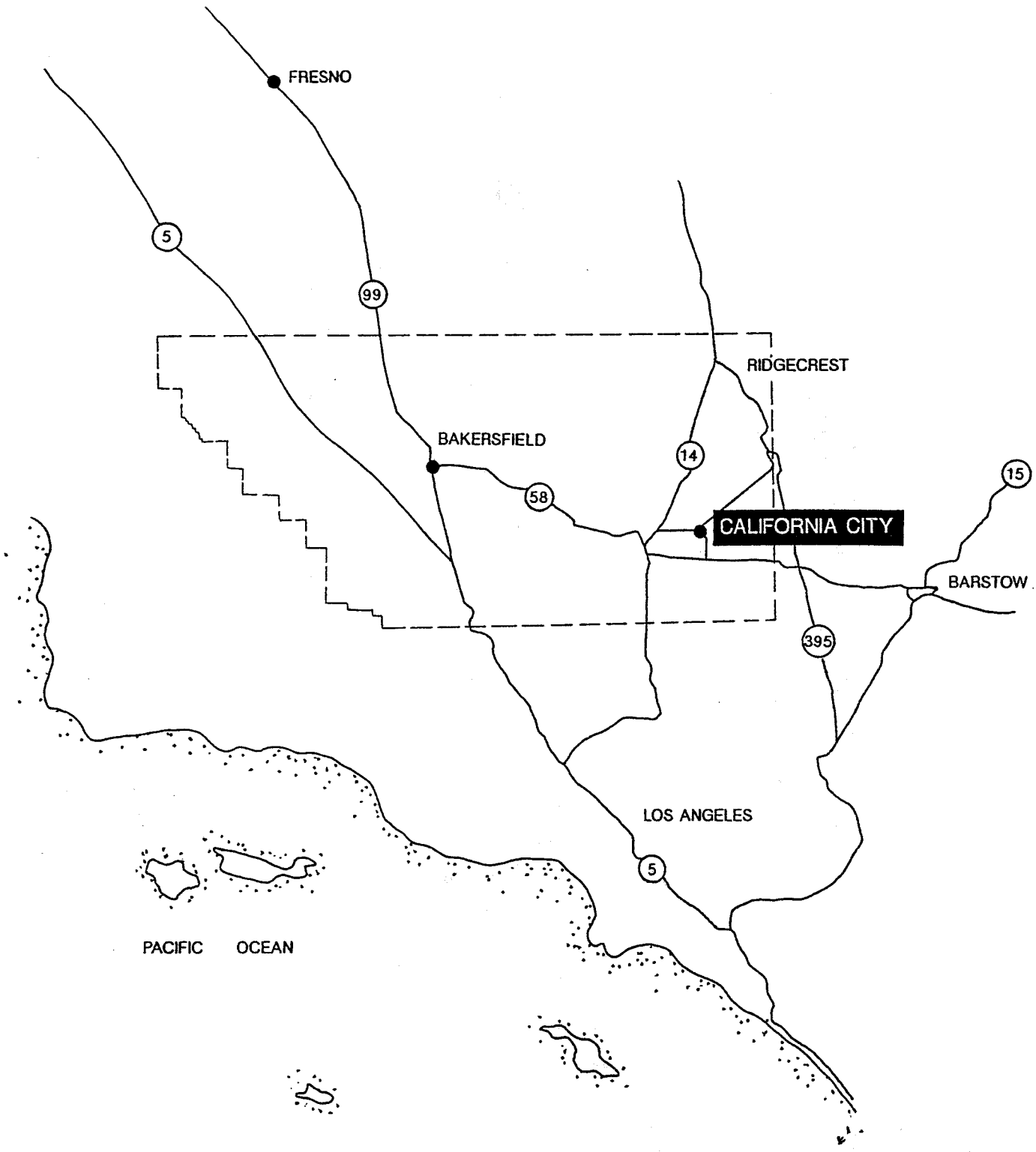
California City is located in a portion of the Mojave Desert that was occupied by Paiute Indians on a nomadic basis. In 1776, the first explorers came to the area under the leadership of Father Franciso Garces; the Conquistadores are believed to have conducted mining operations in the region using Paiute labor. During a later stage in the exploration of the area, Rogers and Manly are believed to have passed through the area in late 1849 or early 1850 in their attempt to reach

CALIFORNIA CITY
GENERAL PLAN
1992-2012

NORTH

QUAD

LOCATION MAP

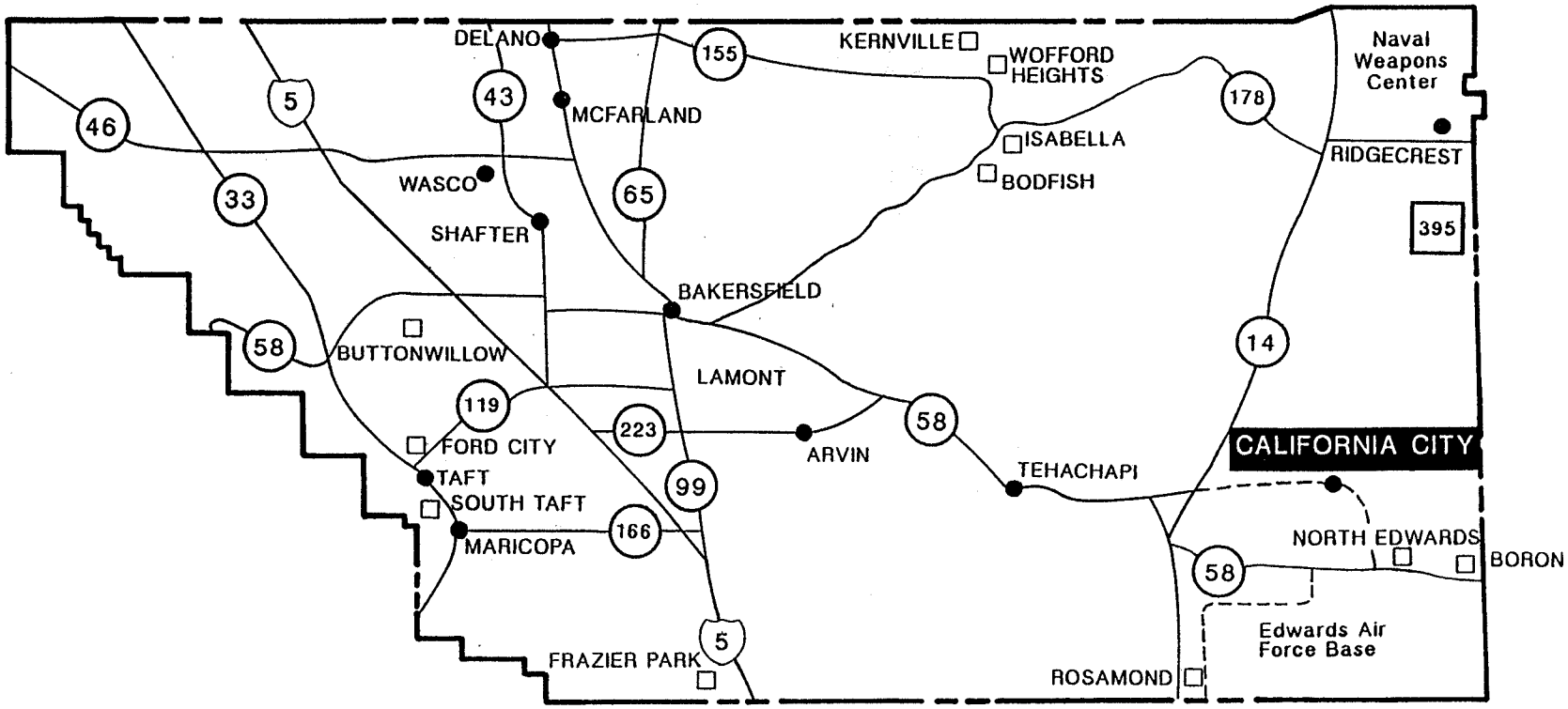


CALIFORNIA CITY
GENERAL PLAN
1992-2012

NORTH

QUAD

VICINITY MAP



CALIFORNIA CITY
GENERAL PLAN
HOUSING ELEMENT 1992-2012

UNINCORPORATED
INCORPORATED
INTERSTATE HIGHWAY
STATE HIGHWAY
US HIGHWAY

NORTH QUAD

REGIONAL SETTING
FIGURE
1

help for the stranded Death Valley 49'ers, and in the 1880's the 20-Mule Team Trail was created to carry borax ore from Harmony Borax Works in Death Valley to the railhead in Mojave. The road from Randsburg to Mojave became an important local artery for the opening of mines in the Randsburg/Johannesburg area. Sheep farming began around the turn of the century at the Conklin Ranch, located north of the City's present electric substation. Later, generally unsuccessful agricultural operations included alfalfa and cotton production.

In 1958, private land development activities began when a group of developers started buying land in what is now the eastern part of the City, then two farms in the western area. During the 1960's promotional efforts resulted in the sale of home sites to individuals throughout the United States. Community planning commissioned at the time envisioned a revolutionary new city concept and design that would discourage single-family tract development, control architectural quality, and incorporate vast areas of natural desert and farmland open space into a new type of living environment. the economic base of the City was predicated on continuous land sales and development activities, resulting in the employment of a significant portion of the City's population by the land developer. California City was incorporated on December 8, 1965, with a population of 617 persons and a City Council-Manager form of government.

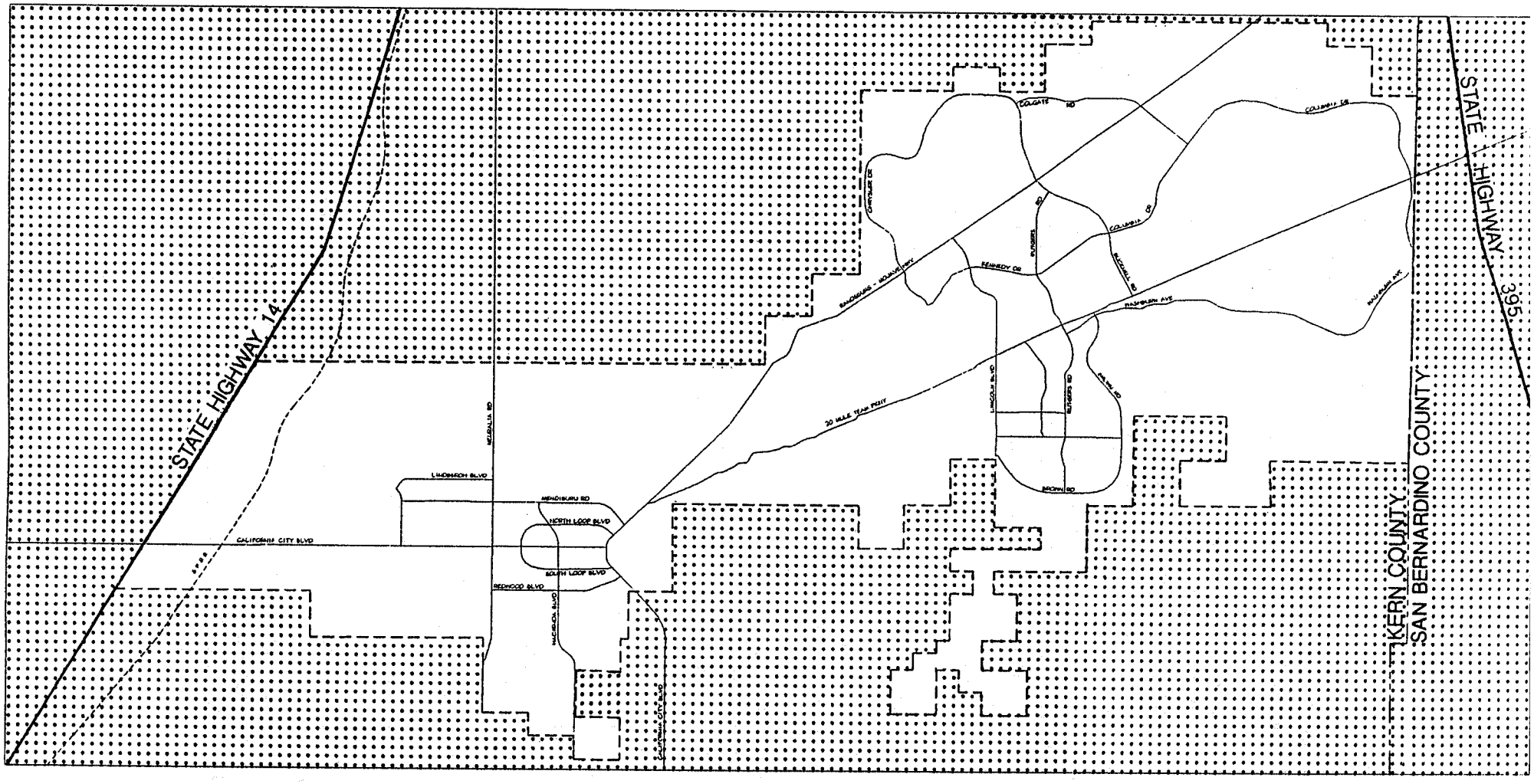
Location and Population

California City is a part of the Antelope Valley, a triangular-shaped plain of 3,000 square miles bounded by the San Gabriel and Tehachapi Mountains on the south and west, respectively, and by the Rand Mountains on the north. The City is surrounded by undeveloped desert, with the only contiguous land having a specific designation being the 25,000-acre Desert Tortoise Preserve administered by the U.S. Bureau of Land Management, and located along a portion of the City's northeastern border.

The principal population centers of the Antelope Valley are Lancaster and Palmdale, which have become largely suburbia extensions of the San Fernando Valley as housing prices forced workers in the Los Angeles Metropolitan Area to seek the more affordable housing offered in the Lancaster-Palmdale area. The population growth has exceeded by very significant percentages, those that had been projected in the last 1970's and early 1980's, and most describe the rate of growth as "phenomenal".

California City is located to the northeast of the Lancaster-Palmdale area and, to a limited extent, has experienced some growth related to the same underlying reason for much of Lancaster-Palmdale's growth...affordable housing.

Nearly all of California City's population resides in the area defined as the "First Community", an area comprising approximately twelve sections of land (7,680 acres) in the southwest corner of the expanses encompassed by the city limits. A very limited amount of development has occurred in the "Second Community", an area located about twelve miles northeast of the "First Community" along the Twenty-Mule Team Road.



CALIFORNIA CITY
GENERAL PLAN
LAND USE AND CIRCULATION 1992-2012

PLANNING AREA BOUNDARY

NORTH

0 .5 1 2 3 4 5 MI GUAD

CALIFORNIA CITY PLANNING AREA

FIGURE
2

Climate and Air Quality

The high desert climate is characterized by low humidity, low annual rainfall, and wide fluctuations in temperature, with average temperatures ranging from 84.9 degrees in July to 39.9 degrees in December. (NOAA, Climatological Data, Annual Summary: California, 1990) Average annual precipitation has historically been about five inches, with rains occurring primarily during the period from November to March; however, the 1990 Annual Summary of Climatological Data for California compiled by NOAA reports average annual precipitation for the nearby City of Mojave as 1.49 inches. Prevailing winds are southwest (from 240 to 260 degrees), traveling through the Antelope Valley at a mean speed of 6 to 12 knots. Frequent strong winds occur in the spring and early summer months, with extreme velocities reaching 53 to 67 knots.

The Mojave Desert Air Basin is divided into several Air Districts, and California City is currently within the Kern County Southeast Desert Air District; this District is a non-attainment area for ozone and PM10. The Kern County Air District is currently being split into the San Joaquin and High Desert Districts. The non-attainment designation is not expected to change; however, no data is available, as there is currently no monitoring station in this portion of Kern County. (pers. comm., Tom Paxson, Kern County Air Pollution Control District, May 6, 1992)

General Land Uses

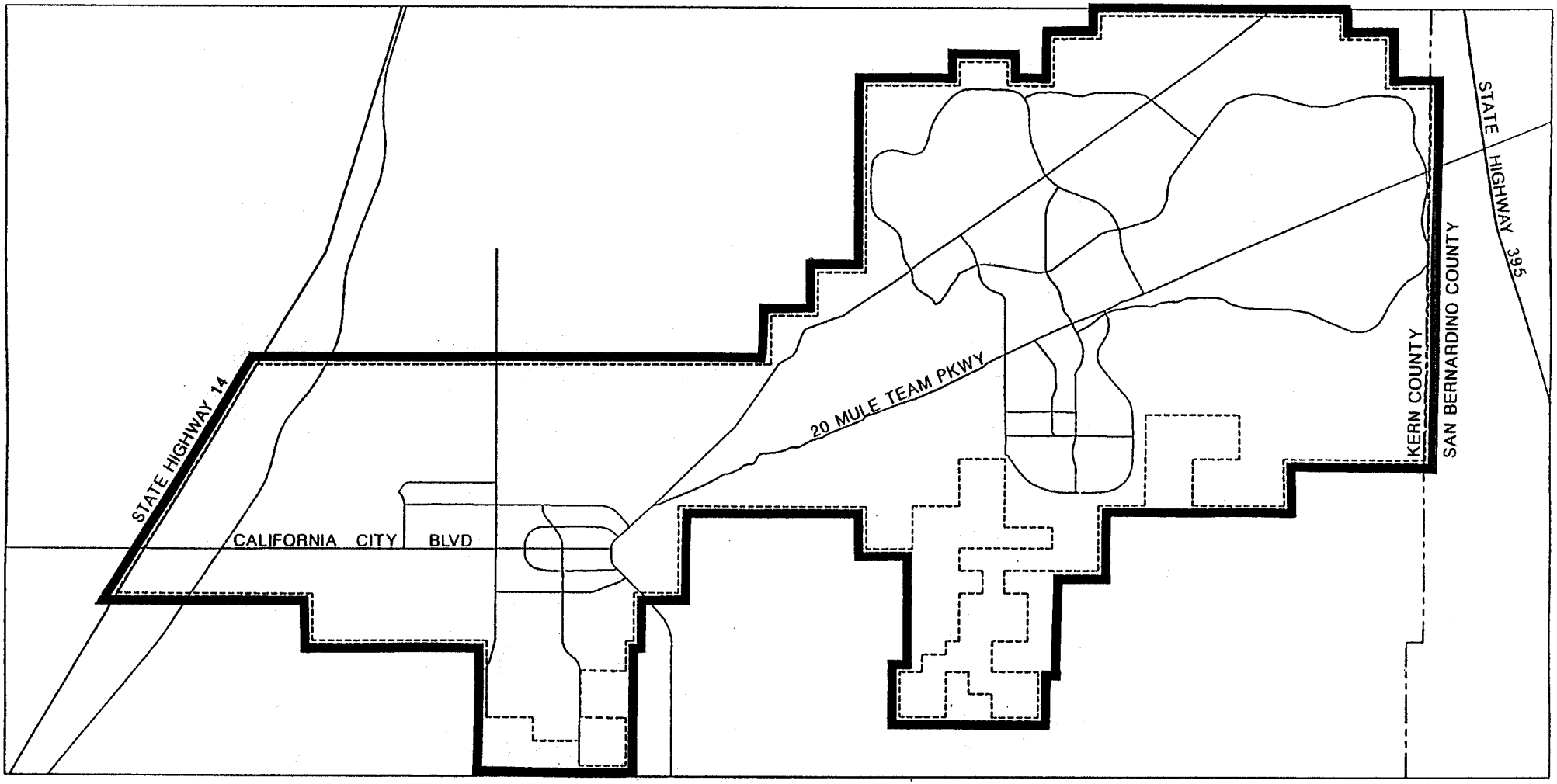
Residential

An inventory of existing structures in the "First Community" completed in 1991 revealed a total of 2,517 single-family residences and 208 multi-family units were present. Thus, of the approximate 19,500 residential lots available in the area defined as the "First Community", approximately fourteen percent contained structures at the time of the physical survey.

Assuming the average lot size of a single family residence to be 10,000 square feet, and the number of such dwellings to be 2,600 (2,517 were identified in the 1991 inventory), approximately 597 acres within the "First Community" are presently occupied by single family dwellings. Additionally, 208 multiple family units were identified in the 1991 inventory. Assuming there are now 250 multiple family units with an average of three units per complex, and an average lot size of 15,000 square feet, a total of 29 acres are estimated to be occupied by multiple family dwelling units. Thus, present residential land use in the "First Community" totals an estimated 626 acres.

Commercial

Excluding the area at the intersection of State Highway 14 and California City Boulevard, approximately 74 acres within the "First Community" are being utilized for commercial enterprise, including about 30 acres in the area adjoining the airport. Another 15 acres is designated for commercial uses at the intersection of State Highway 41 and California City Boulevard.



CALIFORNIA CITY
GENERAL PLAN
LAND USE ELEMENT 1992-2012

SPHERE OF INFLUENCE
CITY LIMITS

NORTH
0 .5 1 2 3 4 5 MI QUAD

SPHERE OF INFLUENCE BOUNDARY MAP

FIGURE 3

Industrial

Although 1,500 Acres are designated in the General Plan for industrial use in the area of the "First Community," there are no active industrial facilities occupying any of those lands.

Public Facilities

Included in this category are parks, schools, the City Hall complex, golf coursed, etc., together totaling about 90 acres in the "First Community."

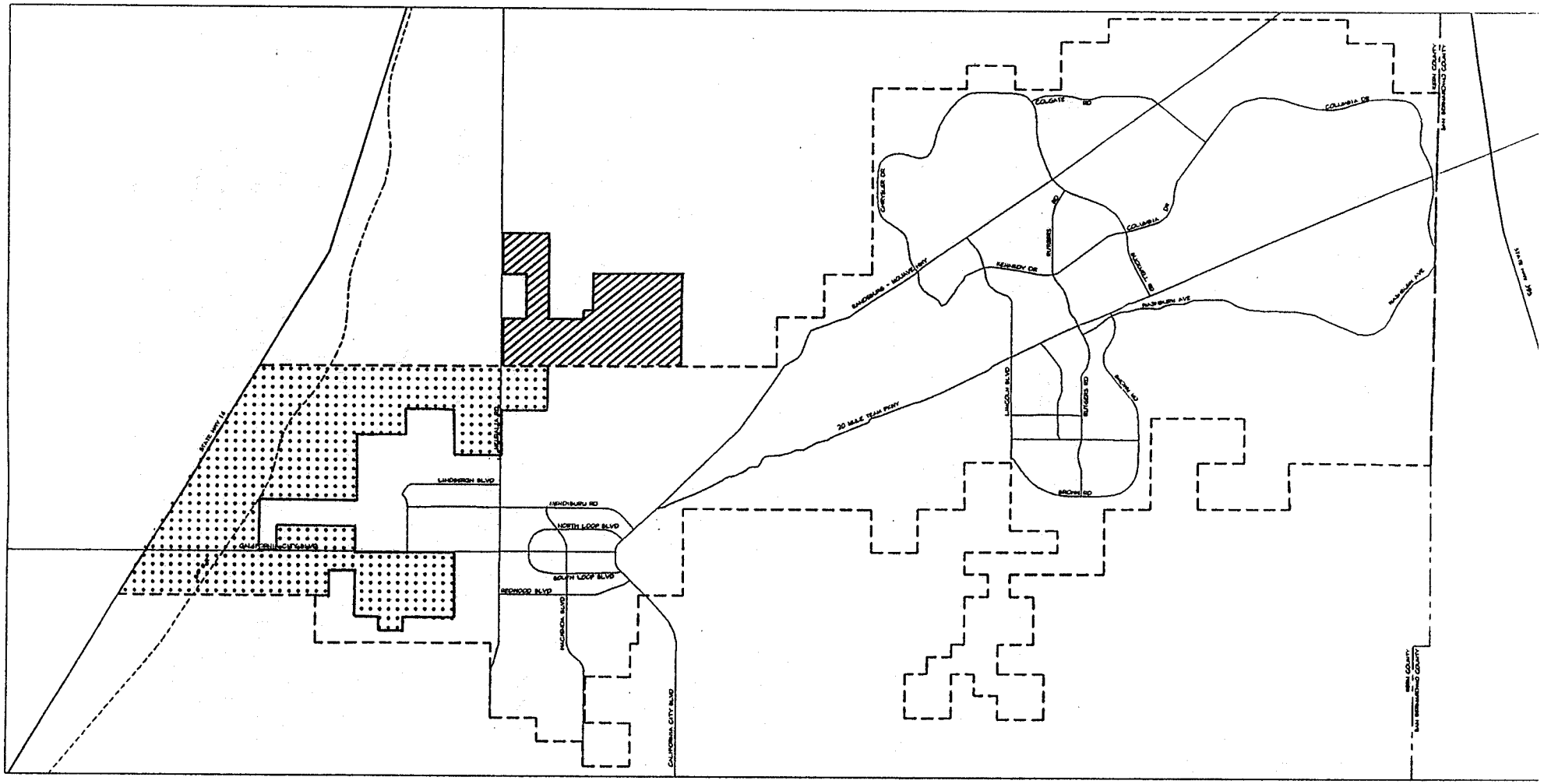
Population

Table One shows the historical and projected population and growth rates for California City from incorporation in 1965 to the year 2010. Except for the original doubling of the population from the original 617 persons to over 1,300 five years later, the only notable population growth has been a spurt that emerged in the late 1980's. From 1986 when that growth trend began until 1992, the population increased by 150 percent, from 3,180 to the current estimated population of 7,925. Kern County projections anticipate a slowing of the growth rate over the next two decades, but continued steady rise to a population of nearly 15,000 by 2000 and over 27,000 by 2010.

Many local officials and residents, however, feel these projections by Kern County are conservative and that the population of the community is likely to be significantly higher in the years 2000 and 2010 as a result of at least three influencing factors:

1) The continuing growth of the Lancaster-Palmdale area in Los Angeles County and associated escalating costs for housing will cause people to seek the more affordable housing available in California City as well as the benefit of Kern County's favorable property tax rates. To some extent, this movement is already occurring, as evidenced by the near-phenomenal growth of Rosamond, a community just north of the Lancaster-Palmdale area, but in Kern County. Residents living in California City and working in Lancaster-Palmdale face a 25-30 minute commute, which is not considered to be significant by those used to facing much longer commute times in the Los Angeles Basin.

2) Edwards Air Force Base will continue to operate at near-existing employment levels at least through the end of the decade, according to base officials. Presently, there are about 5,000 civilian and military personnel assigned to the facility, many of whom do not live in on-base housing. Additionally, another estimated 15,000 workers associated with contractors and vendors serving Edwards AFB live in the Lancaster-Palmdale-Tehachapi area. As housing costs in the former area continue to escalate, base personnel and working families will likely seek more affordable housing in nearby communities. Given the location of California City (about fifteen miles north of Edwards AFB and connected by a major county road), the community is likely to be quite attractive to this group.



CALIFORNIA CITY
GENERAL PLAN
LAND USE ELEMENT 1992-2012

DETACHMENT

ANNEXATION

NORTH

0 .5 1 2 3 4 5 MI QUAD

1992 PLANNING AREA REORGANIZATION

FIGURE 4

TABLE ONE
CALIFORNIA CITY
HISTORICAL AND PROJECTED POPULATION

YEAR	POPULATION	ANNUAL GROWTH RATE
1965	617	
1970	1,309 (1)	112.16 %
1975	2,091 (2)	9.82 %
1980	2,743 (1)	5.58 %
1985	3,096 (2)	2.45 %
1986	3,180 (2)	2.71 %
1987	3,471 (2)	9.15 %
1988	3,757 (2)	8.24 %
1989	4,168 (2)	10.94 %
1990	5,955 (1)	42.87 %
1991	7,181 (2)	20.59 %
1992	7,925 (2)	10.36 %
1995	9,741 (3)	7.92 %
2000	14,800 (3)	8.73 %
2005	20,665 (3)	6.90 %
2010	27,464 (3)	5.85 %

Sources: (1) United States Census. (2) California Department of Finance. (3) Kern County Planning and Development Services, Report P-3-ST-90 May, 1990.

3) The industrial growth surrounding the Mojave Airport, located to the southwest of the "First Community", has been quite active in the past five years and is expected to continue for the foreseeable future. The close proximity of California City, with its rural setting, affordable housing and other amenities such as its golf course, etc., is likely to attract the working population associated with the development of industry around the Mojave Airport.

An examination of the age structure of California City's population as determined by the 1990 Census reveals that 31 percent is under the age of 18 years, 57 percent is between the ages of 18 and 59 years, and only 12 percent is 60 years or older. Given the land sale promotional activities of the past, one would surmise that the community's population would be comprised of a large percentage of people of retirement age. As can be seen from the figures just presented, however, the population is actually comprised largely of people of working age and nearly a third of the population are the children of that group.

Because no major industries are located within California City, its employment opportunities are relatively few. Thus, it can be assumed that the majority of the working age population is employed in other communities in the Antelope Valley region. This serves to validate the contention of many officials and local residents that California City is poised for a more significant growth in its population over the next 18 years than that which has been projected by the County of Kern.

Housing

A total of 2,384 housing units for California City was reported by the 1990 Census, 2,119 occupied (89 percent) and 265 vacant; 1,450 units were owner occupied (61 percent). Persons per unit was reported at 2.86 for owner occupied housing, 2.70 for renters; median value for owner occupied housing units was $84,800, and median contract rent was $427. City records indicated that the number of building permits issued has increased from about 25 in 1984 and about 60 in 1985 to 171 in 1986, 329 in 1987, 353 in 1988, 568 in 1989, and 821 in 1990.

Transportation/Circulation

California City is located in a triangle of regional arteries: State Highway 14 to the west, turning northeast from the City of Mojave toward Red Rock Canyon and northerly to Inyokern; U.S. Highway 395, located to the east of California City and oriented northwest through Randsburg, Johannesburg, and Red Mountain, connecting with State Highway 14 northwest of Inyokern; and State Highway 58 (Interstate 40), which runs east-west from the City of Mojave through North Edwards and Boron along the northern boundary of Edwards Air Force Base to Barstow and beyond. California City Boulevard intersects State Highway 14 approximately five miles north of Mojave and serves as the western entrance to the community. The 20-Mule Team Road, which interconnects the "First" and "Second" Communities, extends eastward to intersect U.S. Highway 395. However, the easternmost nine miles is graveled, not paved.

TABLE TWO
CALIFORNIA CITY POPULATION
BY AGE AND SEX

1990

AGE GROUP	MALE	FEMALE	TOTAL
0-4	292	262	554
5-9	281	276	557
10-14	257	236	493
15-19	212	187	399
20-24	152	187	339
25-29	304	260	564
30-34	278	331	609
35-39	269	235	504
40-44	231	194	425
45-49	177	152	329
50-54	121	114	235
55-59	127	120	247
60-64	105	104	209
65-69	89	100	189
70-74	60	70	130
75-79	42	48	90
80-84	25	32	57
85+	12	13	25
TOTAL	**3,034**	**2,921**	**5,955**

Source: 1990 Census Summary Tape File 1A.

The local circulation system for California City is extensive, designed by the original developers to serve a large urban population. About half of the nearly 600 miles of roads are paved, the rest graded, and all but the 30 miles of roadway serving the developed western portion of the City is in need of repair. California City Boulevard comprises the main east-west street entering the community from State Highway 14 on the west, serving the Civic Center area, and turning south to join State Highway 58 on the south. The Twenty Mule Team Road extends 20-miles northeast from California City Boulevard and connecting with U.S. Highway 395. Dial-A-Ride is the only service within the City, and the City has arranged for daily bus service to Lancaster beginning in July, 1992, to provide for the medical care and shopping needs of residents. The Dial-A-Ride service operates strictly within the "First Community" and is sponsored by the City with State of California funding. In existence for about nine years, it has three units, all of which are equipped to handle wheelchairs. Sections of California City Boulevard have been designated as bicycle paths.

California City Municipal Airport is located four miles northwest of the Civic Center and serves general aviation. The airport has a 6,000-foot illuminated runway, and airplane hangars. Manufacturing and aviation-related businesses are located nearby.

Public Services and Utilities

Water Supply: At least two studies of California City's domestic water supply have been completed in the past twenty years, the most comprehensive being the one prepared by Krieger and Stewart in 1972. A more recent analysis which did not include any field testing, and is primarily a review of existing data, was completed by Saint-Amand Scientific Services in November, 1991.

All but a few hundred acre-feet of water utilized by California City's population annually is pumped from the underground aquifer. The balance is surface water purchased from the Antelope Valley-Eastern Kern Water Agency (AVEK).

Groundwater Units. The U.S. Geological Survey has delineated the groundwater units in the area of California City. Those that impact the community's groundwater supply are as follows; Chaffee Subunit, California City Subunit (zones 1 and 2), Koehn Subunit, Peerless Subunit and the Rand-Boron Subunit. California City pumps its water entirely from zone 2 of the California City Subunit.

Groundwater units and subunits have commonality of recharge or storage, and in the area of California City, their boundaries are often determined by topographic features and fault lines which run in various directions throughout the area.

The Chaffee Subunit is located in the west of the community and contains several million acre feet of high quality water. It is recharged primarily by water flowing under Cache Creek and Sand Creek, which drain a large area of the Tehachapi Mountains that is subject to relatively high annual precipitation levels. Although only rarely do the two drainages bring surface water

onto the desert floor, there are significant under-surface flows that contribute to the subunit's recharge.

The Muroc Fault divides the Chaffee Subunit from the California City Subunit, and provides a barrier for sub-surface water to move from west to east, even though the water table southwest of the Muroc Fault is higher than that to the east of the fault line. Thus, there is no opportunity for water from the Chaffee Subunit to fill the depression that has been created by past agricultural pumping activities as well as domestic water pumpage in the California City Subunit.

The effect of the Koehn Subunit to the north has a negative effect on the California City Subunit in that groundwater migrates in that direction toward Koehn Dry Lake, the surface collection point in earlier times for water draining from the Tehachapi Mountains, Red Rock and Jawbone Canyons, the El Paso Mountains and Rand Hills. Groundwater contours reveal this natural movement in the direction of Koehn Dry Lake, a movement which is enhanced by the depression in that subunit caused by long-time pumping from the irrigation of alfalfa.

The Peerless Subunit occupies Peerless Valley and receives little or no recharge to the estimated 250,000 acre feet of water that accumulated during the Ice Age. Water pumped from this aquifer is truly being mined and is of marginal quality.

Similarly, the Rand-Boron Subunit has no recharge from the surrounding hills, and although a portion of the Subunit is located within the boundaries of California City, it has little potential to provide a sustained water supply for anything more than a small population.

All but a few hundred acre-feet of domestic water that is utilized by California City's population each year is pumped from the underground aquifer. The balance is surface water purchased by the City from AVEK. Present water usage levels are estimated to be 2,100 acre-feet annually for domestic purposes and 1,000 acre-feet for golf course and park irrigation, as well as lake replenishment.

City wells have a maximum pumping capacity of eight million gallons per day. Present domestic water usage averages 235 gallons per person daily, or a total of 1.86 million gallons per day, exclusive of the irrigation needs previously mentioned. Recoverable groundwater in the unit utilized by California City is estimated to be 2.1 million acre-feet, thus the community has a supply that will last for more than a century, given the present population growth rate of the community.

The groundwater that is pumped by the City is not treated. It is high in dissolved solids and in fluoride content. The AVEK surface water is of lower quality and must be blended with the City's groundwater to reach permitted levels of halomethane concentrations.

Water distribution System: The City's water distribution system is comprised of about 240 miles of steel pipe, 90 percent of which is over 50 years old. According to the City Engineer, the system is fundamentally unsound, deteriorating quickly and immediate steps need to be taken to implement all of the pipe in the system.

Wastewater Treatment: The City's present wastewater treatment facility was constructed in 1978 and has a design capacity of 300,000 gallons per day (gpd). According to the City Engineer, approximately 75-80 percent (225,000 - 250,000 gpd) of the plant's capacity is presently being utilized. More important, however, is the fact that the facility's treatment system does not have the capability to reduce the BOD levels of wastewater discharge to the revised lower levels that have been mandated by the Lahontan Regional Water Quality Control Board.

For these reasons, a new wastewater treatment plant is to be constructed by the City, in the same location of the present facility (about ¼ - ½ mile northeast of the "First Community"). The new plant is in the preliminary design stage as this is written, and construction is anticipated to begin in early 1994. The new facility will have a design capacity of 1.0 million gpd, and its design will include providing for tertiary treatment of the wastewater it receives. It is planned that the treated wastewater will be utilized for golf course and park irrigation, as well as lake replenishment, which will serve to eventually reduce the City's groundwater pumpage by at least 1,000 acre feet of water annually.

Social and Economic Factors

California City's history and isolated location combine to create an unusual community. The economic base is relatively limited, with most employment related to civilian aerospace, military installations and mining or small service and retail outlets within the City. There are no major shopping facilities. The airport provides some stimulus to the local economy through related activities. Community facilities include the Robert P. Ulrich Elementary School which is part of the Mojave Unified School District, a middle school under construction, an out-patient medical center and pharmacy, an ambulance service; churches; and City-owned parks and recreational facilities. California City has no hospital or emergency medical treatment facility. For such services, residents must travel to Lancaster or Edwards AFB.

LAND USE ELEMENT
California City

200 LAND USE ELEMENT

201 INTRODUCTION

The Land Use Element anticipates the City's growth and establishes urban development policies and a land use pattern which seek to promote economic development and minimize potentially adverse impacts of development on the environment.

202 DETERMINANTS OF CHANGE

This section of the Land Use Element evaluates the many growth-inducing factors and limits to development which will determine the extent and rate of future urban growth within the California City Planning Area. As such, these factors provide the basis for the plan maps and policy statements which follow both in this and in subsequent elements of the General Plan.

202-01 Growth Indicators

202-01.1 Population

An examination of the age structure of California City's population as determined by the 1990 Census (Tables One and Two) reveals that thirty-one percent is under the age of eighteen years, fifty-seven percent is between the ages of eighteen and fifty-nine years, and only twelve percent is sixty years or older. Given the land sale promotional activities of the past, one would surmise that the community's population would be comprised of a large percentage of people of retirement age. As can be seen from the figures just presented, however, the population is actually comprised largely of people of working age and nearly a third of the population are children of that group.

Because no major industries are located within California City, its employment opportunities are relatively few. Thus, it can be assumed that the majority of the working age population is employed in other communities in the Antelope Valley region. This serves to validate the contention of many officials and local residents that California City is poised for a more significant growth in its population over the next 18 years than that which has been projected by the County of Kern.

Except for the original doubling of the population from the original 617 persons to over 1,300 five years later, the only notable population growth has been a spurt that emerged in the last 1980's. From 1986 when that growth trend began until 1992, the population increased by 150 percent, from 3,180 to the current estimated population of 7,925. Kern County projections anticipate a slowing of the growth rate over the next two decades, but continued steady rise to a population of nearly 15,000 by 2000 and over 27,000 by 2010.

TABLE THREE

POPULATION FORECAST

		6 Percent	8 Percent
1990	(1) 5,955	(1)5,955	(1)5,955
1991	(2) 7,181	6,312	6,431
1992	(2) 7,925	6,691	6,945
1993		7,092	7,501
1994		7,518	8,101
1995	(3) 9,741	7,969	8,749
1996		8,447	9,449
1997		8,954	10,205
1998		9,491	11,022
1999		10,060	11,904
2000	(3)14,800	10,664	12,856
2001		11,304	13,884
2002		11,982	14,995
2003		12,701	16,195
2004		13,463	17,491
2005	(3)20,665	14,271	18,890
2006		15,127	20,401
2007		16,035	22,033
2008		16,997	23,796
2009		18,017	25,700
2010	(3)27,464	19,098	27,756
2011		20,244	29,976
2012		21,459	32,374

Source: (1) United States Census
(2) California Department of Finance
(3) Kern County Planning Department, 1990

202-01.2 Land Availability

The land available within the California City planning area, as previously mentioned, is 130,200 acres (203.44 square miles). Despite the large jurisdictional area of California City, the majority of the resident population is located in the First Community's Central Core where municipal infrastructure is readily available and where commercial and institutional land uses are located. The following represents the land uses contained in the Central Core:

TABLE FOUR

CENTRAL CORE LAND USES BY ACREAGE

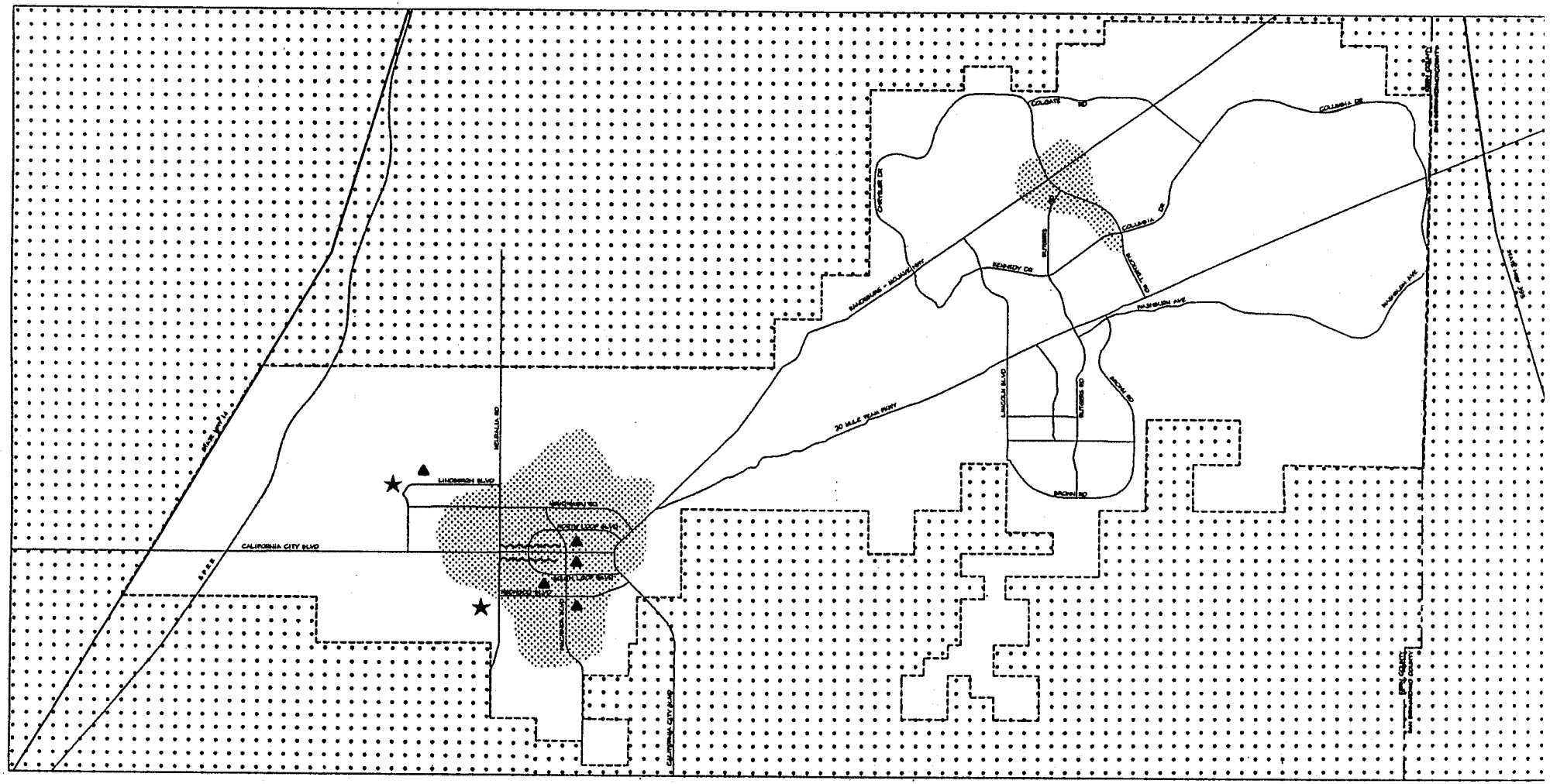
LAND USE	ACRES
RESIDENTIAL	
2-4 D.U./A.C.	95.5
4-8 D.U./A.C.	143.0
8-12 D.U./A.C.	90.9
12-24 D.U./A.C.	10.1
TOTAL RESIDENTIAL	339.5
COMMERCIAL	
COMMUNITY SHOPPING	14.9
HOTEL	8.3
CLUB HOUSE	4.6
MEDICAL CENTER	4.5
RESIDENTIAL/COMMERCIAL 4-8 D.U./A.C.	11.8
TOTAL COMMERCIAL	44.1
INSTITUTIONAL	
CHURCH	8.0
CIVIC CENTER	13.4
CULTURAL CENTER	17.8
CHILD CARE	1.0
TOTAL INSTITUTIONAL	40.2
OPEN SPACE	
GOLF COURSE	159.5
CITY PARK	80.6
TOTAL OPEN SPACE	240.1
TOTAL	**663.9**

The following land use designations are based upon the total California City planning area as designated on the General Plan Land Use Element Map.

TABLE FIVE

GENERAL PLAN LAND USE DESIGNATIONS

GENERAL PLAN LAND USE DESIGNATIONS		ACRES
MEDIUM DENSITY Single Family Residential	6 D.U./A.C., Sewered 2 D.U./A.C., Unsewered	8,733
MEDIUM-LOW DENSITY Single Family Residential	4 D.U./A.C., Sewered 2 D.U./A.C., Unsewered	544
LOW DENSITY Single Family Residential	2 D.U./A.C.	-0-
RURAL DENSITY Single Family Residential	1 D.U./A.C.	457
ESTATE DENSITY Single Family Residential	1 D.U./2 A.C.	19,880
HIGH DENSITY Multi-Family Residential		3,900
Neighborhood Retail and Office		388
Community and Regional Commercial		350
Light Industrial and Research		920
Industrial		1,013
Controlled Development		90,358
Government (Public Facilities)		117
Conservation Land		2,176
Tortoise Preserve/Natural Resource Preserves		1,360
TOTAL		**130,200**



CALIFORNIA CITY

GENERAL PLAN

LAND USE ELEMENT 1992-2012

RESIDENTIAL

COMMERCIAL

INDUSTRIAL

PUBLIC FACILITES

VACANT

NORTH

0 .5 1 2 3 4 5 MI QUAD

GENERALIZED EXISTING LAND USE MAP

FIGURE 5

202-01.3 Governmental Services

California City, a City Council-Manager form of government, provides a full range of urban services including police, fire, sewer, water, airport and park facilities. The County of Kern operates the local library which is located in the Civic Center (see Section 100). The local schools are administered by the Mojave Unified School District. California City has no hospital or emergency medical treatment facility. Those services are available, however, in nearby Lancaster and Edwards Air Force Base.

202-01.4 Employment Base

California City's future growth will continue to be influenced by the continuing urban growth of the Lancaster-Palmdale area in Los Angeles County, expansion of Edwards Air Force Base operations and personnel and industrial growth and development surrounding the Mojave airport (see Section 100, Population). The growth anticipated is directly associated with the availability of affordable housing. As this residential base increases, the opportunities for community economic growth in domestic goods and services also increases. However, significant employment base expansion will only occur with local efforts to attract industrial employment. This objective is identified in the General Plan with an emphasis on promoting industrial efforts that may be airport or business related.

202-02 Limits to Development

California City's potential for future urban growth may be affected by the numerous factors related to physical development of the urban landscape. This includes flood hazard areas, seismic zone (faults), soil/slope hazards and other aspects of land development concerns identified in the Safety Element, Section 600. There are also other issues of physical development that may pose some degree of limitations. These potential limiting factors are as follows:

202-02.1 Subdivision Deferred Agreements

Within the City limits are areas of greatly varying potentials for development. The range extends from the so-called "dry tracts" in which land was sold without promise of any improvements, to lots which are presently served with full utilities.

There are numerous Subdivision Deferred Improvement (SDI) tracts within the City. Two of them, tracts 2898 and 2967, are islands within the built-up areas and the remaining tracts occur in the undeveloped area to the east. The SDI notes have a maturity of up to nineteen years and were designed to pay for the development of water and paved streets.

There are basically two kinds of SDI agreements. Some tracts are covered by a form of agreement which provides for installation of water and pavement "at such time as a need therefor exists". No time frame is stipulated. The other form of agreement, which covers tracts 3281, 3282 and 3288 provides that the City shall install the improvements within ten years from the date of the agreement.

202-02.2 Water Distribution System

The City's water distribution system is comprised of about 240 miles of steel pipe, ninety percent of which is over fifty years old. According to the City Engineer, the system is fundamentally unsound, deteriorating quickly and immediate steps need to be taken to implement all of the pipe in the system.

202-02.3 Wastewater Treatment

The City's present wastewater treatment facility was constructed in 1978 and has a design capacity of 300,000 gallons per day (gpd). According to the City Engineer, approximately 75-80 percent (225,000-250,000 gpd) of the plant's capacity is presently being utilized. More important, however, is the fact that the facility's treatment system does not have the capability to reduce the BOD levels of wastewater discharge to the revised lower levels that have been mandated by the Lahontan Regional Water Quality Control Board.

For these reasons, a new wastewater treatment plant is to be constructed by the City, in the same location of the present facility (about one-quarter to one-half mile northeast of the First Community). The new plant is in the preliminary design stage as this is written, and construction is anticipated to begin in early 1994. The new facility will have a design capacity of 1.0 million gpd, and its design will include providing for tertiary treatment of the wastewater it receives. It is planned that the treated wastewater will be utilized for golf course and park irrigation, as well as lake replenishment, which will serve to eventually reduce the City's groundwater pumpage by at least 1,000 acre feet of water annually.

203 DEVELOPMENT POLICIES

203-01 Land Use Element Objectives

The following is a set of overall objectives for the future land use of the California City Planning Area. They form the basis for the more detailed statements of objectives and policies which are included later under the appropriate sections of the Element.

203-01.1 To ensure the orderly, quality development of the community.

203-01.2 To provide for a balanced community, reflecting economic diversity and a pleasant living environment.

203-01.3 To encourage quality design of land use developments in both public and private facilities.

203-01.4 To ensure that all portions of the community are adequately supported by infrastructure and services.

203-01.5 To encourage development patterns and phasing which provides for the logical, sequential and cost-effective extension of infrastructure and services.

203-01.6 To promote and facilitate economic growth and diversification.

203-01.7 To encourage the development of land uses which will improve the availability of local residents to work, shop and obtain services in California City.

203-01.8 To promote development of land uses which would enhance California City's potential appeal as a "destination" recreational community.

203-01.9 To ensure that the City's environmental setting, including clean air, open character, lack of traffic congestion, and comparatively low intensity of land uses, is preserved as development of the community progresses.

203-01.10 To ensure that land use policy and development in the community are consistent and fully integrated with local goals and policies governing transportation and circulation, housing, public health and safety, noise, conservation and open space.

203-02 Land Use Designations

The following is a list and description of the land use designations which are used on the General Plan land use map. The designations are intended to facilitate understanding and minimize the potential for misinterpreting the General Plan.

The designations, to some extent, express policy intentions and are, therefore, reflective of City policy. More detailed discussion of land use policies can be found in the appropriate sections of the Land Use and Conservation/Open Space Elements.

203-02.1 Estate Density Residential

Shall mean land designated for single family detached residential development at a density not to exceed one dwelling unit for each two acres of land. The area known as Wonder Acres has land designated for residential use not to exceed one dwelling unit for each five acres of land.

203-02.2 Rural Density Residential

Shall mean land designated for single family detached residential development at a density not to exceed one dwelling unit for each one acre of land.

203-02.3 Low Density Residential

Shall mean land designated for single family detached residential development at a density not to exceed two dwelling units for each acre of land.

203-02.4 Medium Low Density Residential

Shall mean land designated for single family residential development not to exceed four dwelling units per acre for sewered properties and two dwelling units per acre for unsewered properties.

203-02.5 Medium Density Residential

Shall mean land designated for single family residential development attached or detached housing not to exceed six dwelling units per acre of land.

203-02.6 High Density Residential

Shall mean land designated for single and multiple family residential development attached and/or detached housing from six to forty dwelling units per acre of land.

203-02.7 Neighborhood Commercial

Shall mean land designated for development of commercial retail uses serving a neighborhood area. Limited general office use may also be established in the designation. Such commercial business activities may be a single commercial use or small scale neighborhood shopping center. (Establish C-1 zoning for consistency.)

203-02.8 Community Commercial

Shall mean land designated for a wide range of retail business and compatible commercial services designed to serve the entire community. These commercial uses would be typically concentrated in a unified retail center or master community plan. (Establish C-2 zoning for consistency.)

203-02.9 Commercial/Office

Shall mean land designated for the primary use of administrative, business, medical, professional, and general offices. Limited commercial uses related to office development may also be established. (Establish C-3 zoning for consistency.)

203-02.10 Service Commercial

Shall mean land designated for the primary purpose of high intensity commercial uses related to commercial services and repairing establish- ments including wholesale/retail related activities. (C-4 zoning shall be established for consistency.)

203-02.11 Regional Commercial

Shall mean land designated for the exclusive establishment of commercial uses which cater to the regional area and traveling public. (C-5 zoning shall be established for consistency.)

203-02.12 Light Industrial and Research

Shall mean land designated for restricted, non-intensive manufacturing, processing, and storage activities which do not have the potential for detrimental impacts on surrounding properties. This land use designation also includes uses such as research/office park developments in conjunction with light industrial use where such locations are compatible with adjacent residential lands. (Establish M-1 zoning for consistency.)

203-02.13 Heavy Industrial

Shall mean land designated for full range of intensive manufacturing, processing and storage activities. (Establish M-2 zoning for consistency.)

203-02.14 Controlled Development

Shall mean land designated for the express purpose of specific land development planning that is consistent with the goals, objectives and policies of the California City General Plan. Strong consideration shall be given to the development of park/open space and public/quasi-public uses which benefit the entire community on those parcels of land which were originally created for that purpose. (See Policy 504.9, Open Space/ Conservation Element.)

The Controlled Development category also provides for industrial uses, commercial uses, recreational uses, large lot subdivisions, open space uses, agricultural and horticultural uses. Very low density residential uses (one dwelling unit per twenty acres) may be developed on an interim basis. Further subdivisions of land (of parcels less than twenty

CALIFORNIA CITY GENERAL PLAN 2012

GENERAL PLAN LAND USE DESIGNATIONS	CONSISTENT CALIFORNIA CITY ZONING														
	R-1	R-2	R-3	RM-1	RM-2	C-1	C-2	C-3	C-4	C-5	CMC	M-1	M-2	RA	O
Estate Density Residential 1 D.U./Two Acres 1 D.U./Five Acres (Wonder Acres)			●												
Rural Density Residential 1 D.U./One Acre			●												
Low Density Residential 2 D.U./One Acre			●												
Medium Low Density Residential 4 D.U./One Acre (Sewered) 2 D.U./One Acre (Unsewered)		●													
Medium Density Residential 6 D.U./One Acre (Sewered) 2 D.U./One Acre (Unsewered)	●														
High Density Residential 6 D.U. to 40 D.U./One Acre				●	●										
Neighborhood Commercial						●									
Community Commercial							●								
Commercial/Office								●							
Service Commercial									●						
Regional Commercial										●					
Community Medical Center											●				
Light Industrial and Research												●			
Heavy Industrial													●		
Controlled Development	△	△	△	△	△	△	△	△	△	△	△	△	△	●	●
Government (Public Facilities)	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
Conservation Land														●	●
Tortoise Preserve/Natural Resource Preserves															●

D.U. Dwelling Unit

● Compatible △ Conditionally Compatible

acres in size) and/or the development of uses other than those specified by the General Plan would require detailed plans to be provided by the owner and/or developer of such lands. In the case of residential subdivisions, the General Plan allows a maximum density up to six dwelling units per acre with approval of a detailed plan. Development proposals may be considered and adopted at any time by the City provided that the above detailed plans serve to address the social, environmental and economic concerns of the community which are consistent with the goals, objectives and policies of the General Plan.

All land area within the California City sphere of influence boundary and outside the City Limits boundary shall be designated Controlled Development.

203-02.15 Government (Public Facilities)

Shall mean land designated for the location or governmental and quasi-governmental facilities and services which are necessary to the general welfare of the community. Typical uses include City Hall, fire stations, police stations, wastewater treatment plant, parks and schools.

203-02.16 Conservation Land

Shall mean land designated for the protection, preservation and conservation of unique areas within the California City environs.

203-02.17 Tortoise Preserve/Natural Resource Preserves

Shall mean land designated for the protection and preservation of desert tortoise habitat and unique natural resource lands.

203-02.18 Community Medical Center

Community Medical Center shall mean land designated for major medical treatment facilities, medical care residences, medical offices and other related medical service establishments which are necessary for regional or local medical service needs. (CMC zoning shall be established for consistency.)

203-02.19 Wonder Acres

The recently annexed portion of the community known as Wonder Acres shall remain as conforming uses in the Land Use Element of the General Plan until a master plan or specific plan for the area is adopted through a public hearing process.

203-02.20 Airport Environs

The area of land surrounding the municipal airport environs shall be reserved for future industrial development. A master plan or specific plan of the subject area shall be prepared, processed and adopted prior to any development.

203-03 Urban Growth Management

203-03.1 Introduction

The purpose of the growth management plan is to limit irresponsible actions but without discouraging or penalizing entrepreneurial actions which could have a positive benefit for the City.

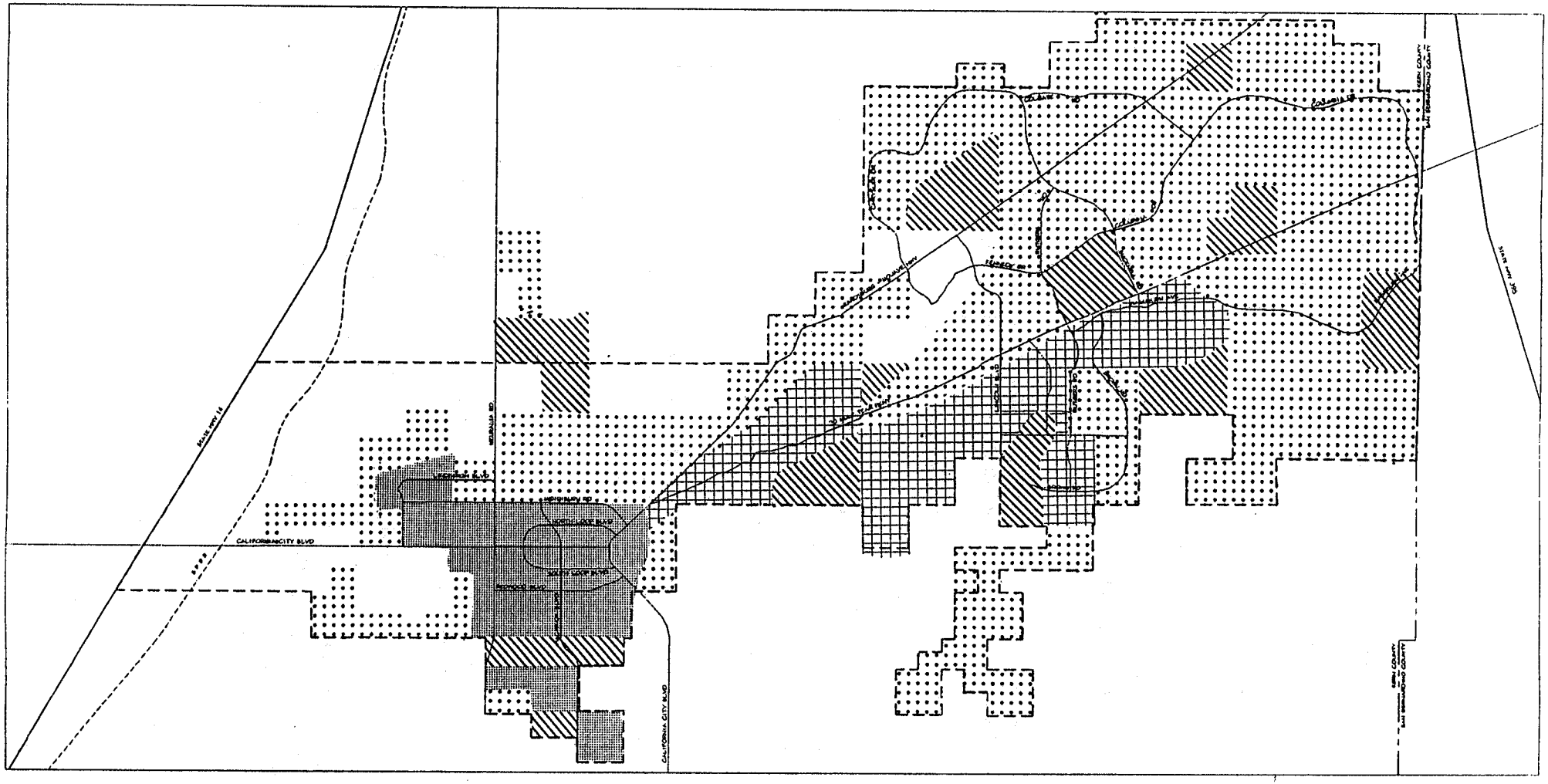
Anticipated future population and economic growth in the California City Planning Area will create a demand for additional municipal services such as sewer and water. If unplanned and uncontrolled, such urban growth can cost local government in California City more for additional urban services and facilities than the amount it would receive from new tax revenues.

California City's future urban growth will necessarily require the continued conversion of vacant lands to urban development. However, the policies in this section seek, where possible, to minimize the premature and unplanned conversion of vacant land by recommending the establishment of an urban growth management program designed to assure orderly growth.

One of the City's primary objectives is to encourage steady and broad-based economic growth. To do this, the City must provide for the efficient and fiscally responsible expansion of the service systems, i.e., refuse collection, police and fire protection, etc. Of equal importance is to achieve a favorable cost/revenue balance during development.

Approximately ninety percent of the subdivided land has been sold and more than ninety-five percent of the total land area remains empty, except for bladed roads and, in some cases, partial utilities. The City also has contractual obligations to extend services beyond the present urbanized area in a manner which will be initially inefficient.

It is recognized that a single development of sufficient size could warrant considerations not appropriate for the random accretion of individual smaller scale actions. It would be possible, for example, for a private developer to contract with the City for a totally planned "Community Core" which may be located in the rural areas. Such an action would require a refined plan for the core area which, after adoption, would become part of the General Plan.



CALIFORNIA CITY
GENERAL PLAN
LAND USE MAP 1992-2012

NORTH

0 .5 1 2 3 4 5 MI QUAD

PRIMARY URBAN AREAS

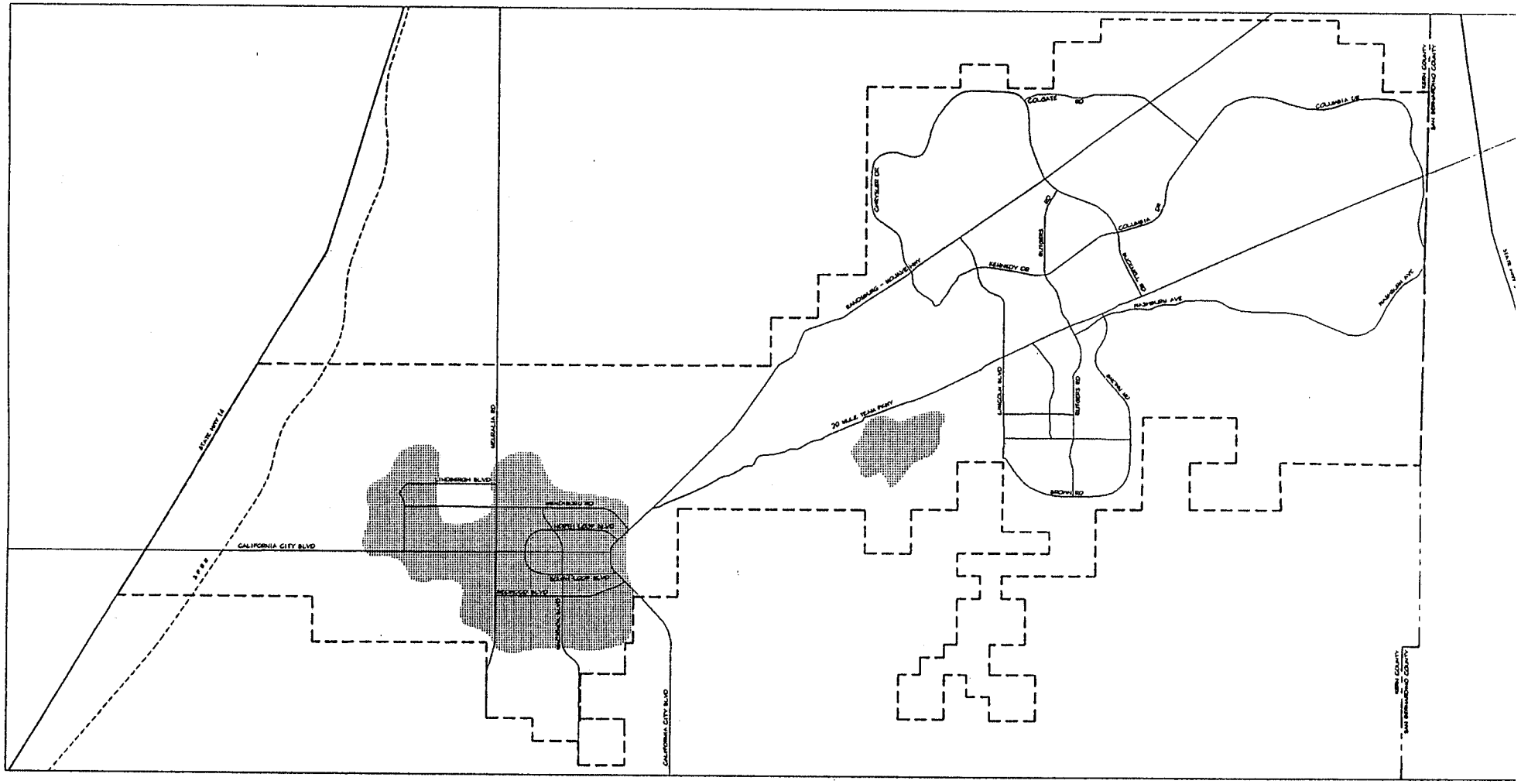
SECONDARY URBAN AREAS

RURAL SERVICE AREAS

PLANNED CORE AREAS

Growth Management
PRIORITY PHASING PLAN

FIGURE
6



CALIFORNIA CITY
GENERAL PLAN
LAND USE ELEMENT 1992-2012

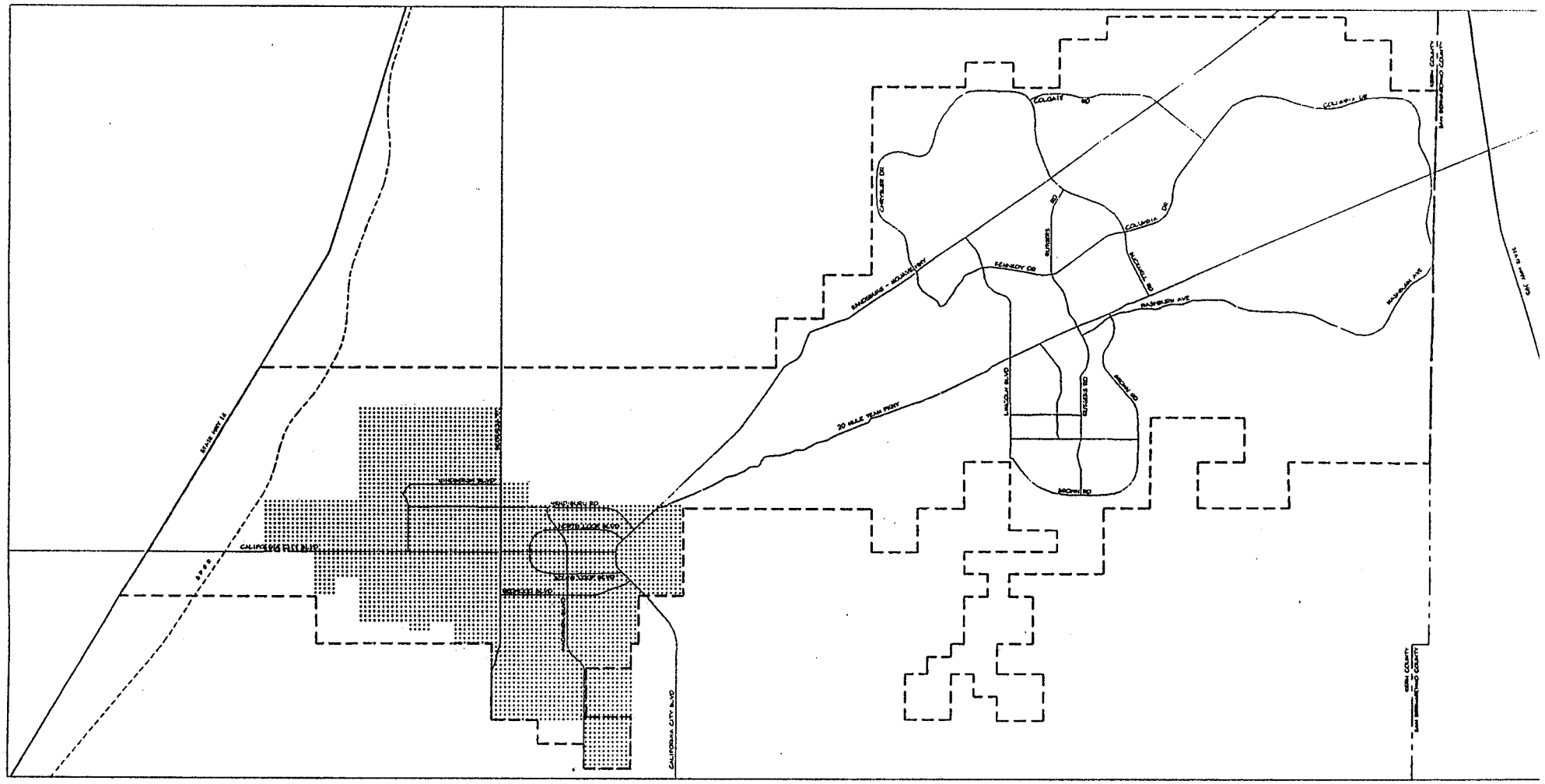
PARCELIZATION DEFICIENCIES

NORTH

0 .5 1 2 3 4 5 MI QUAD

PARCELIZATION DEFICIENCIES

FIGUR



CALIFORNIA CITY
GENERAL PLAN
LAND USE ELEMENT 1992-2012

REDEVELOPMENT PROJECT AREA

NORTH

0 .5 1 2 3 4 5 MI QUAD

REDEVELOPMENT PROJECT AREA

FIGURE 8

Urban and rural development should be closely monitored. As the demand for land approaches saturation, the boundaries of the land use designations should be modified accordingly.

A growth management phasing plan has been established as a guideline in reviewing land development proposals and municipal infrastructure extensions. The Phasing Plan includes four categories, as follows:

Primary Urban Area

This area consists of 32 tracts occurring mainly in the built-up area. The Primary Urban Area is currently served by full or partial utilities. This area is further divided into five separate phases based on the extent of utilities available and proximity to existing development.

Secondary Urban Area

This area includes the existing water storage tank and extends from the Primary urban Area on the southwest, along Twenty Mule Team Parkway to Galileo Hill and Tracts 3281, 3282 and 8388 on the northeast. The Secondary Urban Area is divided into three phases. Only limited urban services are recommended until detailed development plans have been prepared and adopted.

Planned Core Areas

These areas have been previously discussed in detail. No further subdivision, building or urban services are recommended until detailed development plans have been prepared and adopted.

Rural Service Area

Includes land designated as Controlled Development and all other land not specifically included under any other phasing category. No urban services are recommended until such time as detailed development plans have been prepared and adopted.

The Phasing Plan relates to sequence rather than specific time frames. The Phasing Plan is a tool to be used when allocating scarce resources and when encouraging development in one area over another. Exceptions will inevitably have to be made in order to respond to any reasonable demand for more serviced land. The intent is to concentrate on quality development and efficient management. Wherever the net result of expansion can be demonstrated to be in the best long-term interests of the City, an exception should be permitted. If inadequate information exists to judge a project, this fact alone should cause a judgment against the project itself. The burden of proof where a proposal is

inconsistent with the General Plan must be on the applicant. However, review and favorable response should be in direct proportion to the quality of the material presented. Whenever innovations are able to produce City-wide benefits, serious and favorable consideration should be given.

203-03.2 Goal

203-03.2.1 To facilitate and implement orderly physical development of urban infrastructure.

203-03.2.2 Establish urban growth management policies which seek to minimize the costs of municipal infrastructure expansion and maximize the municipal benefits.

203-03.2.3 Encourage a concentrated urban land use pattern which provides for the economically efficient provision of urban services to the central core.

203-03.2.4 Implement growth management decisions which achieve the following phasing plan benefits:

- Maximum utilization of land in already developed areas.
- A more cohesive city with more perceivable neighborhood variety and identity.
- Increased water and energy conservation.
- Reduced air and water pollution.
- Maximum use of existing service systems and facilities.

203-03.3 Policies

203-03.3.1 The central core (317 property) should be given a high priority for immediate urban development.

203-03.3.2 Maintenance, redevelopment and improvement of existing systems should take priority over new development and expansion and extension of facilities to areas outside the central core.

203-03.3.3 Development innovations and creativity should be encouraged as a means to orderly growth and expansion.

203-03.3.4 The priority phasing plan should be utilized as a means to allocate municipal resources and encourage new physical development.

203-03.3.5 In extending higher density uses into development areas, the following criteria should be considered:

- Contiguity with existing development (in-fill rather than leapfrog development).
- Environmental suitability for urban or rural development.
- Cost/benefit ratio of alternative provisions.
- Open space and Village identify.

CIRCULATION ELEMENT
California City

300 CIRCULATION

301 INTRODUCTION

This Circulation Element satisfies California Government Code Title 7, Section 65302(b) which requires the General Plan to include a circulation element indicating the location and extent of existing and proposed major thoroughfares, transportation routes, terminals and facilities. The Element is intended to function as a comprehensive transportation plan covering not only streets and highways, but also bikeways, public transportation, railway and airport systems, and truck routes.

302 STREET AND HIGHWAY CIRCULATION SYSTEM

302-01 Introduction

The Street and Highway Transportation Plan, consisting of text and the accompanying Plan map, indicates the major streets and highways within the Planning Area. In addition, it establishes policies intended to insure optimum efficiency and safety in the movement of people and goods within and beyond the Planning Area.

The City's system of streets and highways is based on a functional classification system providing four levels of service: major arterials, arterials, collectors, and local roads.

The planned function of a street may not be reflected in its current design. Adopted street standards illustrate the typical right-of-way design for major arterials, arterials, collectors, and local streets. The policies in the Plan provide, however, that the City may deviate from these standards where conditions warrant special treatment of the roadway.

Circulation within California City is comprised of the following major streets:

California City Boulevard is a major transportation route. It is designated as a major arterial, and is currently a four lane road with median in the vicinity of the project site. It provides access from State Route 14 and Interstate 58 to California City. To the west of the first community, California City Boulevard becomes a two lane road at Baron Boulevard and continues as a two lane road to the intersection with Highway 14. California City Boulevard is controlled with a stop sign at this location. To the south, California City Boulevard becomes a two lane boulevard to the south of Redwood Boulevard, and remains a two lane road to the intersection of Highway 58. California City Boulevard is controlled with a stop sign at its intersection with Highway 58.

Yerba Boulevard is designated as a north-south primary street and is currently a two lane road. It provides access to California City Boulevard for property both on the north and south side of California City Boulevard. The intersection of Yerba Boulevard and California City Boulevard is controlled with stop signs for Yerba Boulevard traffic.

Neuralia Road is designated as a north-south arterial. It currently is a four lane road north and south of California City Boulevard. Neuralia Road provides access from residential areas north and south of California City Boulevard. The intersection of Neuralia Road and California City Boulevard is unsignalized, with stop signs for all four legs. Redwood Boulevard stops at Neuralia Road. Redwood Boulevard does not extend west of Neuralia Road at this time.

North Loop Boulevard is classified as a primary street and is currently developed to two lanes in width north of California City Boulevard. North Loop terminates at California City Boulevard-Randsburg Mojave Road. The intersection of North Loop and California City Boulevard is controlled with stop signs at all four legs. The intersection of North Loop Boulevard and Hacienda Boulevard is controlled with stop signs on Hacienda Boulevard.

Hacienda Boulevard is a north-south street that is designated as a major arterial. Presently Hacienda Boulevard is a two lane street in the project vicinity, and terminates at North Loop Boulevard on the north and Redwood Boulevard on the south. The intersection of Hacienda Boulevard and California City Boulevard is controlled with stop signs for Hacienda Boulevard. Hacienda Boulevard has split access at California City Boulevard with the west half of the two way street accessing traffic to the north, and the east portion acting as a driveway for the City Hall and governmental buildings.

South Loop Boulevard is designated as a major arterial in this area and is paved as a wide two lane road. The intersection of South Loop Boulevard and California City Boulevard is controlled with a four-way stop.

The intersection of South Loop Boulevard and Hacienda Boulevard is controlled with stops for Hacienda Boulevard. The intersection of South Loop Boulevard and California City Boulevard (east end) is a three-way intersection with stop signs for South Loop Boulevard.

Redwood Boulevard is a wide two lane road in the project area that extends from Neuralia Road on the west to California City Boulevard on the east. Redwood Boulevard is controlled with stop signs at Neuralia Road and at California City Boulevard. At the intersection of Redwood Boulevard and Hacienda Boulevard, Hacienda Boulevard is controlled with stop signs.

Randsburg-Mojave Road is a two lane major highway that serves the area northeast of California City. The street becomes a four lane road at Voltaire Court and remains a four lane road to the intersection of California City Boulevard.

302-02 Goal

302-03 Objectives

302-03.1 Plan and provide a street and highway system to move people and goods in an orderly, safe, and efficient manner. Not to exceed Level of Service "C".

302-03.2 Plan and develop a street and highway system so as to maximize its effectiveness while minimizing its cost.

302-03.3 Minimize the adverse impact of streets and highways on adjacent land uses and on the environment of the Planning Area.

302-03.4 Provide a street and highway system which can accommodate alternative modes of travel.

302-03.5 Provide a street and highway system which is aesthetically pleasant to the user through the incorporation of landscape buffering on applicable medians and rights of way.

302-04 Policies

302-04.1 Major arterials provide for through traffic movement on continuous routes with direct access to abutting property.

302-04.2 Arterials provide for through traffic movement on continuous routes, joining major traffic generators, major arterials, and other arterials. Access to abutting property should be controlled.

302-04.3 Collectors provide internal traffic movement within an area and connect local roads to the arterial system. Access to abutting property is generally permitted.

302-04.4 Local streets provide internal traffic movement within an area and primarily serve to provide direct access to abutting property.

302-04.5 The City may deviate from the Typical Roadway Cross Section standards in circumstances where unique conditions warrant special treatment of the roadway.

302-04.6 Access to property abutting an arterial or collector roadway should be subject to the following criteria:

302-04.6.1 Direct access from an arterial or collector to a major traffic generator should be restricted through design requirements on new developments which provide for frontage roads, access to other roads, or limits on the number and location of direct access points. Major traffic generators may be defined as including, but not being limited to, large multiple-family residential developments, large commercial developments, industrial developments, educational institutions and medical centers.

302-04.6.2 New residential subdivisions should be designed with a minimum number of lots fronting directly on collector streets and with no lots fronting directly on arterial streets. Vehicular access may be permitted from a frontage road or from other roads. Where direct access is provided from a residential subdivision lot to a collector street, turnaround facilities should be required for each such lot as a condition of subdivision approval so that vehicles do not back out onto the roadway.

302-04.7 The City should provide a planned system of streets and highways which provides for the orderly, safe, and efficient movement of people and goods by the following:

302-04.7.1 Continue to maintain the City of California City Circulation Element street and highway classifications.

302-04.7.3 When and where necessary, prepare and adopt Precise Plans of streets and highways to establish and protect rights-of-way for the future development of planned arterial and collector streets, as determined by the Ultimate Rights-of-Way Plan.

302-04.8 The City should insure completion of planned arterial and collector streets as they become necessary to serve developing urban areas or to meet developing traffic demands of the City by the following:

302-04.8.1 Adopt a street improvement program based on a needs priority system.

302-04.8.2 Coordinate the street improvement program with other public service facility improvement programs.

302-04.8.3 Require dedication and improvement of necessary street facilities as a condition of land development.

302-04.8.4 Utilize available State and Federal funds for street and highway development.

302-04.9 The City should insure that planned streets and highways operate to their maximum efficiency by coordinating their multi-modal use as follows:

302-04.9.1 Develop bikeways in accordance with the City Bikeways Plan.

302-04.9.2 Consider the need for transit and bikeway facilities when establishing the ultimate rights-of-way of streets and highways. The City should prepare typical roadway cross sections which define standards for transit and bikeway facility improvements.

302-04.9.3 Provide additional rights-of-way and improvements off of the travelway of arterial and collector streets where deemed necessary for public transportation.

302-04.9.4 Provide areas for pedestrian travel which enhance the safety and efficiency of the street system.

302-04.10 The City should minimize the adverse impact of truck traffic on the community by maintaining and enforcing a system of designated truck routes.

302-04.11 The City should insure the installation of signals, signs, lighting, and other traffic improvements necessary for the safe and efficient movement of vehicular traffic and pedestrians within the City by the following:

302-04.11.1 Adopt and maintain a traffic safety and operations improvement program based on a needs priority system as part of the City street improvement program.

302-04.11.2 Require the installation of necessary street improvements as a condition of land development.

302-04.12 The City should minimize the adverse environmental impact of street and highway development by utilizing road construction methods which reduce the air, water, and noise pollution associated with such development.

302-04.13 The City should encourage interior street designs within new subdivisions which promote the safety and integrity of neighborhoods.

302-05 <u>Street and Highway System</u>

The following major arterial, arterial, and collector streets and highways are indicated on the Circulation Map:

302-05.1 Major Arterials

California City Boulevard
Neuralia Road
Twenty Mule Team Parkway
Randsburg-Mojave Road
Lincoln Boulevard

302-05.2 Arterials

Mendiburn Road
Redwood Boulevard
Hacienda Boulevard
Sequoia Boulevard
Brown Road
Chrysler Drive
Kennedy Drive
Rutgers Road
Washburn Avenue
Columbia Drive
Colgate Road

302-05.3 Collectors

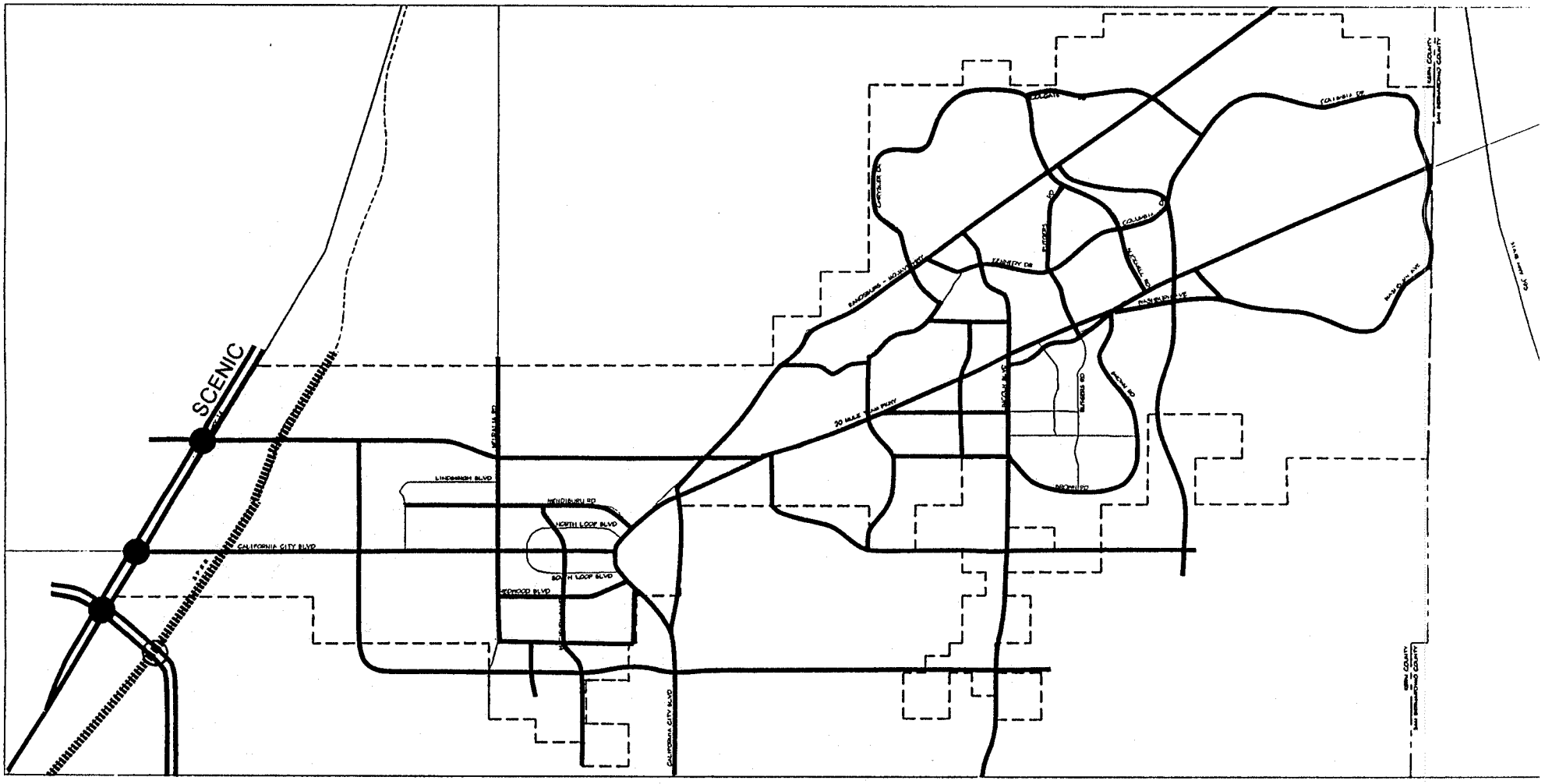
Lindbergh Boulevard
North Loop Boulevard
South Loop Boulevard

302-05.4 Local Streets

All other roads within the California City Planning Area are local streets. Their alignments are to be determined on the basis of the land use to be served and the location of the major arterial, arterial, and collector streets and highways.

302-06 Analysis of Street and Highway System

The street and highway system previously described is based on an evaluation of: the existing and planned land use patterns, the existing and potential future traffic volumes, the existing County circulation plans and the previous City circulation plan, and the information developed as a result of citizen participation workshops. In addition, this Circulation Plan seeks to provide for the maximum feasible integration between the planned City and County street and highway systems to accommodate circulation needs to the year 2012.



CALIFORNIA CITY
GENERAL PLAN
1992-2012

FREEWAY/EXPRESSWAY
ARTERIAL/MAJOR HIGHWAY (2-4 LANES)
RAILROAD
GRADE SEPARATION
INTERCHANGE

NORTH
0 .5 1 2 3 4 5 MI QUAD

STREET CIRCULATION MAP

FIGURE 9

302-07 Scenic Route Corridor

The adopted 1974 California City General Plan includes a scenic highways element which identified Twenty Mule Team Road as a scenic highway route. The scenic highways element was a State of California mandated general plan element but is no longer a requirement for adoption. The Scenic Highway Element therefore is not a part of this 2012 General Plan Update. A scenic route along Highway 14, however, was designated by the Kern County Board of Supervisors and contained in the 1992 Kern County Circulation Element.

Kern County has yet to begin using any of the policies, standards, or implementation called for in the Scenic Highways Element. The chief program called for in the Scenic Highways Element is to prepare and adopt "Scenic Corridor" specific plans next to all State and County-designated eligible scenic highway rights-of-way. The corridors would include all natural and man-made features visible from the roadway.

A *Scenic Corridor Overlay Zone* district must be adopted by ordinance for protection and enhancement of scenic qualities of the County's roadside. The proposed zone overlay district includes environmental considerations. These include special sign limitations, permitted uses, building design, landscaping, grading, setbacks, tree removal, screening, and above-ground utilities. The Scenic Highways Corridor Overlay Zone has yet to be adopted. Kern County has not adopted any scenic corridor specific plans.

Caltrans has the responsibility for coordinating Scenic Highway programs. Caltrans will not act on programs until the local government requests aid from that agency. Caltrans will coordinate and conduct two studies. Caltrans calls the studies "Corridor Survey" and "Highway Facility Study". Results of these two studies will be presented in a comprehensive Scenic Highway Report. The report will contain maps, photographs, and other documentation.

303 BIKEWAYS TRANSPORTATION SYSTEM

303-01 Introduction

The California City Bikeways Plan is a subsection of the California City General Plan Circulation Element and serves as one of the several transportation modes which comprises the Circulation Element.

A "bikeway" is a general term for any type of facility that explicitly provides for bicycle travel. The bikeway can be anything from an independent, grade-separated facility on a separate right-of-way to just a signed route along a city street. In this Plan there are three classifications of bikeways (bike paths, bike lanes, and bike routes) based on the degree of exclusivity with which the facility is preserved for bicycle use. The two main purposes of bikeways are to guide bicyclists to their destinations and to provide some

measure of protection or safety. The types of bikeways included in a bikeway system will determine the measure of safety.

303-02 Goal

303-03 Objectives

303-03.1 Develop a continuous and easily accessible bikeways system which facilitates the use of the bicycle as a viable alternative transportation mode.

303-03.2 Develop programs, standards, ordinances, and procedures to achieve and maintain safe conditions for bicycle use.

303-03.3 Encourage bicycling for reasons of ecology, health, economy, and enjoyment as well as for transportation use.

303-03.4 Encourage the use of the bicycle within the total transportation network.

303-04 Policies

303-04.1 Development of a bikeways system for the California City Planning Area shall be guided by the following:

303-04.1.1 Priority should be given to bikeways that will serve the most cyclists and destinations of greatest demand.

303-04.1.2 Bikeways should be designated near major traffic generators such as commercial and employment centers, schools, recreational areas, and major public facilities.

303-04.1.3 Bicycle parking and storage facilities should be provided at major bicycle traffic generators.

303-04.1.4 Bikeways should be provided in both existing and future parks where they will not cause serious conflicts with other uses of the parks.

303-04.1.5 Bikeways should be continuous and should be linked to other bikeways and recreation facilities.

303-04.1.6 Whenever possible, bikeways should be developed in conjunction with street construction and improvement projects occurring along streets and roads where bikeways have been designated on the Bikeways Plan map.

303-04.1.7 The design and construction of bikeways shall conform to the standards

established by the California Department of Transportation.

303-04.2 Safe conditions for bicycle use shall be developed and maintained. The following shall apply:

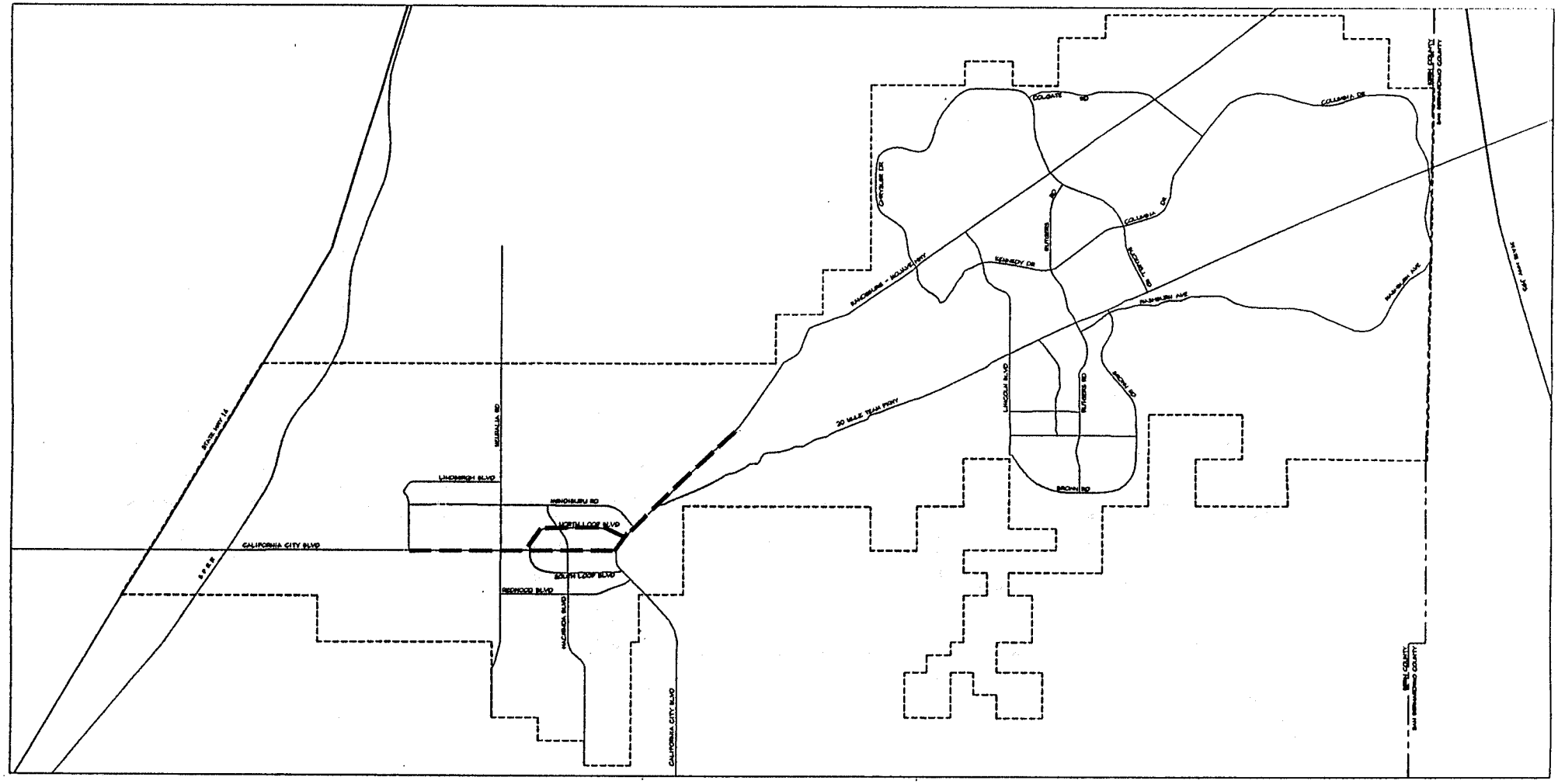
303-04.2.1 A visually clear, simple, and consistent bikeway system with clearly defined areas and boundaries should be established.

303-04.2.2 For the safety of those who use the bikeways, the City should consider stopping a bikeway before a major street intersection or dangerous railroad crossing and starting it again after the area has been passed. Within these potentially dangerous areas, bicyclists walk their bicycles or ride with extra caution at their own risk.

303-04.2.3 Through mass media, school, and private efforts, the City of California City should encourage a program of education in the rules of the road, aimed at both the cyclist and the motorist.

303-04.2.4 Bikeways should be constructed and maintained to reduce or eliminate hazards such as unsafe drainage grates, dirt, glass, gravel, and other debris.

303-04.2.5 The bikeway system should be monitored and evaluated in order to determine the effectiveness of established bikeway facilities in terms of use, safety, and efficiency.



CALIFORNIA CITY
GENERAL PLAN
CIRCULATION ELEMENT 1992-2012

PRIMARY BICYCLE ROUTE

NORTH

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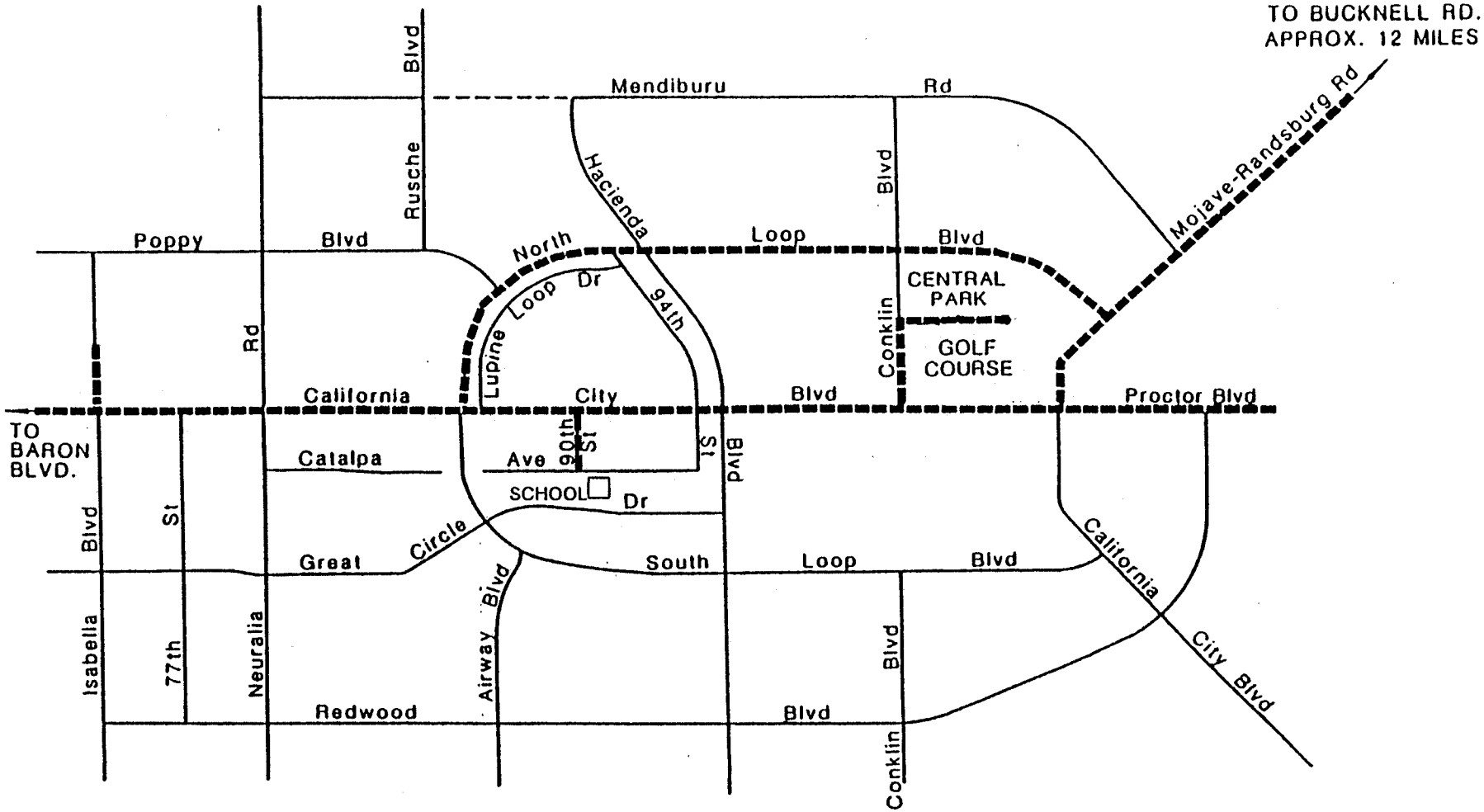
GENERALIZED
PRIMARY BICYCLE ROUTE
(SEE INSERT FOR DETAIL)

FIGURE
10



CALIFORNIA CITY
GENERAL PLAN
CIRCULATION ELEMENT 1992-2012

PRIMARY BICYCLE ROUTE

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INSERT
PRIMARY BICYCLE ROUTE

FIGURE
11

303-05 Bikeway System

303-05.1 The planned bikeway routes are designated on Figure 11.

303-06 Analysis of the Bikeway System

The bikeway system is designed to serve all major community traffic generators including commercial areas, schools, recreational facilities and major public facilities. However, the majority of bicycle users in California City are operated by elementary school children. A principal emphasis of the Plan is to cater to this juvenile cycling population by linking residential areas to schools and recreational facilities.

304 PUBLIC TRANSPORTATION SYSTEM

California City is located in a triangle of regional arteries: State Highway 14 to the west, turning northeast from the City of Mojave toward Red Rock Canyon and northerly to Inyokern; U.S. Highway 395, located to the east of California City and oriented northwest through Randsburg, Johannesburg, and Red Mountain, connecting with State Highway 14 northwest of Inyokern; and State Highway 58 (Interstate 40), which runs east-west from the City of Mojave through North Edwards and Boron along the northern boundary of Edwards Air Force Base to Barstow and beyond. California City Boulevard intersects State Highway 14 approximately five miles north of Mojave and serves as the western entrance to the community. The Twenty Mule Team Road, which interconnects the "First" and "Second" Communities, extends eastward to intersect U.S. Highway 395. However, the easternmost nine miles is graveled, not paved.

The local circulation system for California City is extensive, designed by the original developers to serve a large urban population. About half of the nearly 600 miles of roads are paved, the rest graded, and all but the thirty miles of roadway serving the developed western portion of the City is in need of repair. California City Boulevard comprises the main east-west street entering the community from State Highway 14 on the west, serving the Civic Center area, and turning south to join State Highway 58 on the south. The Twenty Mule Team Road extends twenty miles northeast from California City Boulevard and connecting with U.S. Highway 395. Dial-A-Ride is the only service within the City, and the City has arranged for daily bus service to Lancaster beginning in July, 1992, to provide for the medical care and shopping needs of residents. The Dial-A-Ride service operates strictly within the "First Community" and is sponsored by the City with State of California funding. In existence for about nine years, it has three units, all of which are equipped to handle wheelchairs.

In August 1992, Kern County Transit began operation of the "East Kern Route", which provides intercity transit service between California City, Mojave, Rosamond, Lancaster and Palmdale. Service is initially being provided three days per week on Monday, Wednesday and Friday (major holidays excluded), with three round trips each of those days. Service may be expanded to five or six days per week depending on public interest and ridership. Boardings and debarkings are made at scheduled locations along the route, and is being coordinated with local

community dial-a-rides as well as Antelope Valley Transit in Lancaster and Palmdale. One-way fares for the general public vary between $1.00 and $3.50, depending on the length of the trip. Fifty percent discounted fares are available for seniors sixty-two and over, disabled individuals, and youths up to fifteen years.

305 RAIL TRANSPORTATION SYSTEM

California City is served by one line of the Southern Pacific Railroad located along the western portion of the community. At present, there is no railroad terminal or facility serving California City.

306 AIR TRANSPORTATION SYSTEM

California City Municipal Airport is located four miles northwest of the Civic Center and serves general aviation. The airport has a 6,000-foot illuminated runway, and airplace hangars. Manufacturing and aviation-related businesses are located nearby.

OPEN SPACE AND CONSERVATION ELEMENT

California City

Groundwater units and subunits have commonality of recharge or storage, and in the area of California City, their boundaries are often determined by topographic features and fault lines which run in various directions throughout the area.

The Chaffee Subunit is located in the west of the community and contains several million acre feet of high quality water. It is recharged primarily by water flowing under Cache Creek and Sand Creek, which drain a large area of the Tehachapi Mountains that is subject to relatively high annual precipitation levels. Although only rarely do the two drainages bring surface water onto the desert floor, there are significant under-surface flows that contribute to the subunit's recharge.

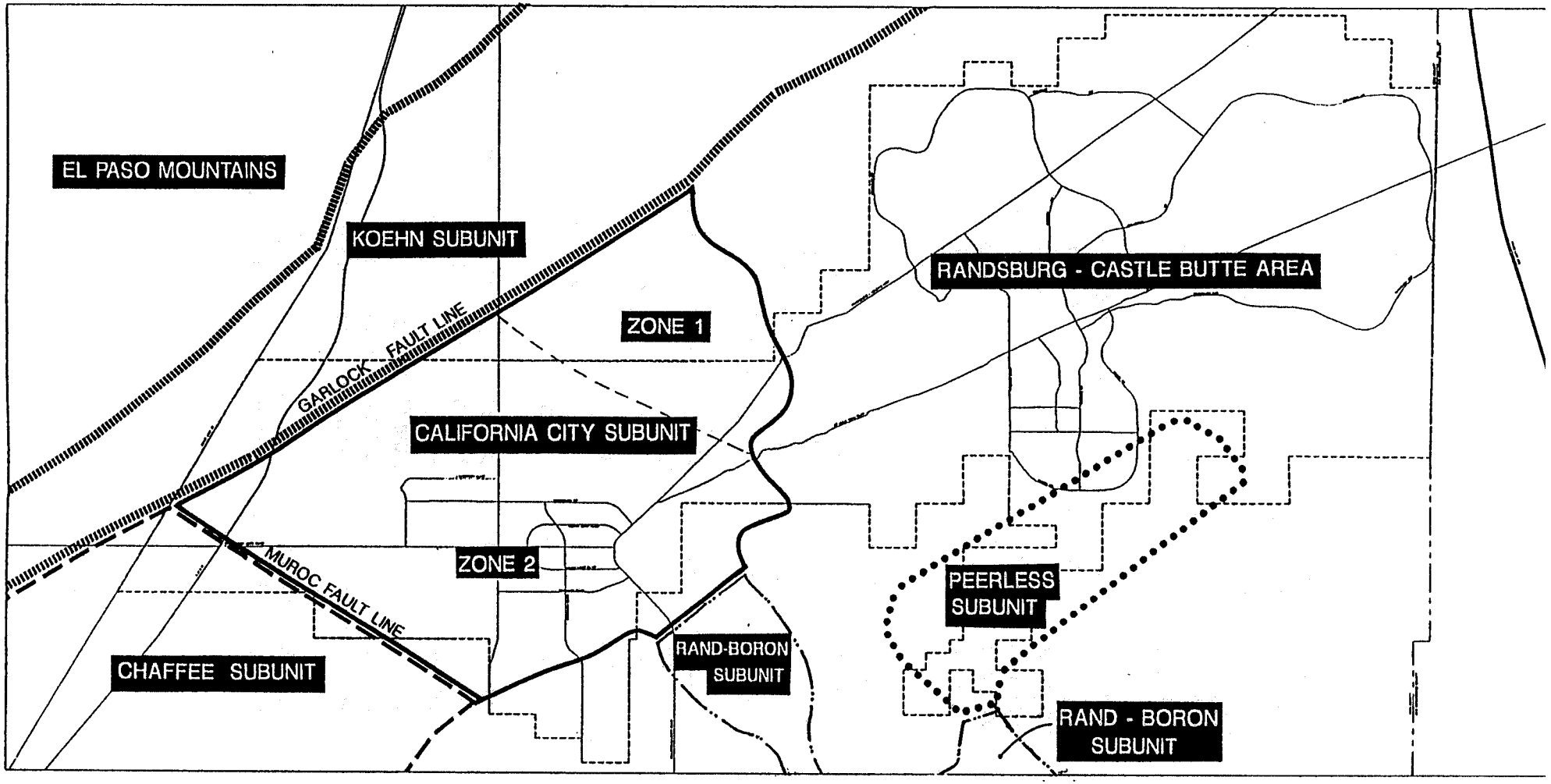
The Muroc Fault divides the Chaffee Subunit from the California City Subunit, and provides a barrier for sub-surface water to move from west to east, even though the water table southwest of the Muroc Fault is higher than that to the east of the fault line. Thus, there is no opportunity for water from the Chaffee Subunit to fill the depression that has been created by past agricultural pumping activities as well as domestic water pumpage in the California City Subunit.

The effect of the Koehn Subunit to the north has a negative effect on the California City Subunit in that groundwater migrates in that direction toward Koehn Dry Lake, the surface collection point in earlier times for water draining from the Tehachapi Mountains, Red Rock and Jawbone Canyons, the El Paso Mountains and Rand Hills. Groundwater contours reveal this natural movement in the direction of Koehn Dry Lake, a movement which is enhanced by the depression in that subunit caused by long-time pumping from the irrigation of alfalfa.

The Peerless Subunit occupies Peerless Valley (see Figure 5-1) and receives little or no recharge to the estimated 250,000 acre feet of water that accumulated during the Ice Age. Water pumped from this aquifer is truly being mined and is of marginal quality.

Similarly, the Rand-Boron Subunit has no recharge from the surrounding hills, and although a portion of the Subunit is located within the boundaries of California City, it has little potential to provide a sustained water supply for anything more than a small population.

501.2 **Water Utilization:** At the time the land sale promotion activities began in 1958, an estimated 70-foot depression had occurred under the area that is now the center of the community as a result of agricultural pumping for the irrigation of alfalfa. Upon the cessation of this pumping, the depression began to fill in, and in 1961 about 50 feet of the depression had recovered, leaving a 20-foot depression in and around the developed community. By 1990, however, the depression had returned to about 50 feet as a result of pumping for domestic water.



CALIFORNIA CITY
GENERAL PLAN
OPEN SPACE / CONSERVATION ELEMENTS 1992-2012

NORTH
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GROUNDWATER UNITS AND SUBUNITS

FIGURE
12

The Kreiger and Stewart study concluded that the recoverable water in Zone 2 of the California City Subunit is about 2.1 million acre-feet. The recent Saint-Amand study (1991) concurs with that estimate.

Present water usage levels related directly to California City are estimated to be 2,100 acre-feet annually for strictly domestic purposes, and another 1,000 acre-feet for irrigation of the golf course, park area and for lake replenishment. The latter usage alone accounts for about 160 acre-feet annually, there being approximately 16 acres of lake surface and an annual evaporation rate exceeding 120 inches.

Given the California Department of Finance estimate of 7,925 persons living in the community in 1992, domestic water usage (exclusive of golf course and park irrigation as well as lake replenishment) averages approximately 235 gallons per person per day. This is nearly double the figure utilized by planners (125 gallons per person daily) throughout California in designing community water systems. Much of this increased usage can likely be attributed to the cultural tendency of people to maintain lush lawns, shrubbery and trees in this very arid environment.

According to the Saint-Amand Study, an analysis of active well data revealed that the static water level in all wells drilled in the 1950's has dropped about 25 feet, with the exception of Well #11 which has dropped 85 feet. The production wells have an average of 326 feet of standing water, thus if pumping continues at present rates, the wells will continue to produce for several more decades.

In addition to water utilization for domestic purposes, the Saint-Amand Study concludes that approximately 10,000 acre-feet of groundwater is translocating annually to the Koehn Subunit from the Chaffee Subunit and Zone 1 of the California City Subunit. This is the result of the depression that exists in the Koehn Subunit from long-term agricultural pumping, which still continues. Obviously, this is water that can not be captured by California City.

As this document is being prepared, a 16,000-acre annexation to California City is before the Local Area Formation Commission (LAFCO). This annexation would encompass an area between the present western boundary of the City and Highway 14. According to the City Engineer, this area would eventually require the drilling of a new well to serve the residents within the annexed area and this new segment would also intertie with the City's existing system.

As previously mentioned, the City purchases approximately 300-400 acre-feet of surface water from AVEK each year. The conveyance system can accommodate

the delivery of as much as 2,000 acre-feet annually, however the amount of surface water that is available varies year-to-year depending upon precipitation levels in northern California where the majority of the water is captured and stored in manmade reservoirs.

501.3 **Water Quality:** The groundwater utilized by California City is not treated. It is high in total dissolved solids (450-660 parts per million) and in fluoride content (1.0-1.8 ppm). According to the Saint-Amand study, however, the groundwater quality is higher than that of the surface water purchased from AVEK because of a high content of halomethanes produced by decaying organic matter (principally algaes), and thus it must be blended with the City's groundwater to reduce the concentration of halomethanes to permitted levels.

501.4 **Vegetation:** The native flora of the region is dominated by the creosote bush association which occurs throughout the Mojave Desert at elevations ranging from 2,300 to about 4,500 feet above sea level. Creosote bush (*Larrea diverticata*) generally has an understory of hop sage (*Grayia spinosa*), bladder sage (*Franseria dumosa*) or black brush (*Coleogyre ramosissima*), with an interspersion of various perennial bunch grasses such as desert needle grass (*Aristida californica*) and annual grasses, including cheat grass (*Bromus tectorum*). During the spring months few to numerous species of annual forbs will be present in the understory, the variety being entirely dependent upon the amount of precipitation received during the November-March/April period. During wet years, a virtual carpet of wildflowers will exist for a period lasting from a few days to several weeks, again depending upon the frequency and amounts of rainfall which occur during the spring season. In dry years, there is little or no evidence of these annual plants, because the seeds lack adequate moisture for germination. Common forbs that are present throughout the region include popcorn flower (*Plagiobothrys arizonicus*), Mojave aster (*Aster abatus*) and poor shepard's purse (*Capsella bursa-pastoris*).

It should be mentioned that the Joshua Tree (*Yucca brevifolia*) can be found in very scattered locations throughout the area of California City but would not be considered a primary species.

An examination of the State of California's Natural Diversity database revealed that no threatened or endangered plant species are located within the confines or the nearby vicinity of California City.

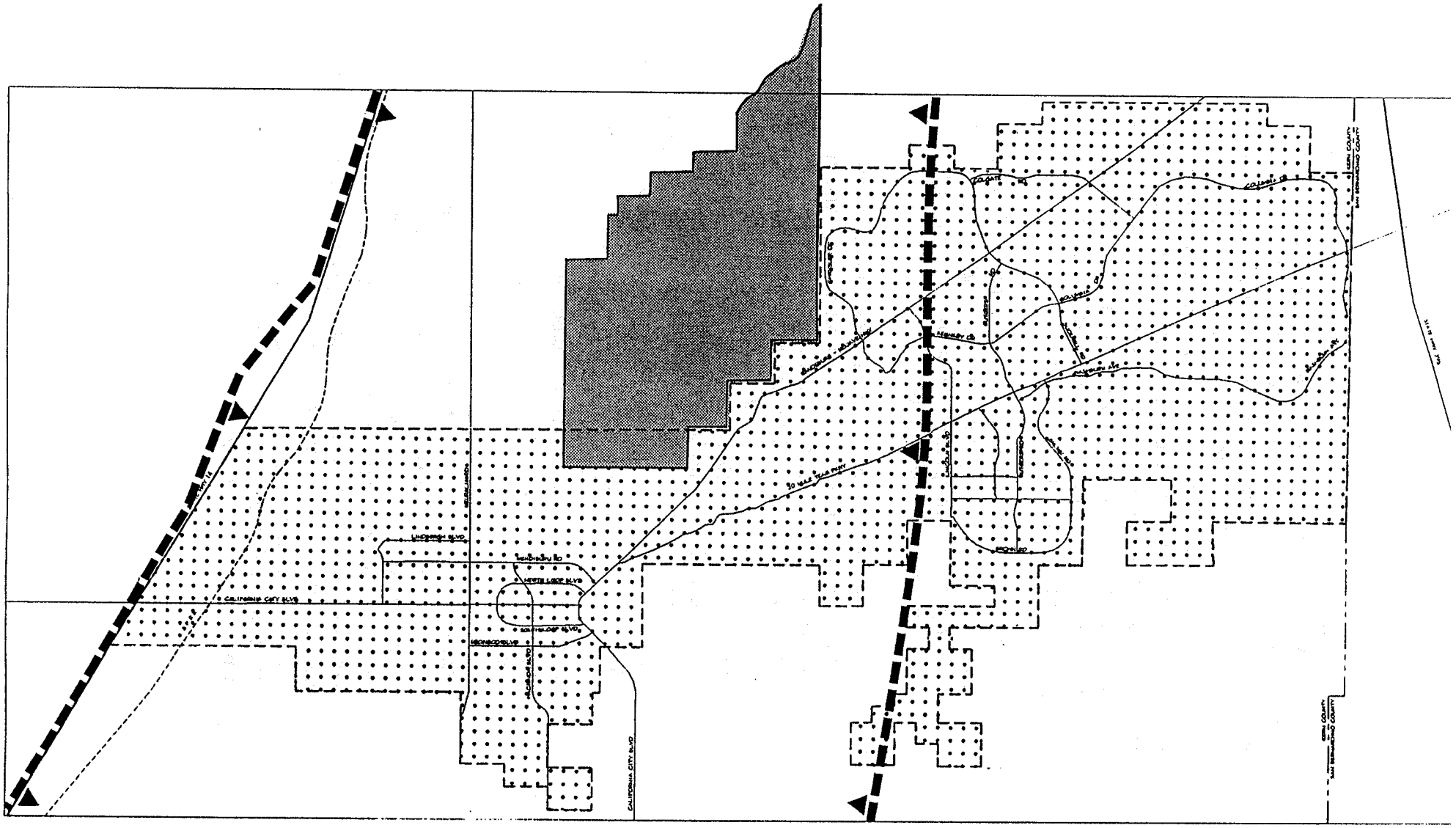
501.5 **Wildlife:** Wildlife species which inhabit the Mojave Desert and the area in and around California City are associated with those found in the lower Sonoran Life Zone, a zone characterized by rolling desert plains, dry sinks, low levels of precipitation and sparse, drought-resistant vegetation. Species that are representative of this zone, most of which can be found within the area of

California City, include the coyote (*Canis latrans*), a black-tailed hare (*Lepus californicus*), roadrunner (*Geococcyx californianus*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), Mohave ground squirrel (*Citellus mohavensis*) - a species listed as Threatened by the California Department of Fish and Game and as a candidate species (Category 2) by the U.S. Fish and Wildlife Service, desert tortoise (*Gopherus agassizi*) - listed as Endangered by the U.S.F. & W.S. and Threatened by the C.D.F.&G.; sidewinder (*Crotalus cerastes*), desert whiptail lizard (*Cnemidophorus tessellatus*), mourning dove (*Zenaidura macroura*), Gambel's quail (*Lophortyx gambeli*), burrowing owl (*Speotyto cunicularia hypugcea*), turkey vulture (*Cathartes aura*), as well as numerous birds of prey, songbirds and varieties of rodents.

Important to note are the two wildlife species that are listed above which have been given a special status by both the U.S.F.&W.S. and the C.D.F.&G. a specific description of each species, the habitat in which each is found and other pertinent comments immediately follows:

- Desert tortoise - A resident of washes, sand and gravelly flats, canyon bottoms, rocky hillsides and even areas of fire, wind-blown sand, it is in the creosote bush vegetative association that the tortoise is most often found. It needs firm soil for the construction of its burrows, and often shares these dens with other desert reptiles such as the sidewinder, spotted night snake (*Hypsiglera torquata*) and banded geckos (*Coleonyx variegatus*). The species is seriously threatened by the collecting activities of humans, on and off-road vehicle mortality, raven predation, respiratory disease, habitat disturbance and desert community development. A Desert Tortoise Natural Area has been designated by the U.S. Bureau of Land Management. This 25,000-acre area is generally closed to vehicular traffic, livestock grazing, and numerous human activities, and is located adjacent to the city limits of California City in the northeastern sector (see Figure 6-1).

- Mohave ground squirrel - A small ground-dwelling squirrel, its pelage color is pinkish cinnamon without stripes or flecking. Its body and tail underparts are cream-colored and its cheeks are brownish. Found on the sandy desert floor throughout the Lower Sonoran Life Zone, its diet consists mainly of shrub leaves, with hopsage being the most important component. The Mohave ground squirrel coexists in the same habitat as the white-tailed antelope ground squirrel. It is threatened by off-road vehicles, habitat disturbance, grazing pressure and conversion of its habitat to urban development.



CALIFORNIA CITY
GENERAL PLAN
OPEN SPACE / CONSERVATION ELEMENTS 1992-2012

DUCK FLYWAY

TORTOISE PRESERVE

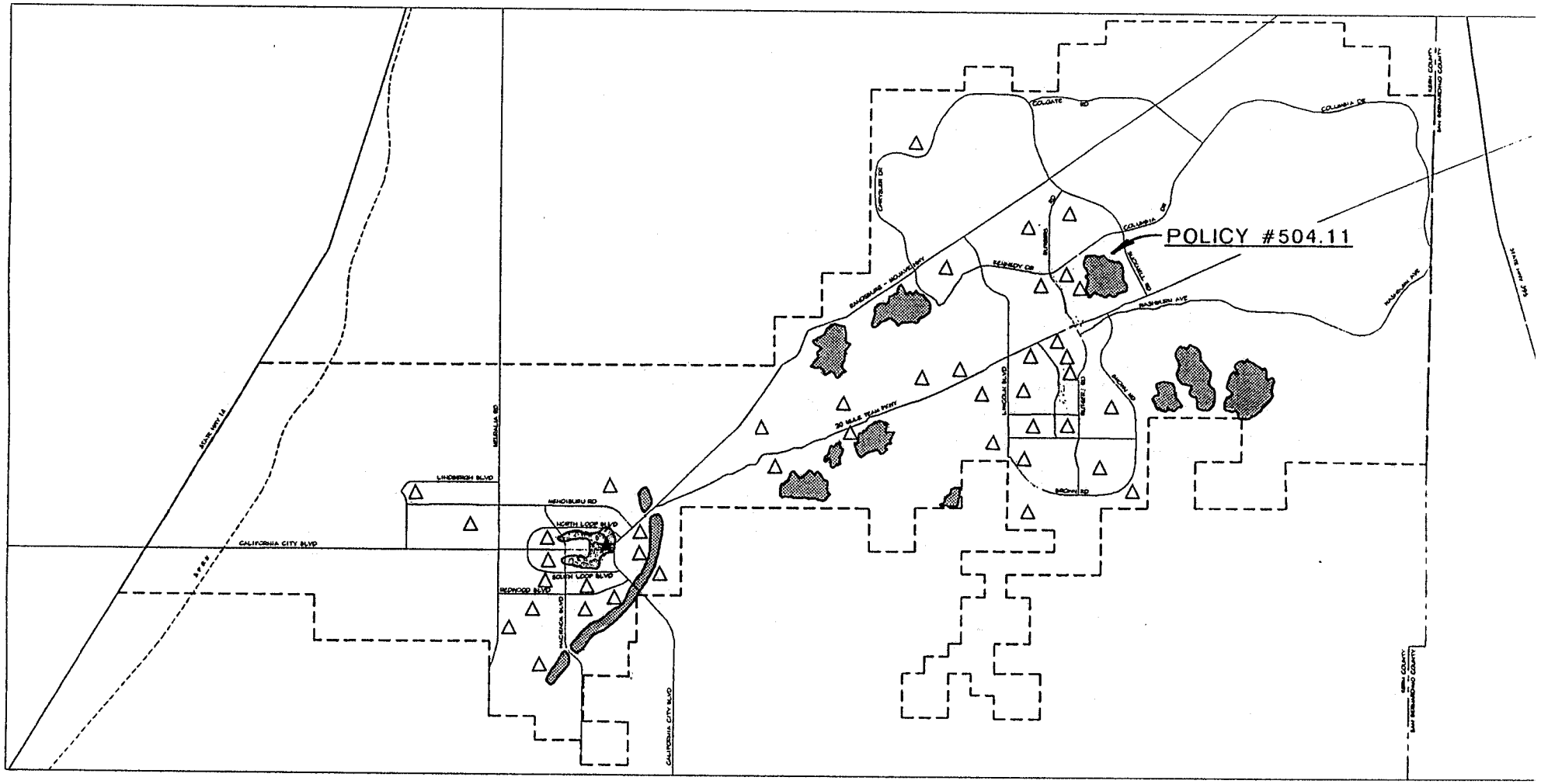
MOHAVE GROUND SQUIRREL

NORTH

0 .5 1 2 3 4 5 MI QUAD

WILDLIFE

FIGURE 13



CALIFORNIA CITY
GENERAL PLAN
OPEN SPACE / CONSERVATION ELEMENTS 1992-2012

NORTH

0 .5 1 2 3 4 5 MI QUAD

★ EXISTING PARKS

EXISTING GOLF COURSE

△ PARK LAND

CONSERVATION LAND

PARKS AND CONSERVATION LAND

FIGUR
13A

501.6 **Recreation:** City-owned and operated recreational facilities include two golf courses, community center, marina, Balsitis Park, Central Park swimming pool, tennis courts, handball courts, sports arena, Borax Bill Park, and a Little League ball park with three fields. Galileo Hill Park, a private recreation area, in the eastern section of the City, is operated by a private developer. Regional recreational opportunities in the western Mojave include Red Rock Canyon State Park and access to Sequoia National Forest.

501.7 **Scenic Resources:** Characteristic of its high desert location, California City's scenic resources are significant. The air is generally very clear in this area of California because of the prevailing wind pattern from west to east, and also the fact that wind is a relatively constant feature of the region's climate. The Tehachapi Mountains, a southern extension of the Sierra Nevada, provide a beautiful scenic backdrop to the west, while the Rand Mountain Range, a typical example of the stark mountain ranges found throughout the California Desert, can be seen to the north. Surrounding the community is the desert vegetation that many find very appealing as a scenic resource, particularly during the spring months of wet years when a carpet of wildflowers provides a display of vivid colors and textures.

Twenty Mule Team Road was proposed as a Scenic Corridor during the 1970's; scenic vistas along the historic roadway include Castle Buttes, desert wildflowers, and a panoramic view from Galileo Hill. (Kern Council of Governments and City of California City, Scenic Highways Element of the California City General Plan, 1974.)

501.8 **Cultural Resources:** A Cultural Resources Records Search conducted by the California Archaeological Inventory Southern San Joaquin Valley Information Center (California State University, Bakersfield, May 7, 1992) indicated that within the California City corporate boundary the following cultural resources surveys have been recorded:

California City South 7.5' Quadrangle: two surveys covering approximately 240 acres.

California City North 7.5' Quadrangle: eight surveys covering approximately 480 acres.

Galileo Hills 7.5' Quadrangle: three surveys covering approximately 1,100 acres.

North Edwards 7.5' Quadrangle: one survey of 50 acres.

No surveys were recorded within the corporate boundaries on the Sanborn, Mojave NE, Boron, or Boron NW 7.5' Quadrangles.

Within the California City corporate boundaries, the following archaeological sites are recorded:

California City South 7.5' Quadrangle: one aboriginal quarry site.

California City North 7.5' Quadrangle: eight sites, quarries and lithic scatters, and two isolated finds.

Galileo Hills 7.5' Quadrangle: 19 sites, quarries, and lithic scatters.

North Edwards 7.5' Quadrangle: two sites, lithic scatters.

There are no sites within the corporate boundaries on the Sanborn, Mojave NE, Boron, or Boron NW 7.5' Quadrangles.

Hundreds of archaeological sites are recorded on Edwards Air Force Base, where numerous archaeological surveys have been carried out. Numerous sites and isolated finds are also recorded in the Rosamond, Mojave, and Cantil vicinity. Most have been discovered as a result of archaeological surveys.

There are no listed historic properties within the California City corporate boundaries. However, both Randsburg and Garlock are listed in the California Historic Landmarks due to the early historic mining in the area.

Very little of the land within the California City corporate boundaries has been inventoried for cultural resources, yet 30 sites are recorded. Archaeological surveys on Edwards Air Force Base and other small communities in the western Mojave Desert have resulted in the location of hundreds of prehistoric archaeological sites. The cultural resource sensitivity of the California City area appears to be very high.

502 GOALS

502.1 To preserve and protect open space resources that contribute to the well being of California City residents.

502.2 To preserve and protect conservation resources of sensitive plant and wildlife species that are unique to California City environs.

503 OBJECTIVES

503.1 Encourage maximum cooperation among all levels of government and private individuals in the management, conservation, and protection of open space resources.

503.2 Provide sufficient and adequate parks, school sites and recreational facilities to accommodate present and future needs of California City residents.

503.3 Maintain established policies for the proper management of lands where soil or geologic conditions pose risks to development.

503.4 Preserve historical and cultural resources which may exist and are of significant value to the community and to posterity.

503.5 Protect sensitive plant and wildlife species, in accordance with State and federal laws and regulations, and to provide for maintenance of supportive habitat for such species in balance with the needs of humans.

503.6 Promote the maintenance of the open character of California City.

503.7 Protect the community's environmental setting from deterioration, compromising the quality of life enjoyed by California City residents.

503.8 Promote the conservation and prudent use of water resources.

504 POLICIES

504.1 Plan and develop new park and recreation facilities at locations that complement existing and planned population centers and, where possible, develop parks in conjunction with school facilities.

504.2 Establish priorities for the development of planned parks based on anticipated community need and acquire and develop the proposed park sites in accordance with these priorities.

504.3 Encourage a diversity of uses for public parks to include a mix of active athletic facilities and passive open space uses.

504.4 Continue to promote and encourage water conservation to community businesses and residents.

504.5 Establish a water conservation program encouraging and promoting xeriscaping and municipal gray water usage.

504.6 Utilize the policies set forth in the Safety Element to assure the proper management of the existing open space lands which are prone to flooding and exhibit unstable soil conditions.

504.7 Encourage public and private efforts toward preserving structures or sites which are of historic value to the community.

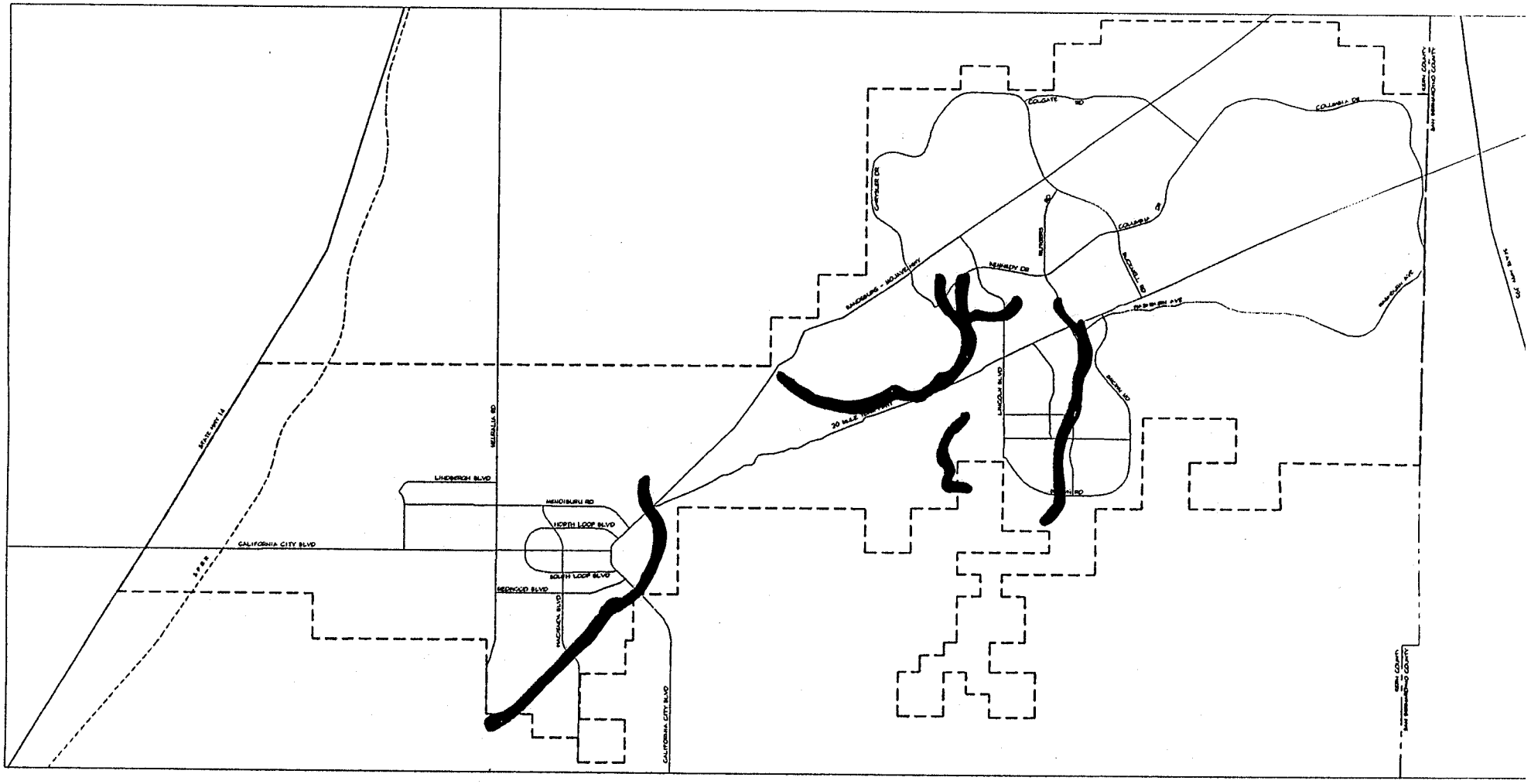
504.8 Establish as a priority the set-aside of park and open space land as it was originally intended by the community master plan concept.

504.9 Establish in the first community as a park and open space priority those designated parcels of land including but not limited to the following tracts: 2069, 2117, 2119, 2120, 2159, 2161, 2191, 2223, 2225, 2226, 2228, 2436, 2447, 2779, 2811 and 2898.

504.10 Establish a set of decision guidelines to preserve and protect the loss of those designated park and open space parcels of land from urban development.

504.11 Galileo Hill and the surrounding base of the hill identified as conservation land and controlled development on the Land Use Element map shall be established as High Priority Areas for perpetual conservation and/or park use. This location represents a significant regional/community site benefiting the immediate surrounding community as well as the regional environs as intended in the original California City concept plan.

SAFETY ELEMENT
California City



CALIFORNIA CITY
GENERAL PLAN
SAFETY ELEMENT 1992-2012

NORTH

0 .5 1 2 3 4 5 MI QUAD

FLOOD HAZARD AREAS

FIGUR
1

discharge-drainage area relationships for Cache Creek, Tierra del Sol Creek, Yerba Rusche Creek, and Great Circle Creek are shown in Table Six.

TABLE SIX
SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (Square Miles)	PEAK DISCHARGE (Cubic Feet Per Second)			
		10-Year	50-Year	100-Year	500-Year
Cache Creek at Downstream Limit of Study	163.40	1,900	5,300	7,800	16,400
Tierra del Sol Creek At Confluence With Cache Creek	2.69	450	1,700	2,800	9,290
Yerba Rusche Creek at Mendiburu Road	5.02	780	2,350	3,600	8,200
Great Circle Creek at Confluence with Yerba Rusche Creek	3.66	560	1,970	3,000	8,200

Source: FEMA, Flood Insurance Study, City of California City, California, Kern County, July 20, 1981.

Most of the existing flood control facilities for California City have been built in the developed western portion of the City. Protection from small magnitude flooding in some of the streets and along Tierra del Sol and Yerba Rusche Creeks is provided by trapezoidal channels; culverts are typically effective for low flows, but are generally inadequate to handle 10-year flows. Overbank flooding and flow over roadways occurs during high volume rainfalls, such as those that occurred during the winter of 1977-78 and during March 1991 and February 1992. The City has an ordinance restricting building within the 100-year flood plain, as designated on the Flood Hazard Boundary Map for California City. There are no federal, state, county, or local flood control projects in the community. (FEMA, Flood Insurance Study, City of California City, California, Kern County, Community Number 060440, July 20, 1981.)

603-02 <u>Goal</u>

To provide and maintain flood control protection for the safety, health and general welfare of the community.

603-03 Objectives

603-03.1 Minimize the potential for damage caused by inundation in flood hazard areas.

603-04 Policies

603-04.1 Ensure that residential, commercial and other land development is adequately protected from the hazards which occur from flooding and storm water runoff.

603-04.2 Encourage open space uses consistent with the character of the floodplain and discourage land uses which are inconsistent with floodplain hazards.

604 GEOLOGICAL HAZARDS

604-01 Introduction

Several geologic hazards may pose threats to the safety of California City residents. These hazards include expansive soils, weak soils, erosion and earth faults that surround the area.

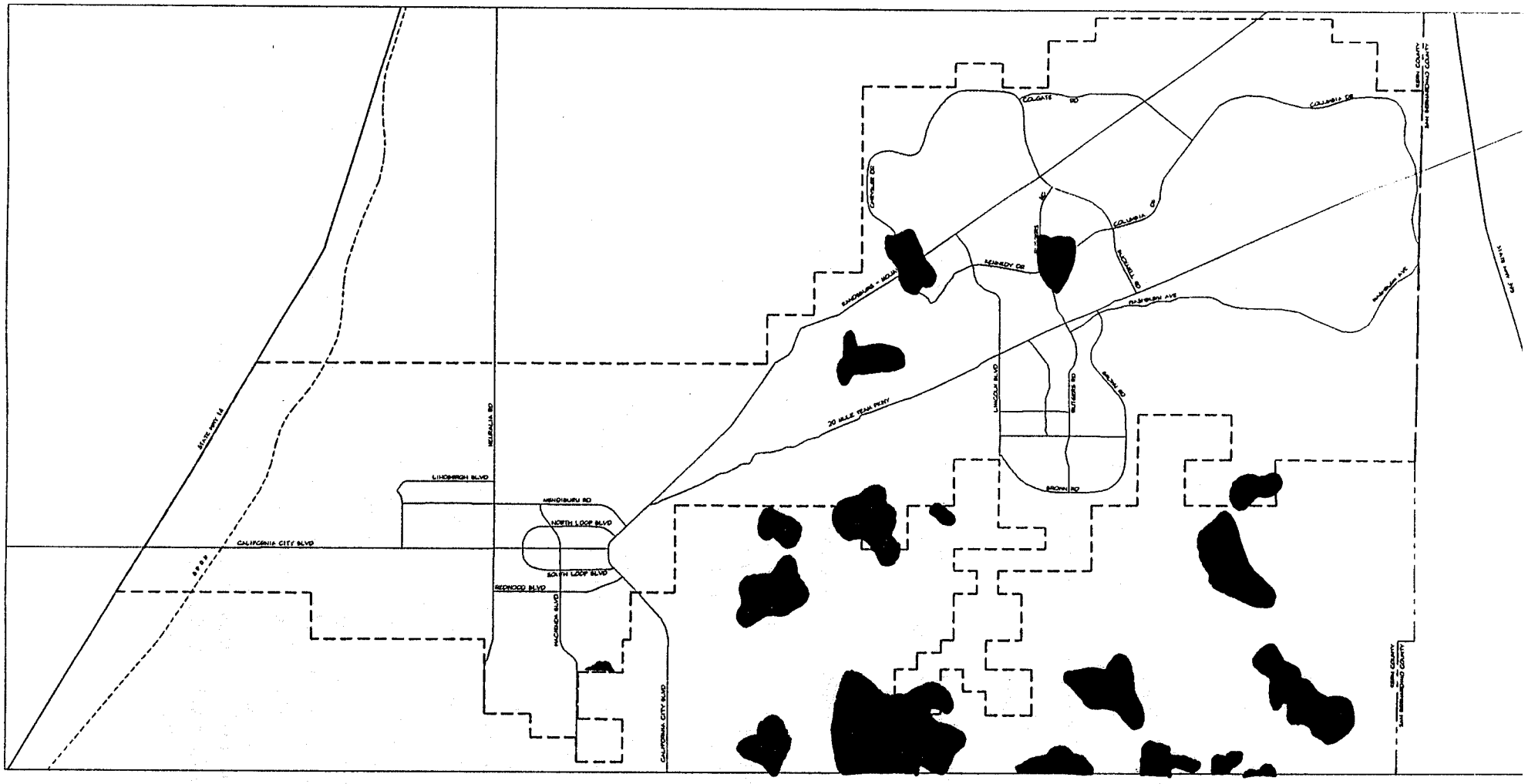
604-02 General Description of Geologic Hazards Within Planning Area

The City is located in the Antelope Valley near the Garlock Fault. It may be subjected to severe ground shaking when elastic strains accumulated within the earth are suddenly released along the Garlock or other major faults. The Garlock Fault is considered active because in this area it displaces quaternary sediments.

Shaking motion depends to a large extent on local ground conditions, degree of water saturation, etc., and may be as severe ten miles from the fault as immediately adjacent to it.

The 1,000± foot thickness of sedimentary cover over the crystalline basement is composed of 700± feet of younger, less consolidated sediments. This thickness and composition is conducive to the propagation of destructive seismic waves.

Given the seismic history and the close proximity of the Garlock Fault and its intertie with the dangerous San Andreas Fault, however, it can be said that California City is located in an area that is likely to experience significant earthquake activity in future years. Additionally, some scientists feel a major new fault is forming in the Mojave Desert, where five earthquakes have occurred along a single line north of the community of Joshua Tree since 1947. Running in a northerly direction from Joshua Tree, this potential fault may be located less than seventy miles to the east of California City and could rival the San Andreas Fault as a source of destructive quakes, according to researchers at Stanford University.



CALIFORNIA CITY
GENERAL PLAN
SAFETY ELEMENT 1992-2012

NONE TO SLIGHT

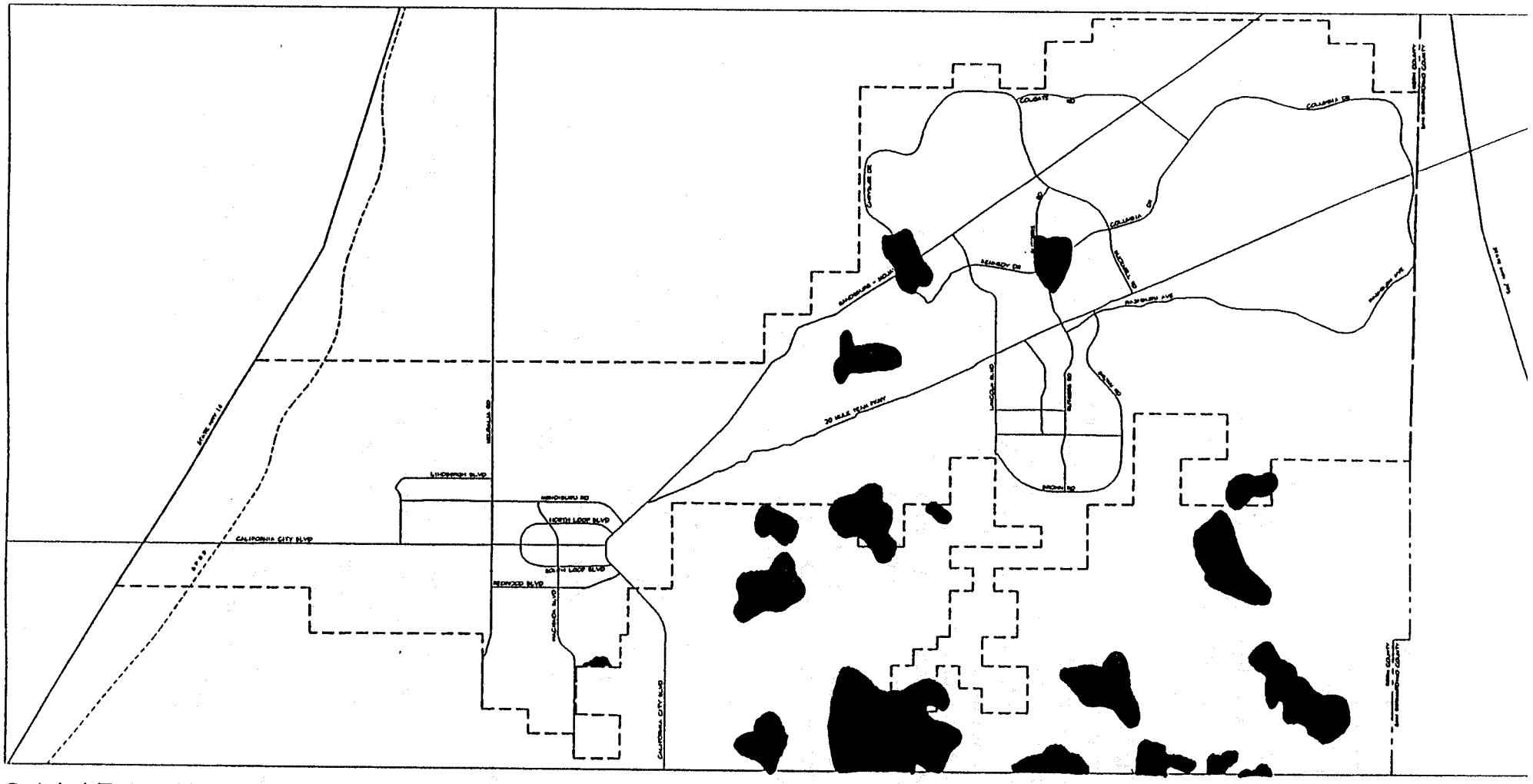
ROUGH LAND, HAZARD VARIABLE

NORTH

0 .5 1 2 3 4 5 MI QUAD

EROSION HAZARDS

FIGUR
15



CALIFORNIA CITY
GENERAL PLAN
SAFETY ELEMENT 1992-2012

0 TO 15%

ROUGH LAND, SLOPE VARIES

NORTH

0 .5 1 2 3 4 5 MI QUAD

SLOPE OF TERRAIN

FIGURE
16

California City is located at an elevation of about 2,400 feet mean sea level in the high desert of California, within the Antelope Valley portion of the Mojave Desert. The Antelope Valley is a triangular-shaped plain about 3,000 square miles in area bounded by the San Gabriel Mountains and the San Andreas fault to the south and the Tehachapi Mountains and the Garlock fault on the northwest. Most of the City's topography is that of gently sloping alluvial plains. A series of steep rock buttes occupies the desert floor in parts of the City, and several arroyos (or dry creeks), including Cache Creek, traverse the City. The natural slope of the land in the developed western portion of the City is northeasterly, ranging from 0.5 to 2.0 percent.

The Mojave Desert is a Cenozoic feature, probably formed during the Oligocene Epoch (about 40 million years ago) from movement along the San Andreas and Garlock faults. The broad alluvial basins that dominate the region today have been created by eroded materials from adjacent mountain ranges. Alluvial sediments reach a maximum depth of 4,000 feet in the Antelope Valley, and have been measured at about 1,000 feet in the California City area. The small hills, or buttes, that rise about the alluvial fill are remnants of ancient eroded mountains, and there are a number of playas, or dry lake beds, marking valley portions of the desert floor where imperceptible rises block drainage routes. (Norris & Webb, Geology of California, 1976)

Soils in the California City area include the following associations and characteristics (adapted from U.S. Department of Agriculture Soil Conservation Service, Soil Survey of Kern County California, Southeastern Part, 1976):

- Cajon-Arizo-Alko: Very deep and shallow, nearly level to strongly sloping, well drained and excessively drained soils; on alluvial fans, alluvial plains, and old terraces. These soils occur at elevations of 2,400 to 4,000 feet, and were formed in coarse and moderately coarse textured alluvium derived from granitic rock. They are used mainly for rangeland, recreation, wildlife habitat, and homesites, and are characterized by shallow soil depth and very low to moderate available water capacity. A sandy surface layer makes these soils susceptible to blowing.

- Cajon: Very deep, nearly level to strongly sloping, somewhat excessively drained soils; on alluvial fans and plains. These soils formed in coarse textured alluvium derived mainly from granitic rock, and occur at elevations from 2,000 to 3,500 feet. They are used for rangeland, recreation, wildlife habitat, and homesites, and in some areas are irrigated and used for pasture and alfalfa. These soils are also characterized by very low to moderate available water capacity, and susceptibility to blowing.

- Rosamond-DeStazo: Very deep, nearly level to moderately sloping, well drained soils; on flood plain and in basins. These soils formed in moderately coarse and moderately fine textured alluvium derived mainly from granitic rock, and are found at elevations from 2,000 to 3,000 feet. They are used for rangeland,

recreation, and wildlife habitat, and are irrigated in some areas to grow alfalfa. Irrigation is limited by moderately slow permeability characteristics of the soil, and highly calcareous underlying material. In some areas the soils are subject to soil blowing.

- Torriorthents-Rock outcrop: Shallow and very shallow, very steep, well drained soils and rock outcrop; on mountainous ridges. These soils occur on convex slopes at elevations ranging from 2,400 to nearly 4,200 feet, and were formed in coarse and moderately fine textured residuum weathered mainly from sandstone, granite, and basalt. Rock outcrops have slopes ranging from 50 to 75 percent, with vegetative growth limited to fractures in the rock structure. These areas serve as watersheds, with limited recreational and rangeland uses. The soils are characterized by limited soil depth, very low available water capacity, excessively steep slopes, lack of plant cover, and a hazard of erosion.

- Garlock-Neuralia: Very deep and deep, nearly level to moderately sloping, well drained soils; on old stream terraces, alluvial fans, and alluvial plains. These soils are used mainly for rangeland, wildlife habitat, recreation, and urban development, and are characterized by moderately slow permeability, and hazards of water erosion and soil blowing.

604-03 Goal

To protect the health, safety and welfare of California City residents from causes related to seismic activity and soil conditions.

604-04 Objective

Protect the lives and property of residents in California City by establishing land development policies which recognize the limitations of soils and necessity of establishing building requirements for seismic activity.

604-05 Policies

604-05.1 All development requiring a City permit should be subject to a preliminary soil report when located on land exhibiting potentially hazardous geologic conditions or where slopes exceed fifteen percent (15%). If the preliminary soil report indicates that soil conditions could be unstable, a soil investigation should be prepared indicating the suitability of any proposed or additional development on the site and any corrective action needed to prevent structural defects. The soil investigation should analyze the soil for texture, consistency, structure, permeability, shrink-swell potential, strength, and slope.

604-05.2 Development should be prohibited in areas where corrective measures to affect the geologic hazard are not feasible.

604-05.3 The City Ordinance shall be amended continually to reflect changes in policy and code requirements.

605 FIRE HAZARDS

605-01 Analysis of Fire Hazards and Fire Protection Services

Potentially, both structural and wildland fires could threaten life and property within California City. Structural fires commonly result from manmade causes and can threaten adjacent residential and commercial structures. Major wildland fires, however, are uncommon in the creosote bush-hop sage desert vegetation type that surrounds the developed areas of California City because of the sparseness of the vegetation and lack of available ground fuel. Thus, the potential for a major conflagration is relatively low, and wildland fires are not considered to be a significant hazard to life and property.

Structural fire hazards are primarily associated with residential and commercial buildings. These urban fires can start for a wide variety of reasons, including electrical shorts, carelessness and arson. In general, however, structural fire hazards are greatest in buildings which are old or substandard. As virtually all residential and commercial buildings have been constructed in accord with recently adopted building and fire codes, the risk of a major conflagration in the City is very low.

Fire protection in California City is provided by the City's own fire department. The department has one station located in the "First Community" which is manned by two full-time fighters on a 24-hour per day basis. There is also a department chief and a fire prevention officer who work normal eight-hour shifts, five days a week. Additionally, there are 2-3 trained volunteers available to assist the department at any given time. The department presently has one mini-pumper and two full-sized fire engines housed at the station.

According to department officials, approximately 100 fires are responded to annually, of which thirty percent are wildland fires and the balance are structural, automobile, trash and other types of fires. Of the thirty or so wildland fires occurring annually, about ten exceed one acre in size. In the past fifteen years, the only total loss of a structure in California City occurred in 1983, when a fire in the local museum went undiscovered until it was fully involved.

605-02 Goal

Protect the health, safety and welfare of California City residents from fire danger.

605-03 Objective

Minimize the loss of life and damage to property as a result of fire.

605-04 Policies

605-04.1 The City of California City should:

605-04.1.1 Continue to monitor water supply to insure adequacy of fire protection.

605-04.1.2 Continue to provide adequate fire flow as a suppression measure.

605-04.1.3 Continue to provide fire department training programs.

605-04.1.4 Continue to review land use development proposals for fire safety considerations.

605-04.1.5 Encourage the installation of heat and/or smoke detection early warning and fire suppression systems.

605-04.1.6 Continue to adopt and enforce the latest national building, plumbing, mechanical, and fire prevention codes.

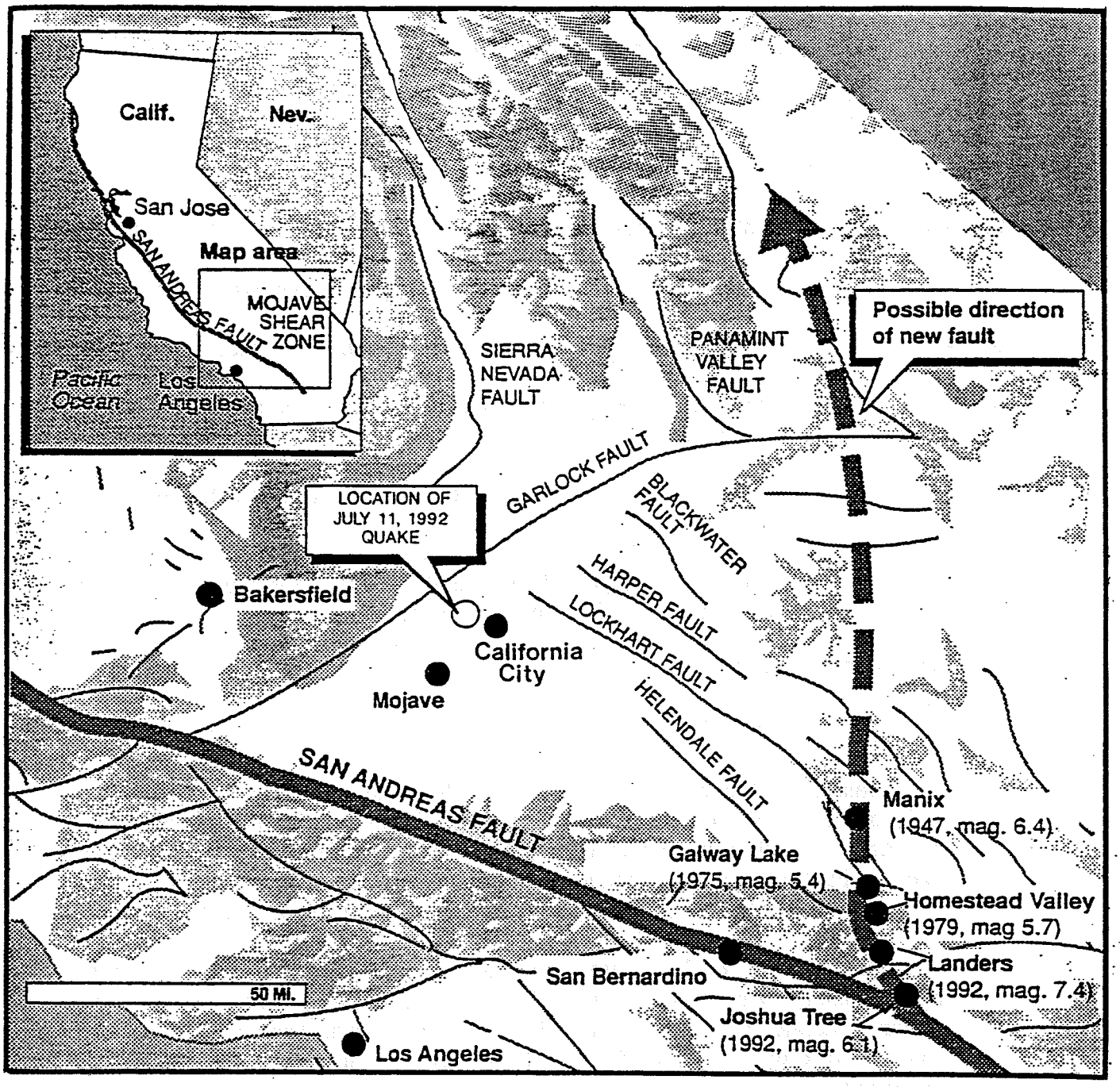
606 SEISMIC HAZARDS

606-01 Analysis of Seismic Hazards

California City is located in close proximity to the Garlock Fault, considered by scientists to be one of California's most dangerous faults. Running from its intersection with the San Andreas Fault in the southern San Joaquin Valley northeasterly to Death Valley, the Garlock Fault is capable of producing major quakes of more than 7.0 (Richter scale) in magnitude, according to seismologists from the U.S. Geological Survey.

The San Andreas Fault, California's most active and most dangerous, is located approximately 55 miles southwest of California City. Other faults, rated as relatively minor in nature, run roughly parallel to the San Andreas Fault in the area east and southeast of California City. These faults include the Blackwater, Harper, Lockhart and Helendale.

A moderate earthquake which measured 5.1 on the Richter scale occurred near the Garlock Fault on July 11, 1992. Its epicenter was located about three miles west of California City proper and minor damage such as wall cracks and items falling from shelves was reported by several California City residents. According to seismologists, the quake was not in the aftershock zones for either the 7.4 Landers quake or the 6.5 Big



CALIFORNIA CITY
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NORTH
0 .5 1 2 3 4 5 MI QUAD

EARTHQUAKE FAULTS

FIGURE
17

Bear Lake quakes that occurred on June 28, 1992. The Landers quake was the largest in California in forty years when, in 1952, the Tehachapi quake caused major damage to Bakersfield and neighboring communities.

The California Division of Mines and Geology is in the process of evaluating the various regions of the State with respect to their potential for earthquake activity, and will be attempting to predict the severity of the maximum earthquake that may be anticipated. This program is just underway, however, and information is not likely to be available until mid-1993 or later.

Given the seismic history and the close proximity of the Garlock Fault and its intertie with the dangerous San Andreas Fault, however, it can be said that California City is located in an area that is likely to experience significant earthquake activity in future years. Additionally, some scientists feel a major new fault is forming in the Mojave Desert, where five earthquakes have occurred along a single line north of the community of Joshua Tree since 1947. Running in a northerly direction from Joshua Tree, this potential fault may be located less than 70 miles to the east of California City and could rival the San Andreas Fault as a source of destructive quakes, according to researchers at Stanford University.

606-02 Goal

Protect the health, safety and welfare of the community from causes related to seismic activity.

606-03 Objectives

606-03.1 Minimize serious physical damage to structures used for human occupancy and to critical facilities and structures where large numbers of people are apt to congregate.

606-03.2 Insure the continuity of vital services, functions, and facilities.

606-04 Policies

606-04.1 The personal safety of the people must take precedence over all other factors.

606-04.2 Structures designated for command control of emergency/disaster services should be designed to withstand a "maximum probable seismic event" and to remain operational.

606-04.3 Structures utilized for emergency services, schools, and hospitals should be designed to protect human life to the highest degree possible during a "maximum probable seismic event."

606-04.4 The local legislative body must continually update building regulations and City ordinance requirements to prevent the community from being adversely affected by significant seismic disturbances.

607 EMERGENCY SERVICES

607-01 Introduction

Emergency services planning is essential to disaster mitigation. Although emergency services planning can not prevent disasters, it can provide for coordinated public action during the time of disaster to reduce loss.

Seismic Hazards: The most direct earthquake hazard is the damage or collapse of buildings and other structures caused by groundshaking. Groundshaking is the vibration which radiates from the epicenter of an earthquake.

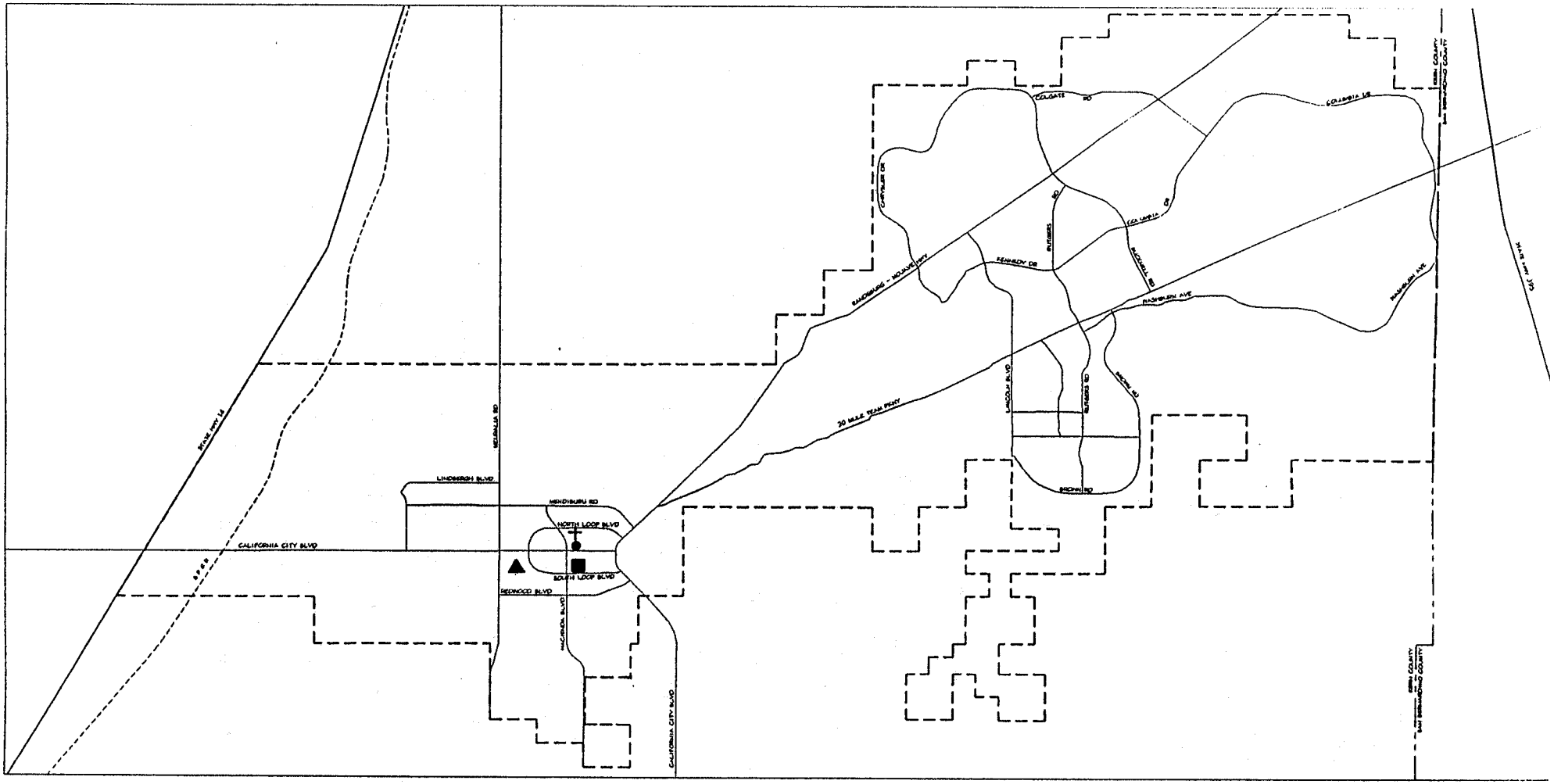
Unlike San Francisco, Santa Cruz and other cities damaged by recent earthquakes, California City does not have the additional problem of protecting residents living or working in older structures that were constructed prior to adoption of building codes requiring earthquake protection measures.

Most of the buildings in California City are one or two stories high and are of wood frame construction which is considered the most structurally resistant to earthquake damage.

Fire is often the major form of damage resulting from groundshaking effects. This devastation results largely from the combustible materials used in building construction and from inadequate firefighting capability resulting from ruptured water mains.

In addition to structural damage caused by groundshaking, there are other ground effects caused by the shaking. These are known as ground failure effects and include liquefaction, settlement, lateral spreading and lurch cracking.

Flooding Hazards: Typically, very little damage has occurred in California City as flooding within the developed portion of the community has been shallow with relatively slow velocities. Flooding in the winter of 1977-78 and the storm waters in March, 1991, and February, 1992, did overflow creek banks and flood some of the streets along Tierra del Sol and Yerba Rusche Creeks. Although these floods resulted in little, if any, structural damage, the City has not experienced a 100-year flood.



CALIFORNIA CITY
GENERAL PLAN
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NORTH

0 .5 1 2 3 4 5 MI QUAD

+	MEDICAL
▲	POLICE
■	FIRE
●	CIVIC CENTER

EMERGENCY FACILITIES

FIGURE 18

A 100-year flood has a one percent probability of occurring in any year. This is considered to be a severe flood, but one with a reasonable possibility of occurrence for purposes of land use planning, property protection and human safety. The City regulates building construction within the 100-year flood plain which significantly reduces the risk of major damage to structures.

Aircraft Crash Hazard: California City Municipal Airport is located on 212 acres approximately four miles northwest of the civic center. Existing land use controls and zoning regulations ensure that:

- No structures or habitation will be permitted within the airport runway clear zones.
- No residential development will be allowed within noise impact zones.
- Within specific airport horizontal zones, no structures will exceed 150 feet above the airport runway.

Any crash landing of an aircraft is a potentially disastrous hazard. Any aircraft crash could create an accessibility hazard for rescue crews. Unintentional fuel dumps over populated areas would also pose a significant hazard.

Special Hazards: Much of the area within the confines of California City, including the developed area of the "First Community", was utilized during World War II as a bombing practice range by the U.S. Air Force. The "practice" bombs that were utilized were slightly smaller than a normal mortar shell and only a small percentage of them actually contained explosives. According to local fire department officials, approximately 3-4 of these practice bombs are found each year...primarily by residents who are completing landscaping tasks around their homes. Following the discovery of a bomb, authorities at the U.S. Army's Fort Irwin are contacted and a bomb disposal unit is dispatched to properly dispose of the potential hazard.

Although a singular occurrence to date, in 1983 a 500-pound bomb lying on the surface of the ground was discovered in an area southeast of the "First Community". It is not known how the bomb got there, but it was disposed of by the ordinance team from Fort Irwin. Although unlikely, other bombs of a similar size may exist in the large expanses of vacant land within the confines of California City.

Fire Protection: Fire protection is provided by the California City Fire Department. The fire station is located at 20890 Hacienda Boulevard, at the southeast corner of Hacienda Boulevard and California City Boulevard. The Department provides fire protection to all lands within the City limits.

Staffed with eight firefighters and four paid-per-call volunteers, the Department maintains two firefighters on duty at all times.

The Fire Department's equipment includes two Class A 1,250-gallon per minute (gpm) pumper engines and one 250-gpm small advance vehicle.

Dispatching of fire units is also provided by a "911" system through the Police Department's communications center. The California City Fire Department's average response time in the southwest portion of the City is typically three to five minutes. In the northeastern portion of the City, the maximum response time is sixteen minutes.

Public protection classifications are designated by the Insurance Services Office (ISO). The ISO considers three primary factors in their rating system: fire department location, personnel, and equipment (50 percent), water supply and fire flow capacity (40 percent), and communications capabilities (10 percent). Ratings are based on a scale of 1 to 10, with 1 being the best possible protection. The California City Fire Department maintains an ISO rating of 6 within the City.

In addition to fire suppression, the Fire Department's services include fire prevention, public education, fire hydrant maintenance, hazardous materials response, and nuisance abatement.

Fire flow requirements and hydrant placement are controlled by the Uniform Fire Code. Fire flow requirements are established for single family homes, multi-family units and for individual commercial or institutional structures.

The California City Fire Department has mutual aid agreements with the Kern County Fire Department with a station in Mojave and also with fire stations in Randsburg and Johannesburg.

Police Services: The California City Police Department provides law enforcement within the City limits. The 2,000 square-foot police station is located at 8190 California City Boulevard. Dispatching of police units via a "911" system is accomplished through facilities located in the Department's station.

The Department employed twelve sworn officers as of May 1992, including supervisory officers, investigative staff and the Police Chief. This staffing level provides a ratio of 1.5 sworn officers per 1,000 population.

Using one officer per patrol vehicle, the Police Department operates between one and four patrol beats. Response times for the Police Department are categorized according

to the severity of the reported offense or complaint. The Department's response time for priority one calls, constituting a major crime or incident-in-progress requiring immediate dispatch, is typically three to four minutes in the southwest portion of the City and ten to twelve minutes in the eastern section of the community.

The City plans to construct a new police building in the area north and west of City Hall. The building will be 15,000 square feet in size and construction is expected to begin in early 1993.

Law enforcement in the surrounding unincorporated area is the responsibility of the Kern County Sheriff's Department. Coroner's services are provided through the County by the Sheriff's Department. The court system and jails are operated and maintained by Kern County.

The California Highway Patrol and Sheriff's Substation, headquartered in Mojave, patrol the state highways and county roads in eastern Kern County.

Emergency Response: An Emergency Disaster Response Plan has been developed and adopted by the City. The Plan describes in detail the lines of authority and responsibilities of City officials and outlines emergency response procedures, affected organizations and describes evacuation routes. If an event is declared a community-wide emergency, the City Manager is designated as the Emergency Services Director and the City's Fire Chief is second in command.

California City has no hospital or emergency medical treatment facility. For such services, residents must travel to Lancaster or Edwards AFB.

Search and Rescue

California City has a Search and Rescue Unit which was organized approximately six years ago with bylaws permitting a sixty member search and rescue team. Overview of the Search and Rescue team is performed by the California City Police Department and works in conjunction with other local emergency organizations. At full strength, the Search and Rescue Unit has components for air rescue, canine (K-9) rescue and ground-heavy equipment rescue. The membership and component strength are fully dependent upon volunteer personnel and as a result varies in organizational size and component preparedness. Numerous individuals have specialized training and certifications related to emergency activities. The Search and Rescue Unit has a meeting once a month to discuss organizational matters and emergency preparedness topics.

607-02 Goal

To provide and implement effective emergency services that will protect the health, safety and welfare of California City residents.

607-03 Objectives

607-03.1 Provide for the continuity of government.

607-03.2 Provide a basis for direction and control of emergency operations.

607-03.3 Repair and restore essential systems and services.

607-03.4 Provide for the protection, use, and distribution of remaining resources.

607-03.5 Coordinate operations with the emergency organizations of other jurisdictions.

607-04 Policies

607-04.1 The City should continue to maintain a disaster emergency services plan which coordinates California City disaster services with those of the Kern County Emergency Services Plan.

NOISE ELEMENT
California City

700 NOISE ELEMENT

701 INTRODUCTION

701.1 Purpose and Scope

The Noise Element of the General Plan is a planning document which provides a policy framework for addressing potential noise impacts encountered in the planning process.

The content of the Noise Element and the methods used in its preparation have been determined by the requirements of Section 65302 (f) of the California Government Code and by *Guidelines for the Preparation and Content of Noise Elements of the General Plan* adopted and published by the California Office of Noise Control (ONC) in 1976. The ONC Guidelines require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions.

According to the Government Code requirements, noise exposure information should be included in the Noise Element for the following major noise sources:

1. Highways and freeways
2. Primary arterials and major local streets
3. Railroad operations
4. Aircraft and airport operations
5. Local industrial facilities
6. Other stationary sources

Noise-sensitive uses identified by the Government Code and by the City of California City include the following:

1. Residential development
2. Schools
3. Hospitals, nursing homes
4. Churches
5. Libraries

The Noise Element is directed at minimizing future noise conflicts. A Noise Ordinance, on the other hand, is directed at resolving existing noise conflicts. A Noise Ordinance may be used to address noise levels generated by existing industrial, commercial, agricultural and residential uses, which are not regulated by federal or state noise level standards. The regulation of noise sources such as traffic on public roadways, railroad line operations and aircraft in flight is preempted by existing federal and/or state regulations, meaning that such sources generally may not be addressed by a Noise Ordinance. The Noise Element addresses the *prevention* of noise conflicts from all of these sources.

701.2 Relationship to Other Elements of the General Plan

The Noise Element is related to the Land Use, Housing, Circulation and Open Space Elements of the General Plan. Recognition of the interrelationship of noise and these four mandated elements is necessary to prepare an integrated general plan and to initiate changes which will reduce noise exposure to acceptable levels in areas where noise may presently exceed the levels set forth by the adopted policies of the Noise Element. The relationship between these elements is briefly discussed below:

1. Land Use: An objective of the Noise Element is to provide noise exposure information for use in the Land Use Element. When integrated with the Noise Element, the Land Use Element will show acceptable land uses in relation to existing and projected noise levels.

2. Housing: The Housing Element considers the provision of adequate sites for new housing and standards for housing stock. Since residential land uses are noise-sensitive, the noise exposure information of the Noise Element must be considered when planning the locations of new housing. The State Noise Insulation Standards may influence the locations and construction costs of multi-family dwellings, which should be considered by the Housing Element.

3. Circulation: The circulation system, which is a major source of noise, must be correlated with the Land Use Element. This is especially true for roadways which carry significant numbers of trucks. Noise exposure will thus be a decisive factor in the location and design of new transportation facilities, and in the mitigation of noise produced by existing facilities upon existing and planned land uses.

4. Open Space: Excessive noise adversely affects the enjoyment of recreational pursuits in designated open space, particularly in areas where quiet is a valued part of the recreational experience. Thus, noise exposure should be considered in planning for this kind of open space use. Conversely, open space can be used to buffer noise-sensitive uses from noise sources by providing setbacks and visual screening.

701.3 Noise And Its Effects On People

Appendix A provides a discussion of the fundamentals of noise assessment, the effects of noise on people and criteria for acceptable noise exposure, and is a reference for use by the City during the review of documents or proposals which refer to the measurement and effects of noise.

701.4 Definitions

1. A-Weighted Sound Level: All sound levels referred to in this policy document are in A-weighted decibels. A-weighting de-emphasizes the very low and very high

frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

2. Community Noise Equivalent Level (CNEL): The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

3. Day/Night Average Sound Level (L_{dn}): The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

4. Equivalent Sound Level (L_{eq}): The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

5. New Development: Projects requiring land use or building permits, but excluding remodelling or additions to existing structures.

6. Noise-Sensitive Land Use: Residential land uses, transient lodging, schools, libraries, churches, hospitals and nursing homes.

7. Outdoor Activity Areas: Patios, decks, balconies, outdoor eating areas, swimming pool areas, yards of dwellings and other areas which have been designated for outdoor activities and recreation.

8. Stationary Noise Source: Any fixed or mobile source not preempted from local control by existing federal or state regulations. Examples of such sources include agricultural, industrial and commercial facilities and vehicle movements on private property.

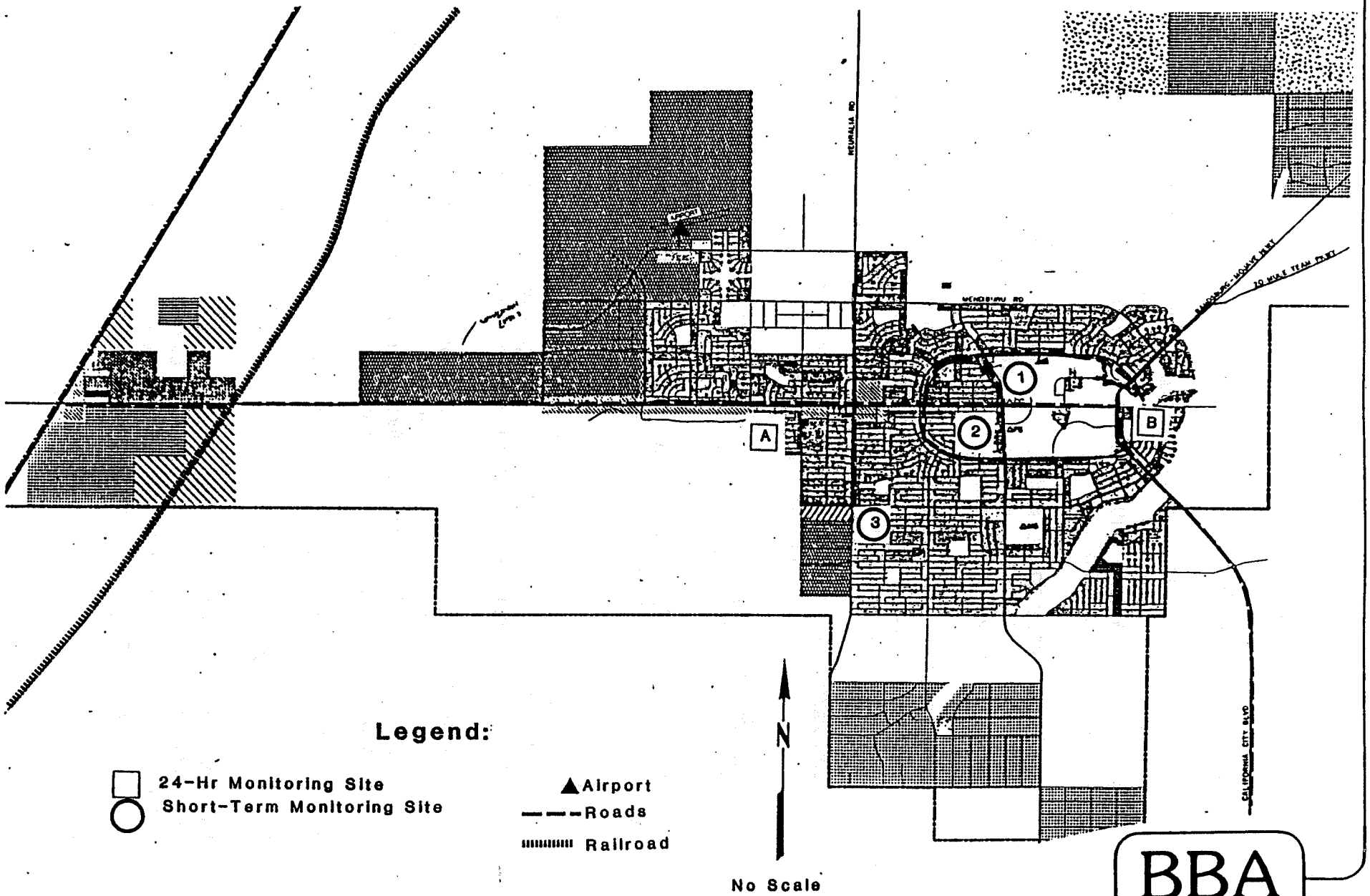
9. Transportation Noise Source: Traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by existing federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulating the location and design of adjacent land uses.

702 EXISTING AND FUTURE NOISE ENVIRONMENT

702.1 Overview of Sources

Based on discussions with City staff, the requirements of the Government Code and field studies conducted during the preparation of the Noise Element, it was determined that potentially significant sources of community noise within the City of California City are traffic on State Route 14 and local roads, operations on the Southern Pacific Railroad line, aircraft operations

Figure 19
Significant Noise Sources & Noise Monitoring Sites
California City



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from Edwards Air Force Base, and aircraft operations from the California City Municipal Airport. The locations of the potentially significant noise sources are shown on Figure 19.

Noise levels in California City are generally low, with ambient sound produced mainly by automobiles, aircraft, and occasionally by construction activities. Growth within the community may produce a concern for noise along major roadways and near the airport. Caltrans generates noise contours for developed areas along State Highways, and the City assesses noise effects in the Airport Master Plan and Community Land Use Plan for the airport area.

The noise of primary concern to the residents of California City are the sonic booms produced by aircraft being tested by Edwards Air Force Base, a major Department of the Air Force installation located only a few miles south of the community. According to Edwards AFB officials, sonic booms in the area of California City average about five per day, but the number is entirely dependent upon the testing schedule of the facility. There are days when no sonic booms occur, and others when as many as fifteen may be heard.

Immediately to the east of California City, Edwards AFB has established the Black Mountain Supersonic Corridor. Most of the sonic booms heard by California City residents are from airplanes being tested within the boundaries of that corridor. The corridor, at its western end, has a 10,000 foot above ground level (agl) minimum as they approach California City. Additionally, the High Altitude Supersonic Corridor has been established by Edwards AFB running in a ENE direction above the base itself and traversing across the eastern portion of the Black Mountain Corridor. The agl minimum for supersonic aircraft flights in this corridor is 30,000 feet.

Besides their startling effect on humans, sonic booms can produce physical damage to structures and their contents. Most damage, however, is confined to broken windows, cracked or falling stucco and broken glassware, dishes or similar items. Cooperating with California City to address the damage problem, Edwards AFB has had an office open for several years to handle the claims of residents resulting from sonic boom damage. If the claim can be substantiated, direct payment is made by Edwards AFB to the claimant. According to Edwards AFB officials, claims from California City residents have totalled approximately $10,000 annually in recent years.

Edwards AFB officials indicate that the level of aircraft testing is not likely to change in the foreseeable future. There are few areas in the nation where ideal weather conditions for flying are combined with large areas of relatively uninhabited land to provide the opportunity for the testing of supersonic jet aircraft. For this reason, the increased activity in the Space Shuttle Program of NASA (Edwards AFB is the preferred landing site), it does not appear that the facility will be reducing operations, at least through the end of the century.

The Plan seeks to minimize the potential adverse impact of industrial noise by concentrating new industrial uses in the vicinity of the Municipal Airport where they are generally removed from most residential areas and by recommending the use of landscaping and setbacks where planned

industrial uses adjoin planned residential uses. The Plan further recommends the new industrial uses which are proposed for development along California City Boulevard be carefully evaluated to insure that they do not have a detrimental effect on surrounding commercial and residential uses.

Existing noise problems within the City are not significant. Additional future noise, however, can be anticipated with the expansion of existing and construction of new major noise generating facilities as well as through the increased use of existing street routes.

Increase in noise from the California City Municipal Airport may gradually occur from future airport flights. Noise impacts are anticipated to be very minimal, however, due to its low activity and predominant use by single propeller engine aircraft. The land uses surrounding the Municipal Airport are predominately open space and scattered single family dwellings.

702.2 Methods Used to Develop Noise Exposure Information

According to the Government Code and ONC Guidelines, noise exposure contours should be developed in terms of the Day-Night Average Level (L_{dn}) or Community Noise Equivalent Level (CNEL) for transportation-related noise sources. Both of these descriptors represent the weighted energy noise level for a 24-hour day after inclusion of a 10 dB penalty for noise levels occurring at night between the hours of 10:00 p.m. and 7:00 a.m. The CNEL descriptor also includes a penalty of about 4.8 dB for noise levels occurring during the evening hours of 7:00 p.m. and 10:00 p.m. The CNEL descriptor was developed for the quantification of aircraft noise, and its use is required when preparing noise exposure maps for airports within the State of California. The CNEL and L_{dn} descriptors are generally considered to be equivalent to each other for most community noise environments within ± 1.0 dB. The L_{dn} descriptor has been used in this Noise Element to quantify noise from the above-described major noise sources identified by the City for study.

Analytical noise modeling techniques were used to develop generalized L_{dn} contours for major roadways within the City for existing and future conditions. Analytical noise modeling techniques generally make use of source-specific data, including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Analytical methods have been developed for many environmental noise sources, including roadways, railroad line operations, railroad yard operations, industrial plants and aircraft/airport operations. Such methods will produce reliable results as long as data inputs and assumptions are valid for the sources being studied.

The noise exposure information developed during the preparation of the Noise Element does not include all conceivable sources of industrial, commercial or agricultural noise within the City, but rather focuses on the existing sources of noise which have been identified by the City as being significant. As the policies of this Noise Element are applied in the future, it is likely that other potentially significant sources will be identified.

702.3 Roadways

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop L_{dn} contours for State Highway 14 and local roads. The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise predication. The Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicles volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within $\pm$ 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

For all roadways being studied, existing (1991 or 1992) and future (2012) annual average daily traffic (AADT) volumes, the day/night traffic distribution, speeds and percentages of trucks were obtained from Caltrans or from the City.

Distances from the center of the roadways to the 60 and 65 dB L_{dn} contours along with input data used during the traffic noise modelling process are shown on Table Seven.

TABLE SEVEN

DISTANCE TO L_{dn} CONTOURS AND TRAFFIC DATA
CITY OF CALIFORNIA CITY

	AADT						Distance to L_{dn} Contours (Feet)[1]			
							1990		2012	
Roadway	1991/1992	2012	D%/N%[2]	%MT[3]	%HT[4]	Speed (MPH)	65 dB	60 dB	65 dB	60 dB
SR 14:										
N. of California City Blvd.	5600	12,270	86/14	4	14	55	115	248	194	418
S. of California City Blvd.	8200	17,967	86/14	4	14	55	148	320	250	539
California City Blvd.										
SR 14 to Randsburg-Mojave	5000	25,000	86/14	2	2	50	55	119	162	349
Randsburg Mojave to SR 58	3500	22,000	86/14	2	2	50	44	94	149	321
North Loop Blvd.										
California City Blvd. to Hacienda	3300	11,050	92/8	2	2	45	30	64	67	144
Hacienda to Randsburg-Mojave	2200	8750	92/8	2	2	45	23	49	57	123
Redwood Blvd.										
Neuralia to California City Blvd.	1000	3500	87/13	2	2	45	16	34	36	78
Neuralia Road										
California City Blvd. to Poppy	1160	4900	91/9	2	2	45	15	33	40	86
Redwood to California City Blvd.	2000	7800	91/9	2	2	45	22	48	55	118

TABLE SEVEN (continued)

DISTANCE TO L_{dn} CONTOURS AND TRAFFIC DATA
CITY OF CALIFORNIA CITY

	AADT						Distance to L_{dn} Contours (Feet)[1]			
							1990		2012	
Roadway	1991/1992	2012	D%/N%[2]	%MT[3]	%HT[4]	Speed (MPH)	65 dB	60 dB	65 dB	60 dB
South Loop Blvd.										
California City Blvd. to Hacienda	2500	8600	86/14	2	2	45	30	64	68	146
Hacienda to California City Blvd.	900	6100	86/14	2	2	45	15	32	54	116
Hacienda Blvd.										
N. Loop to S. Loop	900	5800	96/4	2	2	45	11	23	37	80
S. Loop to Redwood	625	2000	96/4	2	2	45	8	18	18	39
Randsburg-Mojave Road										
California City Blvd. to N. Loop	2500	10,200	91/9	2	2	45	26	55	65	141
N. Loop to Mendiburu	600	3100	91/9	2	2	45	10	21	60	64

[1]Distances are from center of roadway
[2]Day/Night traffic split (day is defined as 7am-10pm and night as 10pm-7am)
[3]Medium Trucks
[4]Heavy Trucks

Sources: Caltrans and City of California City

702.4 Railroads

The Southern Pacific Railroad travels in a north-south direction through California City. According to the S.P. Trainmaster's office in Bakersfield, approximately four trains per day pass through the city currently. By 2012, the number is expected to double. No information is available on the time distribution of the trains. It is assumed that they would be distributed randomly through the day. Noise levels from railroad operations in the city were quantified using the analytical method developed in 1973 by Wyle Laboratories (Wyle Laboratories Report WCR-73-5). The Wyle methodology calculates noise exposure based on reference noise level data for various types of trains under different operating conditions, distance from the tracks, speed and the characteristics of the track the trains pass over. According to the Wyle methodology and the frequency of operation provided by the S.P. Railroad, the 65 and 60 dB L_{dn} contours would be located approximately 100 and 280 feet, respectively, from the tracks for 1992 train operations. The 65 and 60 dB L_{dn} contours would be located 270 and 420 feet from the tracks for 2012 train operations.

702.5 California City Municipal Airport

The Master Plan for the California City Municipal Airport prepared in 1976 did not include noise exposure information for aircraft operations. Aircraft based at the airport are generally single- or twin-engine small propeller-driven aircraft. The 1976 Master Plan estimated the number of powered aircraft operations by 1995 will range from 25,700 to 71,900. The land surrounding the airport is designed for industrial purposes, so there is no possibility of noise conflicts immediately adjacent to the airport. A new Master Plan is being prepared for the airport. If noise exposure information is prepared as a part of the new Master Plan, it should be included in the Noise Element.

702.6 Edwards Air Force Base

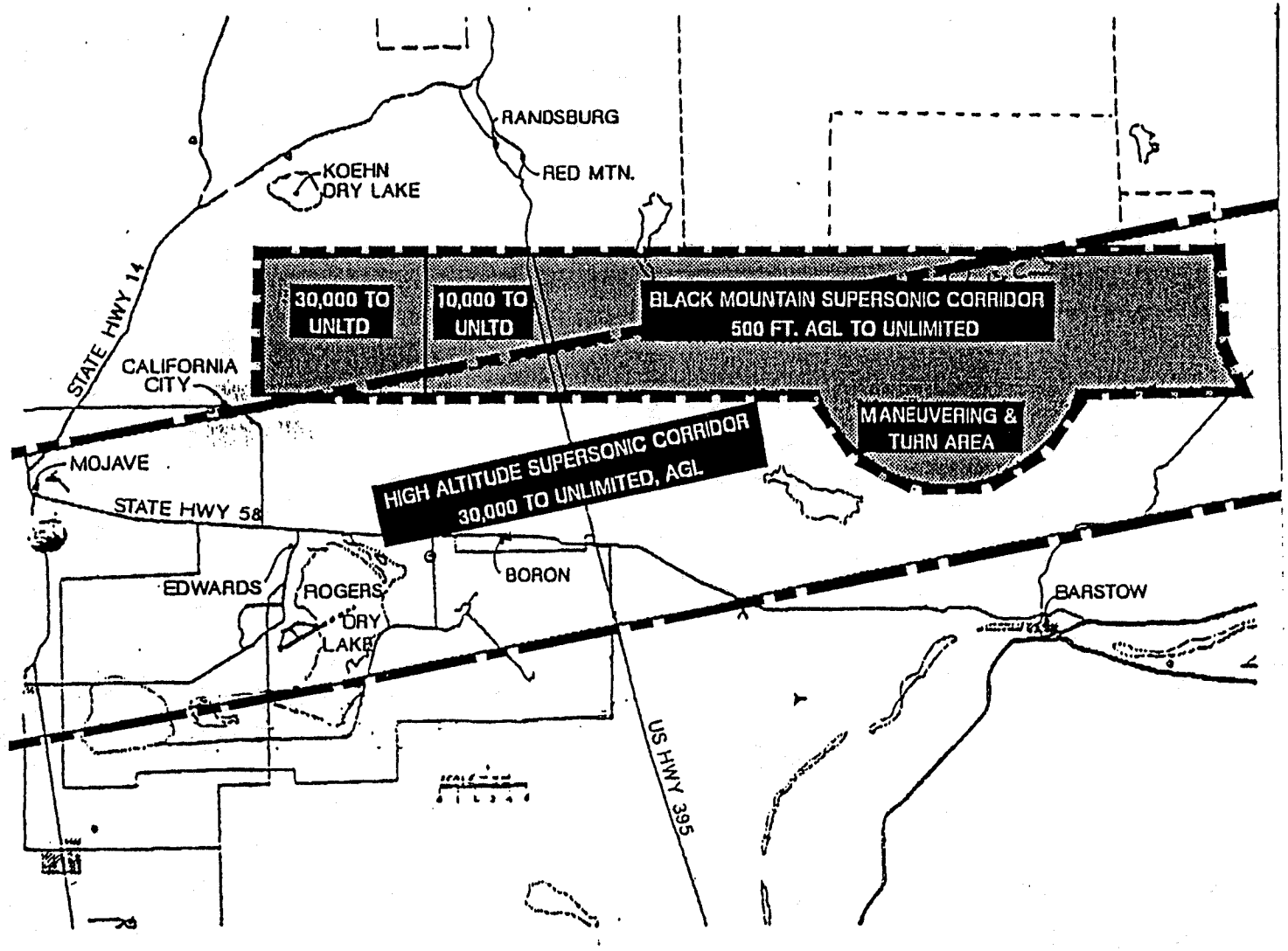
Edwards Air Force Base is located a few miles south of California City. Noise exposure information in terms of the L_{dn} or CNEL contours is not available from the Air Force.

The noise of primary concern to the residents of California City are the sonic booms produced by aircraft being tested by Edwards Air Force Base. According to Edwards AFB officials, sonic booms in the area of California City average about 5 per day, but the number is entirely dependent upon the testing schedule of the facility. There are days when no sonic booms occur, and others when as many as fifteen may be heard.

Immediately to the east of California City, Edwards AFB has established the Black Mountain Supersonic Corridor. Most of the sonic booms heard by California City residents are from airplanes being tested within the boundaries of that corridor (see Figure). The corridor, at its western end, has a 10,000 foot above ground level (AGL) minimum altitude requirement for aircraft flights as they approach U.S. Highway 395 from the east, and a 30,000 AGL minimum as they approach California City. Additionally, a High Altitude Supersonic Corridor has been

Figure 20

Location Of Supersonic Aircraft Corridors Near California City



(Map Courtesy of Edwards AFB)

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Figure 21

Hourly Noise Levels

7109 Catalpa -- 11/9-10/92

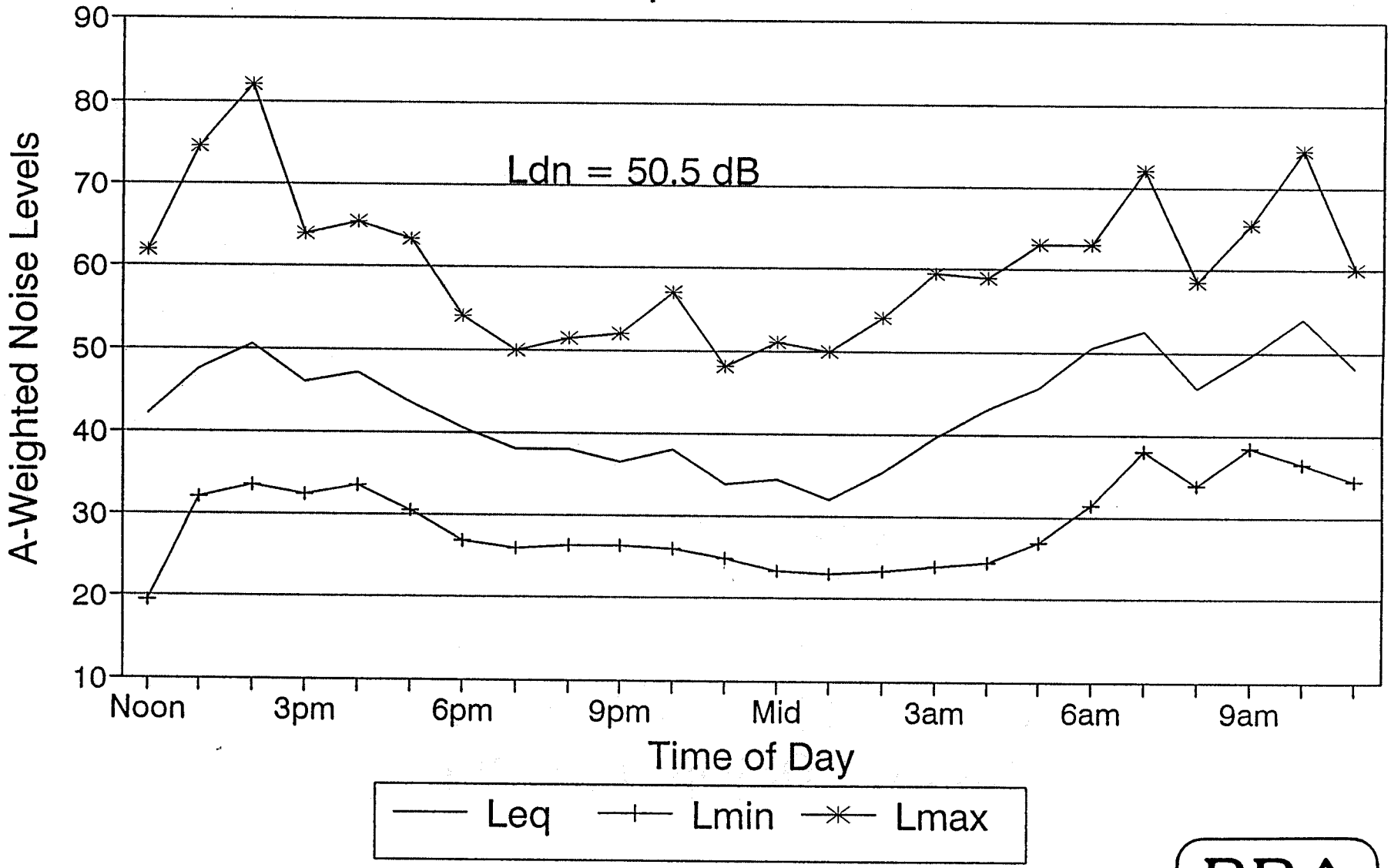

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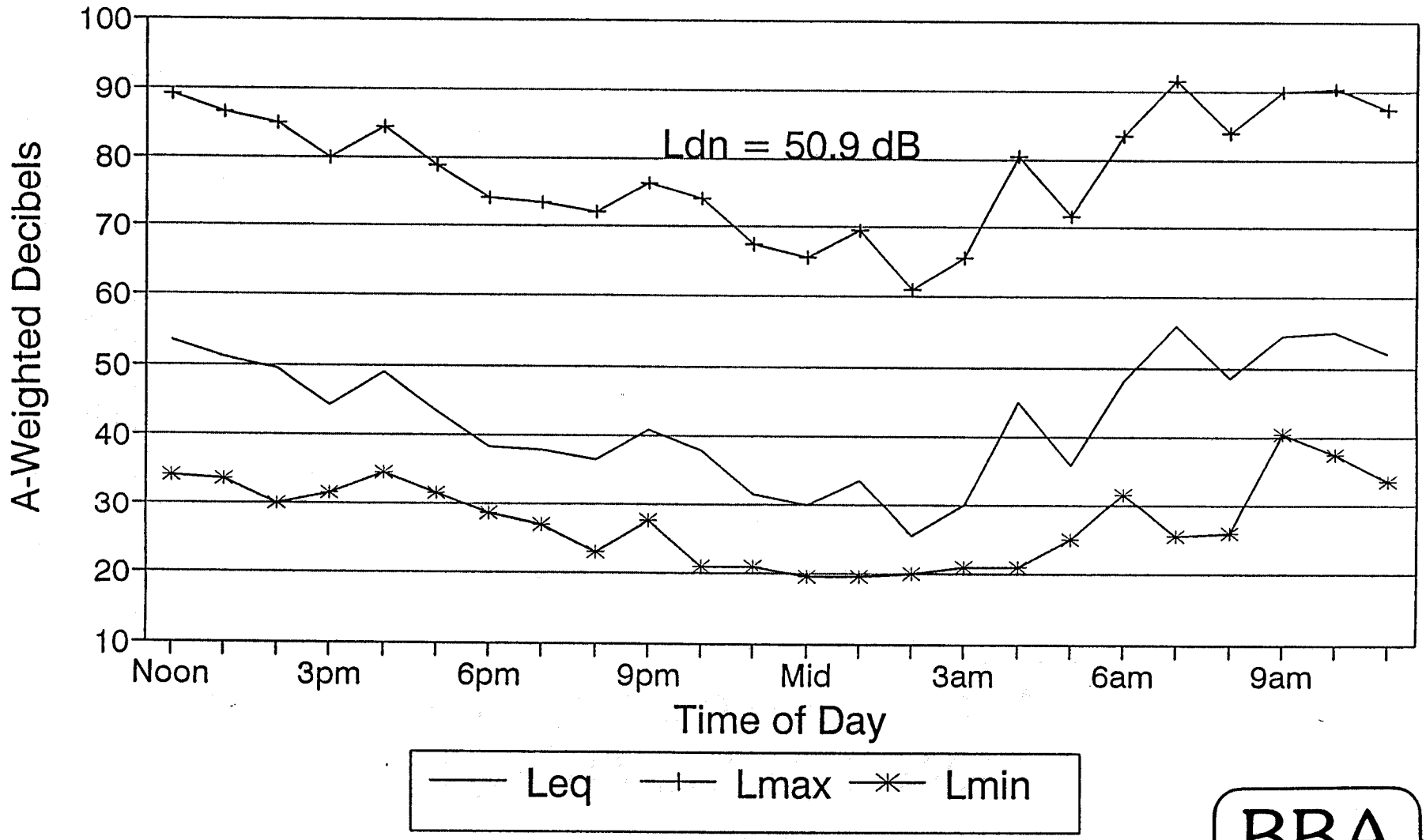
Figure 22

Hourly Noise Levels
10717 Aspen -- 11/9-10/92



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established by Edwards AFB (see Figure) running in a ENE direction above the base itself and traversing across the eastern portion of the Black Mountain Corridor. The AGL minimum for supersonic aircraft flights in this corridor is 30,000 feet.

Beside their startling effect on humans, sonic booms can produce physical damage to structures and their contents. Most damage, however, is confined to broken windows, cracked or falling stucco and broken glassware, dishes or similar items. Cooperating with California City to address the damage problem, Edwards AFB has had an office open for several years to handle the claims of residents resulting from sonic boom damage. If the claim can be substantiated, direct payment is made by Edwards AFB to the claimant. According to Edwards AFB officials, claims from California City residents have totalled approximately $10,000 annually in recent years.

Edwards AFB officials indicate that the level of aircraft testing is not likely to change in the foreseeable future. There are few areas in the nation where ideal weather conditions for flying are combined with large areas of relatively uninhabited land to provide the opportunity for the testing of supersonic jet aircraft. For this reason, and the increased activity in the Space Shuttle Program of NASA (Edwards AFB is the preferred landing site), it does not appear that the facility will be reducing operations, at least through the end of the century.

702.7 Community Noise Survey

A community noise survey was conducted in the City during October and November 1992 to document background noise levels in areas where noise-sensitive land uses are located. Short-term monitoring was conducted once during the daytime (7:00 a.m.-10:00 p.m.) and once during the nighttime (10:00 p.m.-7:00 a.m.) so that estimates of the L_{dn} could be prepared. Two long-term sites were established to record the variation of noise levels through a full 24-hour period. The data collected during the survey included the L_{eq} and the observed minimum and maximum noise levels. Noise monitoring sites, measured noise levels and estimated L_{dn} values at each site are listed in Table Eight. Hourly variations in noise levels at the long-term monitoring site are shown in Figures 21 and 22. Monitoring site locations are shown in Figure 19.

Results of the community noise survey indicate that existing background noise levels in many areas of the City that contain noise-sensitive land uses are relatively quiet when the wind is not blowing. Sites 1-4 were measured during windy conditions. Resulting noise levels consequently were quite high. To preserve quiet conditions, noise level standards and policies have been adopted to prevent degradation of the existing noise environment as much as possible.

TABLE EIGHT

SUMMARY OF COMMUNITY NOISE SURVEY DATA

		Level, dBA				
Site #	Location	L_D	L_N	L_{max} (Source)	L_{min} (Source)	L_{dn}
1	Hacienda & Heather	53	45	65 (wind)	40 (wind)	52-56*
2	Ulrich School	53	49	63 (wind)	45 (wind)	54-58*
3	Tamarak & First	55	48	63 (wind)	45 (wind)	54-58*
A**	7109 Catalpa	45	39	87 (unknown)	23 (unknown)	51**
B**	10717 Aspen	46	38	87 (unknown)	19 (unknown)	51**

L_D = L_{eq} for one 15-minute sample obtained between 7:00 a.m. and 10:00 p.m. except for Sites A and B where 24-hour monitoring was conducted.

L_N = L_{eq} for one 15-minute sample obtained between 10:00 p.m. and 7:00 a.m. except for Sites A and B where 24-hour monitoring was conducted.

* L_{dn} estimated from L_D and L_N

** 24-hour monitoring site.

Source: Brown-Buntin Associates, Inc.

703 Goals

703.1 To protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.

703.2 To protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

703.3 To preserve the tranquility of residential areas by preventing noise-producing uses from encroaching upon existing or planned noise-sensitive uses.

703.4 To educate the citizens of the City concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

704 Objectives

704-01 Identify maximum acceptable noise levels compatible with various land use designations.

704-02 Develop a policy framework necessary to achieve and maintain a healthful noise environment.

705 Policies

705.1 New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed 65 dB L_{dn} in outdoor activity areas and 45 dB L_{dn} in interior spaces.

705.2 Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 65 dB L_{dn} within the outdoor activity areas and 45 dB L_{dn} in interior spaces of existing noise sensitive land uses.

705.3 New development of noise-sensitive land uses shall not be permitted where the noise level from existing stationary noise sources exceeds the noise level standards of Table Nine.

705.4 Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table Nine on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.

TABLE NINE

MAXIMUM ALLOWABLE NOISE EXPOSURE-STATIONARY NOISE SOURCES[1]

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	55	50
Maximum level, dB	75	70

[1]As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

706 Implementation Measures

To achieve compliance with the policies of the Noise Element, the City of California City shall undertake the following implementation program. The implementation program focuses on the prevention of new noise-related land use conflicts by requiring that new development be reviewed to determine whether it complies with the policies in Chapter 3.

706.1 The City shall review new public and private development proposals to determine conformance with the policies of this Noise Element.

706.2 Where the development of a project may result in land uses being exposed to existing or projected future noise levels exceeding the levels specified by the policies of the Noise Element, the City shall require an acoustical analysis early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of a building permit. The requirements for the content of an acoustical analysis are given in Appendix B.

706.3 The City shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.

706.4 The City shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

706.5 The City shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.

706.6 The City shall request the California Highway Patrol, the sheriff's office and the police department to actively enforce the California Vehicle Code sections relating to adequate vehicle mufflers and modified exhaust systems.

706.7 The City shall periodically review and update the Noise Element to ensure that noise exposure information and specific policies are consistent with changing conditions within the City and with noise control regulations or policies enacted after the adoption of this element.

APPENDIX A

NOISE AND ITS EFFECTS ON PEOPLE

California City

APPENDIX A

NOISE AND ITS EFFECTS ON PEOPLE

Fundamentals of Noise Assessment:

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. The descriptors of community noise in current use are the results of many years of effort to translate objective measurements of sound into measures of subjective reaction to noise. Before elaborating on these descriptors, it is useful to discuss some fundamental concepts of sound.

Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, now called Hertz (Hz) by international agreement.

The speed of sound in air is approximately 770 miles per hour, or 1,130 feet/second. Knowing the speed and frequency of a sound, one may calculate its wavelength, the physical distance in air from one compression of the atmosphere to the next. An understanding of wavelength is useful in evaluating the effectiveness of physical noise control devices such as mufflers or barriers, which depend upon either absorbing or blocking sound waves to reduce sound levels.

To measure sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel (dB) scale was devised.

The decibel scale uses the hearing threshold as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. Use of the decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. In the range of usual environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighting the frequency response of a sound level measurement device (called a sound level meter) by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. Figure A-1 illustrates typical A-weighted sound levels due to recognizable sources.

It is common to describe community noise in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, and shows very good correlation with community response to noise.

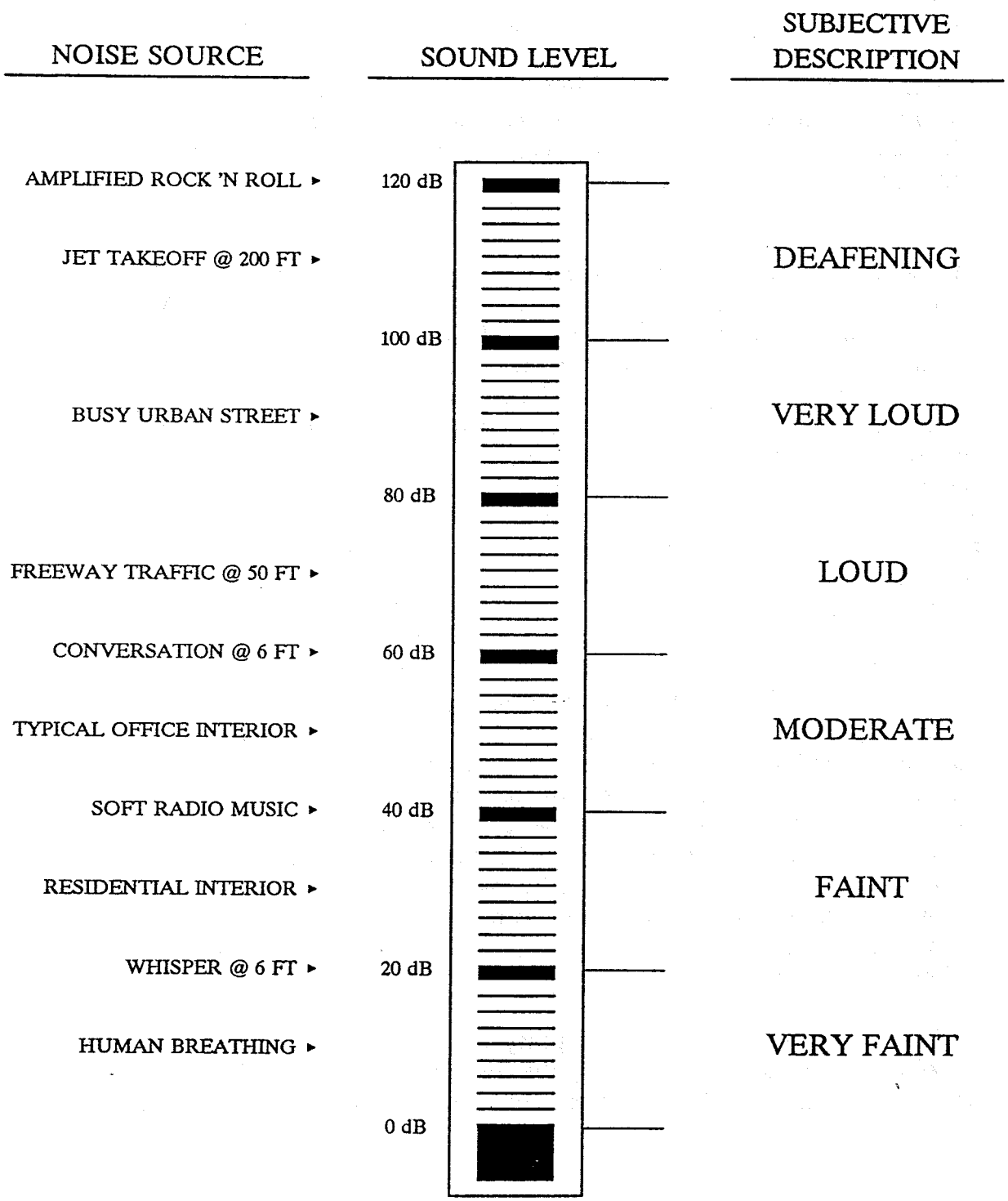
Two composite noise descriptors are in common use today: L_{dn} and CNEL. The L_{dn} (day-night average level) is based upon the average hourly L_{eq} over a 24-hour day, with a +10 decibel weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) L_{eq} values. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were subjectively twice as loud as daytime exposures. The CNEL (Community Noise Equivalent Level), like L_{dn}, is also based upon the weighted average hourly L_{eq} over a 24-hour day, except that an additional 4.77 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly L_{eq} values.

The CNEL was developed for the California Airport Noise Regulations, and is applied specifically to airport/aircraft noise assessment. The L_{dn} scale is a simplification of the CNEL concept, but the two will usually agree, for a given situation, within 1 dB. Like the L_{eq}, these descriptors are also averages and tend to disguise variations in the noise environment. Because L_{dn} and CNEL presume increased evening or nighttime sensitivity, they are best applied as criteria for land uses where nighttime noise exposures are critical to the acceptability of the noise environment, such as residential developments.

Noise in the community has often been cited as being a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from the interference with human activities such as sleep, speech, recreation, and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being is the basis for land use planning policies directed towards the prevention of exposure to excessive community noise levels. There are also economic affects of community noise: reduction in property values, inefficiency in the workplace and lost hours due to stress.

To control noise from existing fixed sources, many jurisdictions have adopted community noise control ordinances. Such ordinances are intended to abate noise nuisances and to control noise from existing sources. They may also be used as planning tools if applied to the potential creation of a nuisance, or to potential encroachment of sensitive uses upon noise-producing facilities. Community noise control ordinances are generally designed to resolve noise problems on a short-term basis (usually by means of hourly noise level criteria), rather than on the basis of 24-hour or annual cumulative noise exposures.

FIGURE A-1
EXAMPLES OF SOUND LEVELS



Criteria for Acceptable Noise Exposure:

The *Guidelines for the Preparation and Content of the Noise Element of the General Plan* (Reference 1), includes recommendations for exterior and interior noise level standards to be used by local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The State *Guidelines* contain a land use compatibility table which describes the compatibility of different land uses with a range of environmental noise levels in terms of L_{dn} or CNEL. An exterior noise environment of 50 to 60 dB L_{dn} or CNEL is considered to be "normally acceptable" for residential uses according to those guidelines. The recommendations in the State *Guidelines* also note that, under certain conditions, more restrictive standards may be appropriate. As an example, the standards for quiet suburban and rural communities may be reduced by 5 to 10 dB to reflect lower existing outdoor noise levels.

The U.S. Environmental Protection Agency (EPA) also prepared guidelines for community noise exposure in the publication *Information on the Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (Reference 2). These guidelines are based upon assumptions regarding acceptable noise levels which consider occupational noise exposure as well as noise exposure in the home. The guidelines recognize an exterior noise level of 55 dB L_{dn} as a goal to protect the public from hearing loss, activity interference, sleep disturbance and annoyance. The EPA notes, however, that this level is not a regulatory goal, but is a level defined by a negotiated scientific consensus without concern for economic and technological feasibility or the needs and desires of any particular community. The EPA and other governmental agencies have adopted suggested land use compatibility guidelines which indicate that residential noise exposures of 55 to 65 dB L_{dn} are within acceptable limits.

For control of noise nuisances, a community noise control ordinance is the most appropriate tool. The State Office of Noise Control has prepared a *Model Community Noise Control Ordinance* (Reference 3) which contains recommended noise standards in terms of "time-weighted" sound levels. The time-weighting concept allows discrimination of both short- and long-term noise exposures, and sets allowable levels for each. The *Model* recommends more stringent standards for residential land uses than for commercial and industrial, with the most stringent standards recommended for "rural suburban" situations. The primary exterior noise standard for rural residential uses is 50 dB in the daytime hours (7 a.m. to 10 p.m.), and 40 dB at night. The standard is expressed in terms of the level exceeded for 30 minutes of an hour, equivalent to the median level, or L50. This ordinance format is successfully applied in many California cities and counties.

The U.S. Environmental Protection Agency has also prepared a Model Community Noise Control Ordinance (Reference 4), using the "Equivalent A-weighted Sound Level" (L_{eq}) as the means of defining allowable noise level limits. The EPA model contains no specific

recommendations for local noise level standards, but reports a range of L_{eq} values as adopted by various local jurisdictions. The mean daytime noise standard reported by the EPA is 56.75 dB (L_{eq}); the mean nighttime noise standard is 51.76 dB (L_{eq}). This ordinance format has been successfully applied by the City and County of San Diego and by many other jurisdictions looking for a simplified approach to the enforcement of a local noise control ordinance.

In addition to the A-weighted noise level, other factors should be considered in establishing criteria for noise sensitive land uses. For example, sounds with noticeable tonal content such as whistles, horns, or droning or high-pitched sounds may be more annoying than the A-weighted sound level alone will suggest. Many noise standards apply a penalty, or correction, of 5 dB to such sounds. The effects of unusual tonal content will generally be more of a concern at nighttime, when residents may notice the sound in contrast to previously-experienced background noise.

Because many rural residential areas experience very low noise levels, residents may express concern about the loss of "peace and quiet" due to the introduction of a sound which was not audible previously. In very quiet environments, the introduction of virtually any change in local activities will cause an increase in noise levels. A change in noise level and the relative loss of "peace and quiet" is the inevitable result of land use or activity changes in such areas. Audibility of a new noise source and/or increases in noise levels within recognized acceptable limits are not usually considered to be significant noise impacts, but these concerns should be addressed and considered in the planning and environmental review processes.

Table A-1 is commonly used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise, or to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, the usual range of voice and interior noise levels. It is probably not directly applicable to public perception of identifiable intrusive noise sources in very quiet environments because of the difference in frequency content between background noise sources and intrusive sounds, as well as the fact that the absolute amount of energy required to make a given change in sound pressure level is much smaller at low noise levels than at higher levels. Table A-1 should therefore only be applied in a general manner to show the relationship between changes in sound energy, sound pressure levels and subjective reaction.

The comparisons of subjective reaction outlined in Table A-1 are not applicable to noise exposures which are very quiet or very loud. For example, a whisper which is increased by 10 decibels, e.g., from 20 dB to 30 dB, remains a whisper, and would still be described as quiet. In contrast, an increase in the noise level of a diesel locomotive from 90 dB to 100 dB would be a change from a loud noise to a very loud noise. Thus the subjective reaction to a 10 dB change in either case may be different, even though the change in level is the same.

TABLE A-1

SUBJECTIVE REACTION TO CHANGES IN NOISE LEVELS OF SIMILAR SOURCES

Increase in Sound Pressure Level, dB	Relative Increase in Acoustical Energy	Subjective Reaction
1	1.26 times	Minimum Detectable Change (Lab)
3	2.0 times	Usually Noticeable Change
5	3.2 times	Definitely Noticeable Change
10	10.0 times	Twice as Loud as Before

Sources: Various, reported by Brown-Buntin Associates, Inc.

REFERENCES

1. California Department of Health Services, *Guidelines for the Preparation and Content of the Noise Elements of the General Plan,* 1990 (included in the 1990 State of California General Plan Guidelines, State Office of Planning and Research).

2. U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety,* March, 1974.

3. California Department of Health, Office of Noise Control, *Model Community Noise Control Ordinance,* April, 1977.

4. U.S. Environmental Protection Agency, *Model Community Noise Control Ordinance,* September, 1975.

APPENDIX B

REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

California City

APPENDIX B

REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

An acoustical analysis prepared pursuant to the Noise Element shall:

A. Be the financial responsibility of the applicant.

B. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.

C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. Where actual field measurements cannot be conducted, all sources of information used for calculation purposes shall be fully described. When the use being studied is a commercial use, all noise sources related to the service and maintenance of the facility shall be considered, including parking lot and landscape maintenance, refuse collection and truck loading/unloading activities.

D. Estimate existing and projected (20 years) noise levels and compare those levels to the adopted policies of the Noise Element. Projected future noise levels shall take into account noise from planned streets, highways and road connections.

E. Recommend appropriate mitigation to achieve compliance with the adopted policies of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses.

F. Estimate noise exposure after the prescribed mitigation measures have been implemented.

G. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

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CITY OF CALIFORNIA CITY

DRAFT

GENERAL PLAN

2009-2028

City of California City
21000 Hacienda Boulevard
California City, CA 93505-2293
(760) 373-8661

C A L I F O R N I A C I T Y

G E N E R A L P L A N

2028

LAND USE, CIRCULATION, OPEN SPACE AND CONSERVATION, SAFETY, NOISE, HOUSING (UNDER SEPARATE COVER)

DRAFT
CALIFORNIA CITY GENERAL PLAN
JANUARY 2009

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Appendix 2 CEQA Section 15070. Decision to Prepare a Negative Declaration or Mitigated Negative Declaration.

Appendix 3 CEQA Section 15002. General Concepts.

Appendix 4 Public Resources Code Section 21000. State agencies shall regulate to prevent environmental damage.

Appendix 5 CEQA Section 15006. Reducing Delay and Paperwork.

Appendix 6 CEQA Section 15150. Incorporation by Reference.

Appendix 7 Environmental Impact Reports and Negative Declarations Incorporated by Reference per CEQA Section 15006.

Appendix 8 Initial Study, Negative Declaration, 2012-2028 General Plan Update.

DRAFT
CALIFORNIA CITY GENERAL PLAN
JANUARY 2009

CHAPTER 1 INTRODUCTION

Vision Statement: The creation of a livable, viable, and visually attractive community through efficient and effective continued growth and sustainable development that will result in a model City within eastern Kern County.

1.1 WHAT IS A GENERAL PLAN?

A general plan is a state-mandated comprehensive, long-range document, which, when adopted by a city council, comprises the official statement of a city toward the future character and quality of development within its planning area.

State law requires every city in California to adopt a comprehensive, long-range General Plan. The General Plan represents the community's view of its future and serves as the blueprint for a city's growth and development. The decision-makers use the goals and policies of the General Plan as a basis on which to make their land use, circulation, safety, housing, open space and conservation, and environmental decisions.

The General Plan projects conditions and needs into the future in order to determine the long-term goals and policies that would provide the basis for decision-making related to the growth and development of the City and within its existing coterminous sphere of influence.

The City of California City's General Plan is guided by a Vision Statement, as stated above, and represents the community's view of the future. The General Plan implements the City's vision through its goals, policies, and implementation measures. The City's General Plan addresses the area within the boundaries of the city and its coterminous sphere of influence.

1.2 COMMUNITY PROFILE

Location and Boundaries

The City is located in the Mojave Desert in eastern Kern County. As shown in **Figure 1-1, Location Map, Figure 1-2, Vicinity Map and Figure 1-3, Regional Setting Map**, the City is located approximately 60 miles to the southeast of the Metropolitan Bakersfield area, approximately 35 miles north of Lancaster, and approximately 65 miles northwest of Victorville. The City is approximately one mile to the north of Edwards Air Force Base and 7 miles to the east of the community of Mojave and the Mojave Airport. **Figure 1-4, Existing Jurisdictional Boundaries and Coterminous Sphere of Influence**, provides the City's jurisdictional boundaries and coterminous sphere of influence. The City is surrounded by undeveloped desert, including a 25,000-acre Desert Tortoise Preserve administered by the U.S. Bureau of Land Management located along a portion of the City's northeastern border. The City is bounded by an unincorporated area of Kern County to the north, east, south, and west.

The majority of development in the City has occurred within the area defined as the central core, an area comprising approximately eighteen sections of land (11,520 acres) in the southwest portion of the land area within the City's corporate boundaries. The remaining development has occurred in the northeastern portion of the City, an area located about twelve miles northeast of the central core along the Twenty Mule Team Parkway. Growth in the northeastern portion is limited by the lack of adequate infrastructure and public services.

History of the City

California City is located in a portion of the Mojave Desert that was occupied by Paiute Indians on a nomadic basis. In 1776, the first explorers came to the area under the leadership of Father Franciso Garces and the Conquistadores are believed to have conducted mining operations in the region using Paiute labor.

During a later stage in the exploration of the area, Rogers and Manly are believed to have passed through the area in late 1849 or early 1850 in their attempt to reach help for the stranded Death Valley 49'ers. In the 1880's, the Twenty Mule Team Trail was created to carry borax ore from Harmony Borax Works in Death Valley to the railhead in Mojave. The road from Randsburg to Mojave became an important local artery for mines opening in the Randsburg/Johannesburg area. The portion of the Twenty Mule Team Trail located in what is now the southern portion of the City is designated as a National Historic Trail. At the turn of the century, sheep farming began at the Conklin Ranch, located in the present day central portion of the City. Later, generally unsuccessful agricultural operation, which included alfalfa and cotton production, occurred.

In 1958, private land development activities began when a group of developers started buying land in what is now the eastern portion of the City and two farms in the western portion. During the 1960's, promotional efforts resulted in the sale of home sites to individuals throughout the United States. Community planning commissioned at the time envisioned a revolutionary new city concept and design that would discourage single family tract development, control architectural quality, and incorporate vast area of natural desert and farmland open space into a new type of living environment. The economic base of the City was predicated on continuous land sales and development activities, resulting in the employment of a significant portion of the City's population by the land developer.

On December 8, 1965, the City was incorporated with a population of 617 persons and a City Council-Manager form of government.

1.3 PLANNING AREA FOR THE GENERAL PLAN

Figure 1-5, General Plan Planning Area, illustrates the City's General Plan planning area within its jurisdictional and coterminous sphere of influence boundaries. The City's General Plan planning area is comprised of the City's existing corporate limits and its coterminous sphere of influence totaling 130,200 acres (203.4375 square miles). The General Plan planning area will address the City's existing corporate limits and coterminous sphere of influence.

The City's General Plan planning area is divided into nine district areas referred to as planning subareas. **Figure 1-5, General Plan Planning Area**, provides the location and boundaries of the General Plan planning subareas. The planning subareas are designed to allow for the definition of development criteria that addresses the unique circumstances or development constraints which exist within the individual planning subareas. Additional discussion of the planning subareas is provided in the Land Use Element.

1.4 2002 ANNEXATION/DETACHMENT AREAS

The existing sphere of influence includes the previous annexation (Annexation #5) of approximately 17,993 acres or 28.1 square miles in the southeast portion of the City and detachment of 18,676 acres or 29.1 square miles generally in the northeastern and eastern portion of the City, approved in 2003 by the Local Agency Formation Commission (LAFCO), ***incorporated by reference 2002 Final Environmental Impact Report Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project, Volume III, October 4, 2002, (SCH #2002041025)***. ***This report incorporates Clarifications and Revisions to the Draft EIR, Comment Letters on the Draft EIR, and Responses to Comments. The final EIR (which consists of Volume I: Draft EIR dated July 17, 2002; Volume II: Technical Appendices to the Draft EIR dated July 17, 2002; Environmental Findings of Fact and Statement of Overriding Considerations for the***

Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 4, 2002; Mitigation Monitoring Program for the Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 2, 2002; Environmental Assessment/Habitat Conservation for issuance of an Endangered Species Section 10(A)1(B) Permit/2081 Permit for the Incidental Take of the Desert Tortoise and Mojave Ground Squirrel dated July 2, 2002; Initial Study: Annexation, Detachment, Sphere of Influence Amendment, Redevelopment Area Expansion, General Plan Update Including the Housing Element), and Automotive Test Course Project dated April 4, 2002. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.

1.5 SPECIFIC PLAN AREA

The Villages Specific Plan, approved in April 1993 is 500 acres located in the central core of California City with access to infrastructure for recreational, residential, government, medical, and regional commercial development. Bound on the north by North Loop Boulevard, on the east by Randsburg-Mojave/California City Boulevard, on the South by South Loop Boulevard and on the west by Hacienda Boulevard. **Figure 1-6, The Villages Specific Plan,** ***incorporated by reference, The Villages of California City Supplemental Environmental Impact Report, April 1993 (SCH #92072089) amending the 2028 City of California City Redevelopment Plan and Project Area Environmental Impact Report (SCH #87110918), known as the first amendment. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

1.6 AIRPORT MASTER PLAN

The California City Municipal Airport is a 222-acre publicly owned facility, owned and operated by the City of California City. The airport is in the southeastern portion of Kern County, approximately 85 miles northeast of Los Angeles and 51 miles east of Bakersfield. California City is bordered by unincorporated areas of the County to the north, south, east, and west. California City is approximately 18 miles northwest of Edwards Air Force Base and is approximately 11 miles northeast of Mojave.

A master plan was last prepared for the airport in 1994. In order to determine the potential of the airport and specific opportunities for improving facilities, the City sponsored an airport master plan update through a planning grant from the FAA Airport Improvement Program (AIP). The recommended development shall be presented in three planning phases: short term (2005-2010); intermediate term (2011-2015) and long term (2016-2025). The recommended development satisfies aviation demand, community development, and other transportation modes. **The Airport Master Plan,** ***incorporated by reference, The Airport Environmental Impact Report, April 1977, (SCH #76112293) planning years 1975-1995, updated December 1994 planning years 1995-2015, updated June 2005 planning years 2005-2025. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

1.7 AIRPORT LAND USE COMPATIBILITY PLAN

The City of California and its municipal airport participates in the Kern County Airport Land Use Compatibility Plan, as a result of the California State Legislature amending in 1994 the Aeronautics Law, State Aeronautics Act, Airport Land Use Commission, Public Utilities Code (Chapter 4, Article 3.5)(Appendix B). This statue is expressed as "...to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards and to prevent the creation of new noise and safety problems. It is the purpose of this article to protect public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent these areas are not already devoted to incompatible uses."

The City of California City adopted by Negative Declaration the Airport Land Use Compatibility Plan as an amendment to the Municipal Code and incorporates various components of the plan into existing elements of the General Plan. **The Airport Land Use Compatibility Plan,** ***incorporated by reference, The Kern County Airport Land Use Compatibility Plan, June 1994, City of California City's Negative Declaration filed February 1999 (SCH #98122031). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** The location of the California City Municipal Airport as described in the Negative Declaration as Township 32 South, Range 37 East, Mount Diablo Base & Meridian, a portion of Sections 16 and 17, within the boundaries of California City, County of Kern, California.

1.8 PLANNING PERIOD

The General Plan addresses a planning horizon time frame through the year 2028, a 19-year planning period. The time frame is consistent with the last update to the General Plan, valid from 1993 to 2012, ***incorporated by reference 2012 City of California General Plan Environmental Impact Report (SCH #92062069)***. ***Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

This General Plan update coincides with the time frame of the City's 2028 Redevelopment Plan and Project Area. The 2028 Redevelopment Plan and Project Area is a 40-year planning document. The EIR reviewed potential impacts on land use, circulation, housing, population, public services and utilities. The original project area incorporated 81,500 acres and encompassed both the central core and northeastern portion of the city. However, through mitigation with the State of California Department of Fish and Game, the City reduced the acreage by 59,500 acres, thus eliminating the northeastern portion of the City from the plan and leaving the central core's 22,000 acres intact for future development. The EIR is similar to a habitat conservation plan for the central core of the City with the giving up 59,500 acres in order to develop the remaining 22,000 acres. **2028 City of California City Redevelopment Plan and Project Area,** ***incorporated by reference, 2028 City of California City Redevelopment Plan and Project Area Environmental Impact Report (SCH #87110918) and amendments known as first, second, and third. The third amendment was by Negative Declaration (SCH #203061080). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** Site specific project development in the northeastern portion of the City may occur and has occurred with the construction of the California City Correctional Facility, owned and operated by Corrections Corporation of America (CCA).

The City's General Plan planning area consists of the City's existing corporate limits and its coterminous sphere of influence totaling 130,200 acres (203.4375 square miles). As shown in **Figure 1-1, Location Map, Figure 1-2, Vicinity Map and Figure 1-3, Regional Setting Map**, the City is located approximately 60 miles to the southeast of the Metropolitan Bakersfield area, approximately 35 miles north of Lancaster, and approximately 65 miles northwest of Victorville. The City is approximately 4 miles to the north of Edwards Air Force Base and 4 miles to the east of the community of Mojave and the Mojave Airport from the southern most edge of the City's boundaries. **Figure 1-4, Existing Jurisdictional Boundaries and Coterminous Sphere of Influence**, provides the City's jurisdictional boundaries and coterminous sphere of influence.

The General Plan may be amended throughout this time frame to address policy adjustments required by existing conditions, changing public attitudes, and proposed future development. State law allows the City to consider General Plan Amendments four times per year. At each of these hearings any number of individual amendments may also be considered. In order to allow amendments to the General Plan to occur in an orderly manner and to allow applicants to have advanced knowledge of the timing and requirements, the City has established the following quarterly schedule for consideration of General Plan Amendments: January, April, July, and October. The City will accommodate General Plan Amendments as closely to this schedule as possible however, the City understands the review and noticing process requires the City to remain flexible.

The City will carry out an evaluation of the General Plan each year before the approval of the Capital Improvements Budget. This evaluation will address the City's progress toward the provision of adequate infrastructure to meet the goals, policies, and implementation measures provided in the General Plan. In addition, State law (Government Code Section 65588[a][b]) requires an update of the Housing Element portion of the General Plan every five years.

1.9 ABOUT THIS GENERAL PLAN

Authority

State law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term general plan that addresses, at a minimum, the following elements: Land Use Element, Circulation Element, Housing Element, Conservation Element, Open Space Element, Noise Element, and Safety Element. The City's Conservation/Open Space Element is combined and the content of the City's General Plan is described below.

General Plan Format and Contents

The General Plan is divided into two parts. The first part contains seven state-mandatory elements consisting of text and plans. The text identifies relevant existing conditions, the principal physical development issues related to the planning area, describes the respective plans for each element, and provides statements of each element's goals, policies, and implementation measures. **The State of California has offered to local agencies, proposed implementation measures to reduce the effects of global warming and greenhouse gas emissions. Many of the proposed implementation measures are already a part of the City's conservation ethic. The City recognizes the need to reduce these global impacts and will include the State's recommendations in applicable general plan elements as either implementation measures or future goals.** ***Global Warming Measures, Office of the California Attorney General, letter dated February 14, 2008.***

The second part consists of an appendix which provides background information that further support the elements.

The following provides the format and contents of the General Plan:

- Chapter 1, Introduction, defines the City's vision statement and describes the scope and purpose of a General Plan, provides a community profile, describes the City's General Plan Area, and the structure and content of the General Plan.

- Chapter 2, Land Use Element, describes the existing and future setting of the City related to population and growth, and future trends in land use and development, and provides the goals, policies, and implementation measures that provide guidelines for the management of the growth of residential, commercial, recreational, industrial, and institutional land uses as well as the preservation and conservation of open space and natural resources and other un-designated land within the City's planning area. This Element includes maps related to development issues and the General Plan Land Use Plan which shows the planned land uses.

- Chapter 3, Circulation Element, identifies the general location and extent of the existing and proposed major transportation facilities, the street and highways, transit, bikeways, railway, airport, and parking and provides the goals, policies, and implementation measures that address future development of the City's circulation system. This Element includes the General Plan Circulation Plan and cross-sections for the City's roadway classifications.

- Chapter 4, Housing Element, identifies the current and projected housing needs, defines the

goals, objectives, and policies for improvement of housing and the provision of adequate sites for housing to meet the needs of all economic segments of the community, provides a five-year action plan for the implementation of goals, objectives, and policies, and analyzes housing development constraints and opportunities. The Housing Element is bound under separate cover and ***is incorporated into this document by reference***.

- Chapter 5, Open Space and Conservation Element, addresses the preservation, use, and enhancement of open space and natural resources in the planning area including biological resources, mineral resources, soils and agriculture, water resources, and air quality. This Element provides the goals, policies, and implementation measures that address open space and conservation of these resources. This Element includes a plan that shows the location of parks and conservation areas.

- Chapter 6, Safety Element, identifies flooding, geologic and seismic, fire, and overflight (by military and private aircraft) hazards in the planning area. In addition, public safety related to the provision of police protection, fire protection, and emergency medical services are discussed. This Element provides the goals, policies, and implementation measures that address safety. This Element includes maps related to the identified hazards and the provision of public safety services to the City.

- Chapter 7, Noise Element, identifies certain major noise sources (including military and private aircraft, railway, major roadways, and industrial land uses) and areas containing noise sensitive land uses, and identifies noise exposure contours for current and projected levels of activity within the community.

- Appendices. The following supporting Appendices are provided for the General Plan.

Appendix 1	California Environmental Quality Act (CEQA) Section 15152. Tiering.
Appendix 2	CEQA Section 15070. Decision to Prepare a Negative Declaration or Mitigated Negative Declaration.
Appendix 3	CEQA Section 15002. General Concepts.
Appendix 4	Public Resources Code Section 21000. State agencies shall regulate to prevent environmental damage.
Appendix 5	CEQA Section 15006. Reducing Delay and Paperwork.
Appendix 6	CEQA Section 15150. Incorporation by Reference.
Appendix 7	City of California City EIR's Incorporated by Reference per CEQA Section 15150. Incorporation by Reference.
Appendix 8	Initial Study, Negative Declaration, 2012-2028 General Plan Update.

General Plan Structure

The discussion in the General Plan is provided in the following manner:

Vision expresses the future aspiration and desire of the City. The Vision is the broadest level of direction in the General Plan and describes the important characteristics that will define the community in the future.

Goals describe a broad direction that addresses a particular aspect of the Vision toward which the policies and implementation measures are directed.

Policies describe a process or a particular course of action to achieve the Goals. In some cases as in the Land Use Element, standards for various land use designations also represent a type of policy, reflected directly in map form and described in detail in the text.

Implementation Measures define a specific action, procedure, or program that accomplishes the Policies and defines the level of commitment to be executed, when, and by whom.

Interpreting General Plan Policies and Implementation Measures

Not all policies are the same in terms of the level of commitment they represent. The action words contained in the policies convey distinct levels of commitment and represent expected levels of outcome when they are used. These action words include the following:

Shall. This type of policy will always be followed. "Shall" represents an absolute commitment to the guidance expressed in the policy.

Should. This type of policy will be followed in most cases and exceptions or degrees of implementation are acceptable with valid reasons.

Allow. This type of policy permits contains initiatives that will be supported by the City unless there are good reasons not to. Parties other than the City will generally implement or have some review authority on this policy type.

Coordinate. This type of policy involves working and partnering with other entities to implement the policy.

Consider. This type of policy requires investigation and study to determine the appropriate level of commitment. This type of policy requires an open-minded evaluation of possibilities until facts are available to allow and support a decision.

Restrict. This type of policy sets specified limits within which action and/or implementation will occur.

Prohibit. This type of policy requires steps to actively prevent a specified condition or decision from occurring.

Other terminology may appear in certain policy statements and implementation measures. These terms should be interpreted according to their similarity to the appropriate terms described above. In instances where the interpretation of the General Plan is uncertain consultation with City planning staff is highly recommended. In fact, because of the broad scope and complexity of the General Plan, any person seeking to implement it would be well advised to consult with City staff for assistance.

1.10 USING THE GENERAL PLAN

Consistency

Consistency with and within the General Plan is one of the most important considerations related to the General Plan. In 1972, the California Legislature enacted the law requiring that development projects must be consistent with the local General Plan and also mandated consistency among the contents of the General Plan.

The concept of consistency consists of two dimensions: 1) internal consistency within the General Plan itself; and 2) consistency of public improvement projects and private development projects with provisions of the General Plan. The following describes these:

Internal Consistency

The question related to internal consistency is whether the provisions of the General Plan are aligned in a common direction on behalf of the community and not in conflict. This alignment of policies must occur across all elements and among the vision, goals, policies, and implementation measures throughout the General Plan.

There is a built-in relationship between the different policy topics under the law. There is an expectation that the General Plan will promote housing and open space; provide for jobs; accommodate traffic and vehicle movement; and reduced noise and air pollution. This requires the balancing of these and many other expectations that drive the General Plan.

This is a major area in which the City's vision comes into play. The test of commonality is whether or not a particular goal, policy, or implementation measure in the General Plan contributes to or conflicts with the achievement of the vision.

External Consistency

This aspect of consistency is a measure of the extent to which private development projects and public improvement projects advance the purposes of the General Plan rather than impose obstacles or conflict with their achievement. As with internal consistency, this determination requires a degree of judgement, although some situations are more straightforward than others.

Determinations of project consistency are reflected in staff reports and may result in project approval, project modification as a condition of approval, or outright disapproval. In the latter case, the remedy is to seek a General Plan amendment as appropriate, for consideration by the City's decision-makers.

Administration and Implementation

The State recognizes the dynamic nature of the General Plan and provides for periodic review of the documents to ensure that it reflects contemporary conditions and values. This is necessary because all development proposed within the community must be consistent with the General Plan and that is a key part of the project's analysis.

The State requires an update of the Housing Element portion of the General Plan every five years. These updates are a key facet of the General Plan as a management tool and not solely a policy guide for community development.

Amendment of General Plan

Amending the General Plan requires compliance with certain provisions of the State Government Code. The General Plan must be amended in the same manner as its original adoption; by resolution of the City Council upon recommendation by the Planning Commission. However, each amendment can include a package of changes and is not limited to a single item.

Section 65358 of the California Government Code prohibits the City from making more than four amendments to each of the mandated General Plan elements during any calendar year. Amendment requests are grouped in four General Plan "windows" conducted by the City Council each year. The City's schedule

is January, April, July, and October. The City will accommodate General Plan Amendments as closely to this schedule as possible however, the City understands the review and noticing process requires the City to remain flexible. Section 65860 establishes a further requirement that the General Plan and Zoning Code be consistent.

Requests to amend the General Plan may be made by the City Council, Planning Commission, Planning Department, quasi governmental bodies, and private individuals or groups. A General Plan Amendment request shall not be accepted where a final decision for disapproval on any previous similar request has been made within one (1) year.

All amendment requests shall be reviewed by the Planning Department in accordance with the requirements of the California Environmental Quality Act (CEQA) and procedures established by the Planning Department in accordance with Government Code Section 65350 and 65358. The Planning Department shall prepare a report to provide the Planning Commission and the City Council with a basis for reviewing an amendment request.

Any decision of the Planning Commission on a request to amend the General Plan shall constitute a recommendation to the City Council. However, the Planning Department may augment the Planning Commission's recommendation with information that occurs subsequently to the Planning Commission hearing. The final decision regarding approval of the General Plan Amendment rests with the City Council.

1.11 SHAPING THE GENERAL PLAN

The Vision Statement is a result of community involvement through community outreach and through the participation of elected City Officials, the Planning Commission, City Department Heads, and City Staff. The primary methods used to shape this General Plan are detailed below:

- **Community Outreach -** During August 2006, a community workshop was held to identify citywide opportunities and constraints and visions for future City growth. The workshop was intended to identify and prioritize the community's likes, dislikes, and visions for the future. Additionally, the community was provided the opportunity to participate in the Kern COG visioning process workshops.

- **General Plan Workshops -** The City has held several General Plan Workshops beginning in 2000. Public input was received on all elements of the General Plan and revisions were incorporated. Starting in 2004, the plan was reviewed for format and legislative updates. The last workshop was held on May 22, 2007. A followup consultation with staff was completed in 2008. Anticipated completion is July 21, 2009, following public hearings and a 30-day review with the State Clearinghouse.

FIGURE 1-1

STATE OF CALIFORNIA

LOCATION MAP

CITY OF CALIFORNIA CITY
GENERAL PLAN

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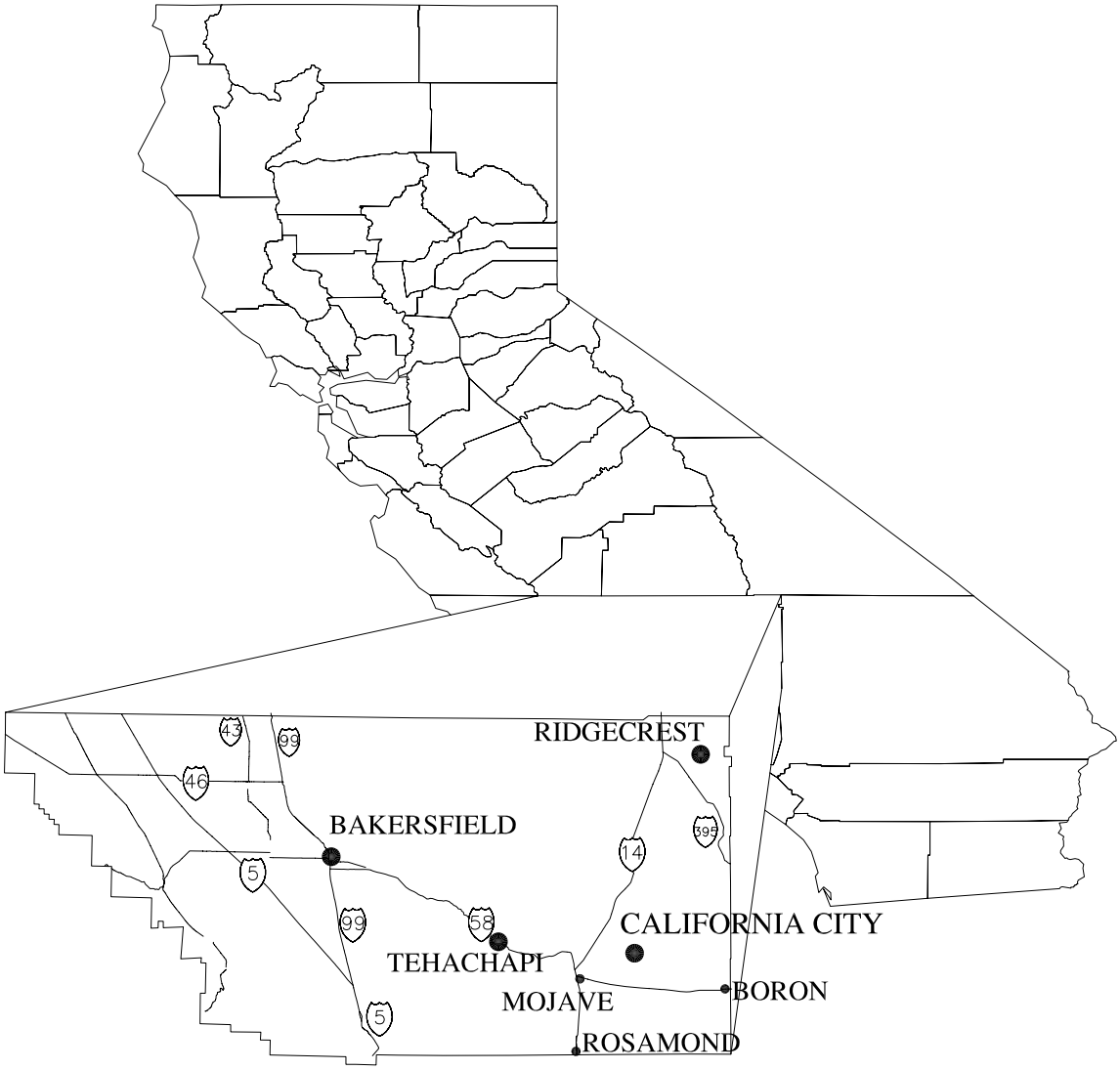
SHEET						
1 OF ____ SHEETS	CITY OF CALIFORNIA CITY KERN COUNTY, CALIFORNIA GENERAL PLAN LOCATION MAP	HELT ENGINEERING, INC. CIVIL ENGINEERING · LAND SURVEYING · BUILDING DESIGN · AERIAL PHOTOGRAPHY 2930 UNION AVE., BAKERSFIELD, CA 93305 PHONE: (661) 323-6045 FAX: (661) 323-0799	DATE: 01/17/09 SCALE: NTS DRAWN BY: RP CK'D BY: RG DATE CK'D: 01/19/09	REVISIONS	CK'D BY	DATE CK'D	JOB NO. 04427

FIGURE 1-2



VICINITY MAP

CITY OF CALIFORNIA CITY
GENERAL PLAN

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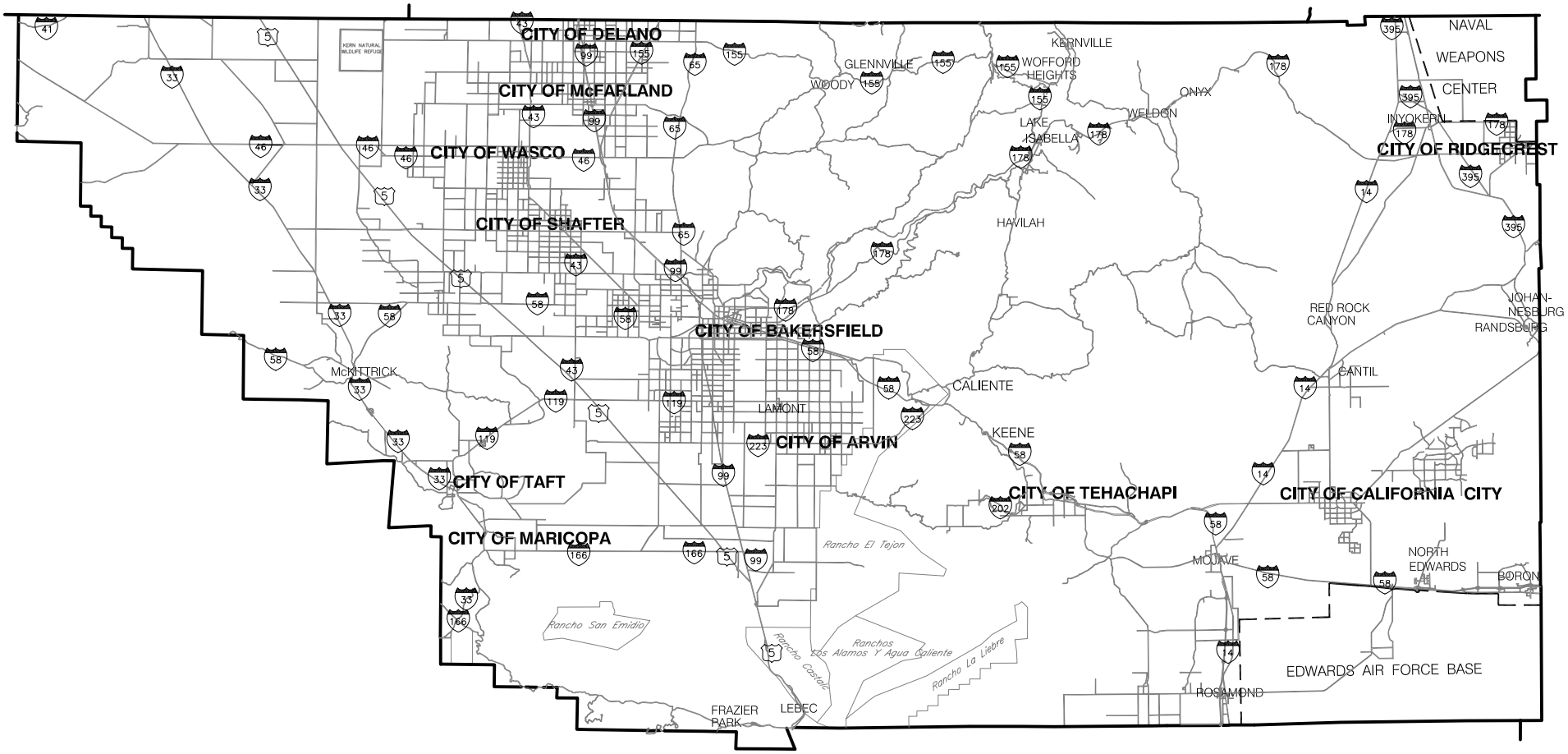
FIGURE 1-3

KERN COUNTY, CALIFORNIA



REGIONAL MAP

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CITY OF CALIFORNIA CITY
GENERAL PLAN

JOB NO.	DATE: 01/18/09 SCALE: NTS DRAWN BY: RP CK'D BY: RG DATE CK'D: 01/19/09	REVISIONS	CK'D BY	DATE CK'D
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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
REGIONAL MAP

SHEET 1 OF ____ SHEETS

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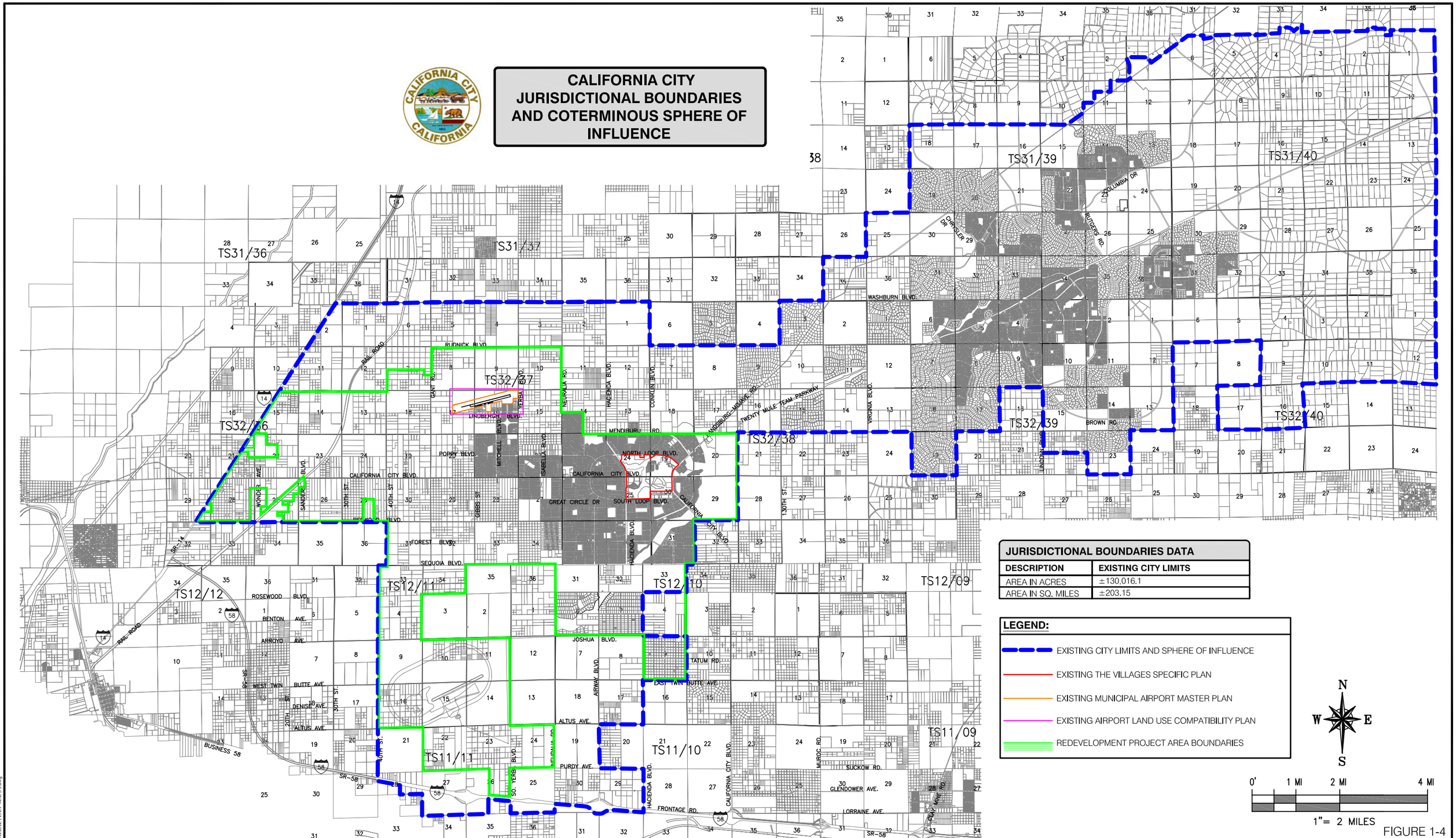
CALIFORNIA CITY JURISDICTIONAL BOUNDARIES AND COTERMINOUS SPHERE OF INFLUENCE



JURISDICTIONAL BOUNDARIES DATA	
DESCRIPTION	EXISTING CITY LIMITS
AREA IN ACRES	±130,016.1
AREA IN SQ. MILES	±203.15

LEGEND:

- EXISTING CITY LIMITS AND SPHERE OF INFLUENCE
- EXISTING THE VILLAGES SPECIFIC PLAN
- EXISTING MUNICIPAL AIRPORT MASTER PLAN
- EXISTING AIRPORT LAND USE COMPATIBILITY PLAN
- REDEVELOPMENT PROJECT AREA BOUNDARIES

N W E S

0' 1 MI 2 MI 4 MI

1"= 2 MILES

FIGURE 1-4

The information shown on this map was collected from several sources. Therefore, the accuracy of this information is not warranted in any way. The City of California City & Helt Engineering, Inc. assume no liability for any claims arising from the use of this map.

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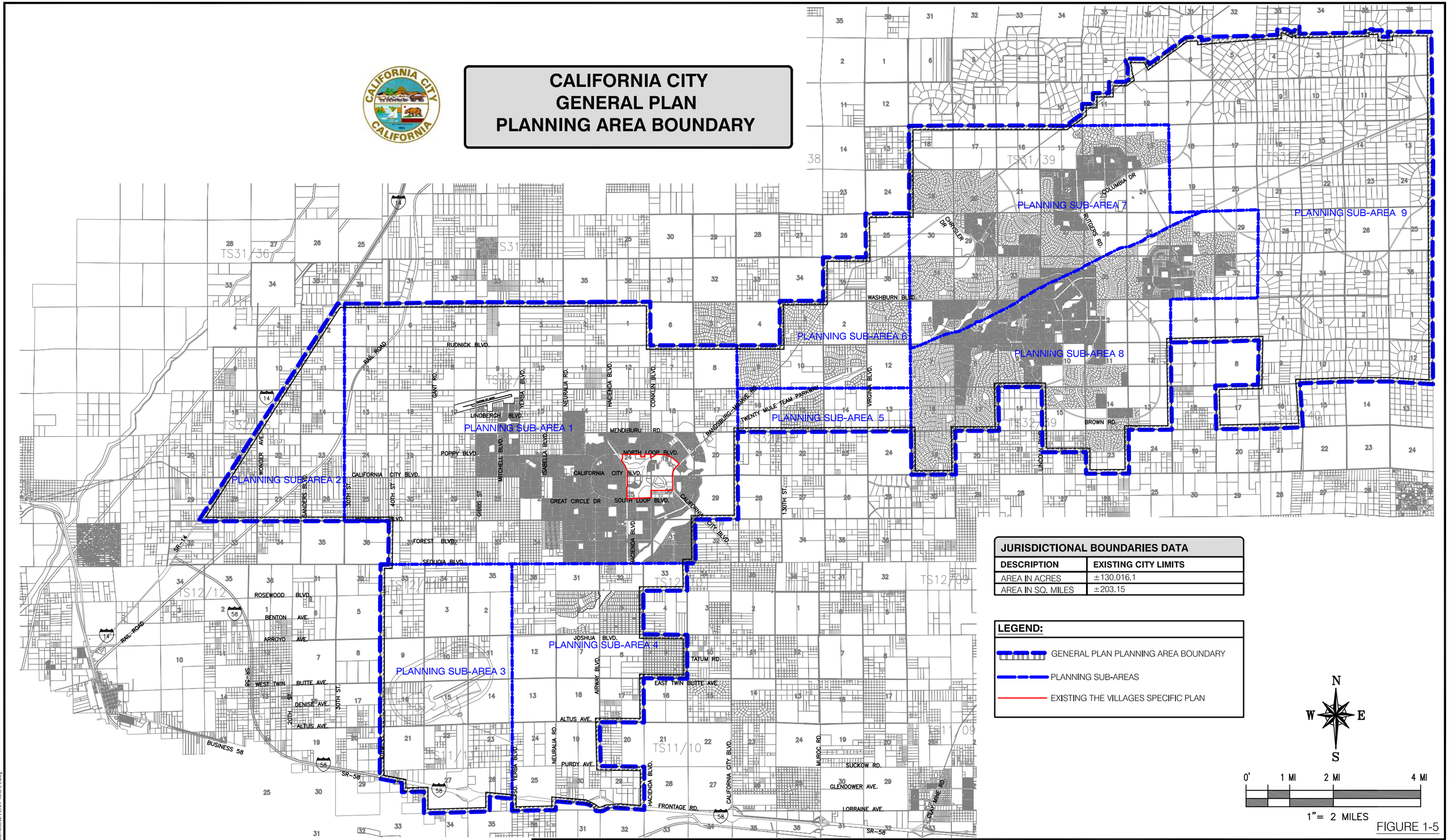
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
JURISDICTIONAL BOUNDARIES AND COTERMINUOS SPHERE OF INFLUENCE

SHEET 1 OF 1 SHEETS

CALIFORNIA CITY GENERAL PLAN PLANNING AREA BOUNDARY



JURISDICTIONAL BOUNDARIES DATA

DESCRIPTION	EXISTING CITY LIMITS
AREA IN ACRES	±130,016.1
AREA IN SQ. MILES	±203.15

LEGEND:

- GENERAL PLAN PLANNING AREA BOUNDARY
- PLANNING SUB-AREAS
- EXISTING THE VILLAGES SPECIFIC PLAN

N W E S

0' 1 MI 2 MI 4 MI

1"= 2 MILES

FIGURE 1-5

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
PLANNING AREA BOUNDARY MAP

SHEET 1 OF 1 SHEETS

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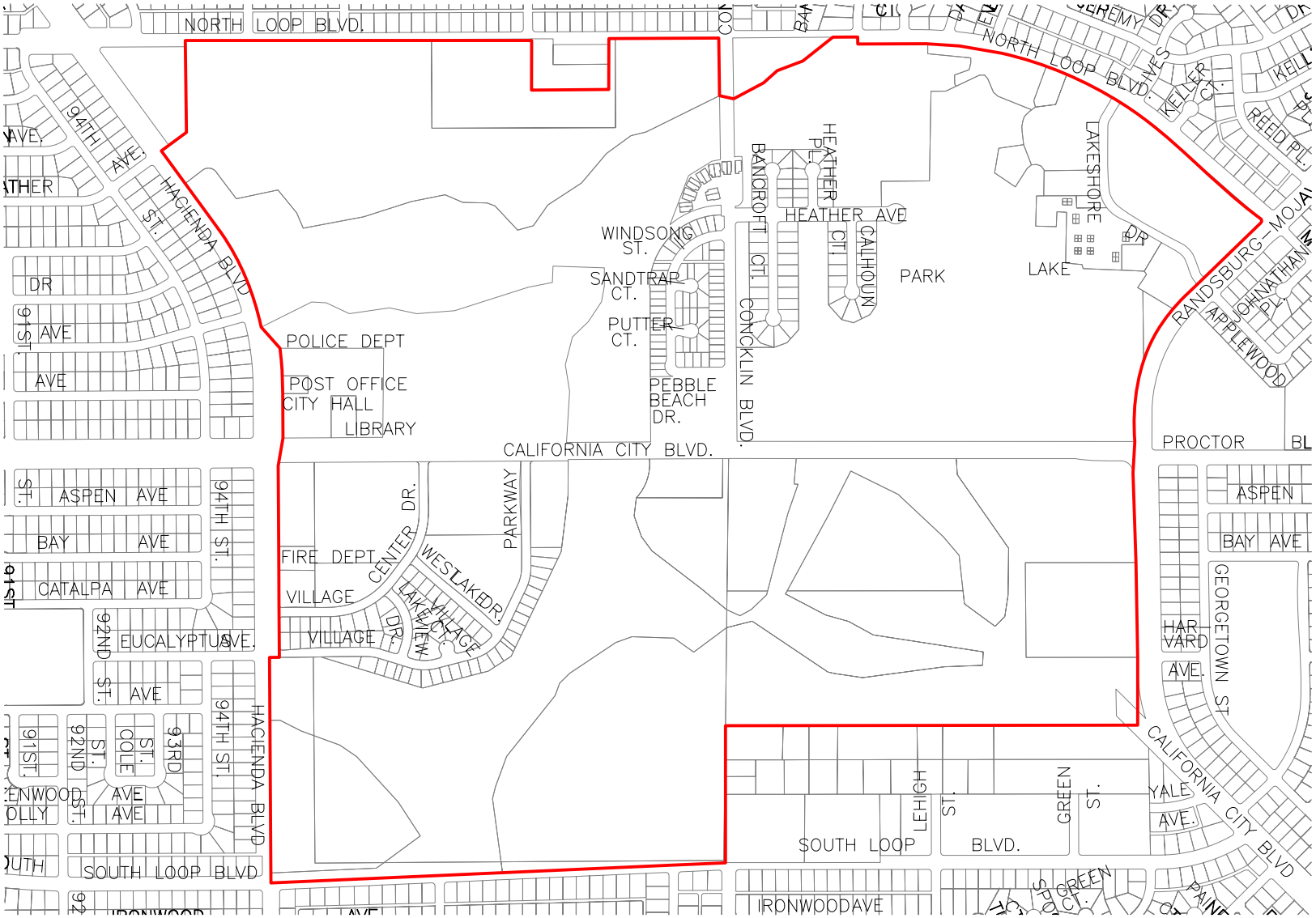

CALIFORNIA CITY GENERAL PLAN THE VILLAGES SPECIFIC PLAN

LEGEND:

EXISTING THE VILLAGES SPECIFIC PLAN

N W E S

FIGURE 1-6

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
THE VILLAGES
SPECIFIC PLAN

SHEET 1 OF ____ SHEETS

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DRAFT
CALIFORNIA CITY GENERAL PLAN
JANUARY 2009

CHAPTER 2 LAND USE

Overall Goal: Promote land use distribution which provides for safe residential neighborhoods, bolsters' economic prosperity, protects property value, preserves open space and natural resources, allows for recreational opportunities, and enhances the overall quality of life in California City.

2.1 DESCRIPTION OF THE LAND USE ELEMENT

The Land Use Element provides a plan for land uses supported by goals, policies, and implementation measures that seek to protect and enhance the quality of life in the City. The Land Use goals provide guidelines that respond to identified issues in the community, while the policies and implementation measures define how land within the City is developed, preserved, and/or considered for future development.

2.2 STATUTORY REQUIREMENTS

State of California Planning and Zoning Law requires that a land use element be prepared as part of the general plan as follows:

> Government Code Section 65302(a): A land use element which designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall also identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to such areas.

Effectively, the Land Use Element has the broadest scope of any element of the General Plan required by the State. Since it regulates how land is to be utilized, it integrates most of the issues, goals, and policies contained in the other elements of the General Plan.

2.3 OVERVIEW OF EXISTING CONDITIONS

<u>Planning Area Setting</u>

The General Plan planning area, consisting of 130,200 acres (203.4374 square miles) is located on the western edge of the Mojave Desert in eastern Kern County. **Figure 1-3, Regional Setting Map**, provides the regional setting for the City. **Figure 1-4, Existing Jurisdictional Boundaries and Coterminous Sphere of Influence**, provides the City's jurisdictional boundaries and coterminous sphere of influence. As shown in **Figure 1-3, Regional Setting Map,** the City is located approximately 60 miles to the southeast of the Metropolitan Bakersfield area, approximately 35 miles north of Lancaster, and approximately 65 miles northwest of Victorville. The City is approximately 4 miles to the north of Edwards' Air Force Base and 4 miles to the east of the community of Mojave and the Mojave Airport from the southern edge of the City's boundaries. Regional access to the City is provided by State Route 58 (SR-58), State Route 14 (SR-14), and State Route 395 (SR-395). The City is surrounded by undeveloped desert, including a 25,000-acre Desert Tortoise Preserve administered by the U.S. Bureau of Land Management located along a portion of the City's

northeastern border. The City is bounded by an unincorporated area of Kern County to the north, east, south, and west. **Figure 1-1, Location Map,** provides the local setting for the City.

The majority of development in the City has occurred within the central core. An area comprising approximately twelve sections of land (7,680 acres) in the southwest portion of the land area within the City's corporate limits. The remaining development in the City has occurred in the northeastern portion, an area located about twelve miles northeast of the central core along Twenty Mule Team Parkway and Randsburg-Mojave Road. Growth in the northeastern portion of the City has been limited by the lack of adequate infrastructure and public services. Scattered throughout the northeastern portion of the City are undeveloped subdivided tracts and parcel maps. In the northeastern portion of the City there are 27 Subdivision Improvement Tracts (SDI) and 2 tracts in the central core. These SDI Tracts were subdivided more than 40 years ago, with the developer providing provisional funding for water and roadway improvement to the minimum City standard. **Figure 2-1 Location of SDI Tracts**. All of the 29 tracts are subject to City Council and SDI Committee's approval, to supply water and roadway improvements. The roadway improvements will be the minimum City standard. Some roadways are improved to the minimum City standards, with some roads still dirt. The remaining subdivided tracts in the northeastern portion of the City and six parcel maps, subdivided more than 40 years ago, have no provisions for water or roadway improvement, with all expenses being paid by the individual property owner. These tracts and parcel maps are without any provision: Tract 2592, Tract 2593, Tract 2596, Tract 2714, Tract 2715, Tract 2738, Tract 2820, Tract 2828, Tract 2972, and Tract 2973, portions of Parcel Map 3, Parcel Map 10, and Parcel Map 24, remain in the City's jurisdictional boundaries following the 2002 Annexation/Detachment and Parcel Map 15, Parcel Map 35 and Parcel Map 53 are entirely within the City's jurisdiction.

The City is located in the northern portion of the Antelope Valley, a triangular-shaped plain of 3,000 square miles bounded by the San Gabriel Mountains on the south, the Tehachapi Mountains on the west, and the Rand Mountains on the north. The General Plan planning area is located within the Mojave Desert geomorphic province which is characterized by a gently undulating ground surface with isolated buttes and low to moderate relief across the desert floor. The planning area's topography, consists of gently sloping alluvial plains with a series of steep rock butts and several arroyos, including Cache Creek. The average elevation within the planning area is 2,400 feet above sea level. The majority of the soils within the planning area consist of quartz Mennonite and alluvial deposits. The groundwater in the planning area ranges from 600 feet to 800 feet below the ground surface.

The closest fault to the planning area is the Garlock fault zone located approximately 8 miles to the northwest. Additional discussion of geologic hazards, including fault zones and related issues within the planning area, is provided in the Safety Element.

The planning area is bisected by seasonal drainages, the largest of which is Cache Creek. During the seasonal rains in the winter and spring, Cache Creek and its tributary drainages (such as Yerba Rusche Creek and Tierra Del Sol Creek), result in localized flooding in the western portion of the City. Additional discussion of the seasonal drainages and related issues within the planning area is provided in the Safety Element.

The planning area provides a habitat for rare, threatened, endangered, and sensitive species, including, but not limited to, the desert tortoise, Mojave ground squirrel, burrowing owl, and Joshua tree. Additional discussion of biological resources within the planning area is provided in the Open Space and Conservation Element.

The planning area is located within the Mojave Desert Air Basin and under the jurisdiction of the Kern County Air Pollution Control District. Additional discussion of air quality within the planning area is provided in the Safety Element.

Portions of the planning area are located within the supersonic aircraft corridors, spin zones, and other training routes for Edwards Air Force Base. ***The City of California City integrated designated flight corridors, as set forth in the 1994 Edwards Air Force Base Joint Land Use Study (JLUS), incorporated by reference, into the California City General Plan and Updates, (SCH #94112035, filed a negative declaration in 1994). The base represents a substantial investment by the Department of Defense in facilities and equipment and has a major role in the development and testing of the nation's military aircraft for the foreseeable future. The natural assets of the base (especially climate and lakebed landing areas) and its access to airspace over the Pacific Ocean as well as over Nevada and Utah are not possible to duplicate anywhere else in the country. The base is a major job generator providing employment for both military and civilian personnel. This payroll represents an infusion of economies of California City, Lancaster, and Kern, Los Angeles, and San Bernardino Counties. The loss of this asset due to encroachment of incompatible urban development would be a long-term economic disaster for local residents and businesses. Thus, it behooves these jurisdictions to take the steps necessary to protect the base and its ability to effectively perform its mission. The 1994 Edwards Air Force Base JLUS is on file in the California City Planning Department, 21000 Hacienda Boulevard, California City, California.*** Provisions of the Kern County Airport Land Use Compatibility Plan apply to the development in the planning area. Additional discussions of overflight hazards and related issues within the planning areas are provided in the Safety Element.

Trends in Growth

The development of the City represents a transition from a new rural community to a mature City at build-out. When the City was incorporated in December 1965, it encompassed approximately 103,040 acres (161 square miles) and had a population of 718 residents. In the year 2000, the City encompassed approximately 130,200 acres (203.4375 miles) and had a population of 8,385 persons. Since the 2000 Census, it is estimated that the population of the City has increased by approximately 6,000 people. The majority of increases in population are a result of the opening of a federally-contracted prison facility within the northeastern portion of the City. Although the planning area is 130,200 acres (203.475 miles), the majority of the resident population is located in the central core where there is existing infrastructure, public services, residential, commercial, industrial and institutional land uses.

According to the California Department of Finance and Kern Council of Governments (Kern COG), in the year 2007, the resident population is estimated to be 10,685 persons. **Table 2-1**, provides the population growth that has occurred in the City since its incorporation and the projected population and annual growth rates through the year 2030. Additional discussion of the population characteristics of the City is provided in the Housing Element.

According to the 2000 Census, in the year 2000, there were 3,072 households in the City. The average household size was estimated to be 2.72 persons. Additional discussion of the household characteristics of the City is provided in the Housing Element.

According to the 2000 Census, in the year 2000, there were 3,560 housing units in the City. Of these housing units approximately 77 percent were single-family homes and approximately 15 percent were multiple-family units, with the remaining 7 percent of the units as mobile homes. Additional discussion of the existing housing stock in the City is provided in the Housing Element.

According to the 2000 Census, more than 40 percent of the City's residents were employed by government agencies. Approximately 30 percent of the City's residents were in management, professional, or related occupations, approximately 25 percent were in sales and office occupations, approximately 22 percent were in service occupations, approximately 13percent was in construction, extraction, and maintenance occupations, and approximately 10 percent were in production, transportation, and material moving occupations. These employment trends are consistent with the types of employers in the City and in the adjacent area. They include, but are not limited to:

- Correctional Corporation of America in the eastern portion of the City.

- Edwards Air Force Base located four miles to the southeast of the City boundaries.

- Rio Tinto Mine (formerly U.S. Borax) is in the nearby community of Boron, fifteen miles to the east of the City.

As the City continues to develop and move toward ultimate build-out within the planned coterminous sphere of influence boundaries applications for boundary changes may occur, consisting of either annexation or detachment of land. Lack of infrastructure and groundwater resources, restrictive airspace, sensitive and endangered wildlife issues may make annexation proposals cost prohibitive. However, proposals to modify the City boundaries and sphere of influence will be carefully reviewed to ensure continued consistency with the General Plan's mandatory Safety, Open Space and Conservation, and Noise Elements.

The City seeks to promote the quality of life for its residents through a variety of housing opportunities, effective law enforcement and fire protection services, quality schools, open space and recreation opportunities, and the preservation of natural resources. As growth occurs within the General Plan planning area, the City faces the challenge of ensuring that the quality of life that it offers its citizens is protected while planning for the future needs of the community.

TABLE 2-1

CALIFORNIA CITY POPULATION GROWTH

YEAR	POPULATION	NET GROWTH	PERCENT CHANGE	ANNUAL GROWTH RATES
1966	617	----	----	----
1970	1,309	692	112.2%	20.7%
1980	2,743	1,434	109.5%	7.7%
1990	5,955	3,212	117.1%	8.1%
2000	8,835	2,430	40.8%	3.5%
2007	13,107	2,278	21%	4.2%
2010	14,842			3.5%
2020	20,098			3.5%
2030				3.5%

Source: California City General Plan Housing Element, February 2004, Municipal Service Review City of California City Annexation/Detachment/Sphere of Influence Amendment (Reorganization No. 2), February 25, 2003.

2.5 PLANNING AREA

The General Plan planning area is divided into nine distinct areas referred to as planning sub-area. Each planning sub-area is geographically contiguous and has its own distinct characteristics that provide a sense of community identity. The boundaries and locations of the planning sub-areas are identified in **Figure 1-5, General Plan Planning Area Boundary**.

A description of each planning sub-areas is provided below.

- **Planning Sub-area 1:** Planning Sub-area 1 is in central core of the City and the surrounding areas are undeveloped land to the north, east, south, and west. It has a variety of existing land uses, including a majority of residential areas of the City where the infrastructure is most readily available or is included in the various adopted Utility Master Plans. This area is bisected by California City Boulevard, containing the California City Municipal Airport which is governed in part, by the California City Airport Master Plan, California City Airport Land Use Compatibility Plan and is included as a public use airport in the Kern County Airport Land Use Compatibility Plan. **Airport Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2403**. This area is the location of the City's government facilities within the Villages Specific Plan, the schools, churches, and the majority of the City's parks. This area is also the location of a recently approved 2-acre solar farm. The solar farm will produce 1 Megawatt using photovoltaic cells. In addition, Planning Sub-area 1 is bordered by Cache Creek and associated flood plains to the south and east. Planning Sub-area 1, provides opportunities for additional residential, neighborhood commercial, community commercial, regional commercial, and light industrial land uses due to the existing development, roadways, airport, utilities, and public services and facilities.

- **Planning Sub-area 2:** Planning Sub-area 2 contains the Wonder Acres area and is adjacent to SR-14. This area has a water distribution system maintained by the City and water supply provided by the Mojave Public Utility District (MPUD). This area has been developed with the use of individual septic systems. The roads in Planning Sub-area 2 are mostly desert mix and dirt roads. This area contains one of the primary entrances to the City with the recently completed SR-14 and California City Boulevard interchange and is bisected by the rail line with an existing at-grade crossing at California City Boulevard. With the existing residential and commercial development, roadways, and the rail line, Planning Sub-area 2 provides opportunities for residential, highway-serving commercial, and light industrial land uses.

- **Planning Sub-area 3:** Planning Sub-area 3 contains the Hyundai Proving Grounds as the primary existing land use. Most of this area was incorporated into the City's Jurisdictional Boundaries and Coterminous Sphere of Influence during the 2002 Annexation (Annexation #5).

- **Planning Sub-area 4:** Planning Sub-area 4 contains Tract 2162, Tract 2192 and Tract 2237, known as Rancho Estates. The majority of residential lots in these tracts are a minimum of 2 acres. The keeping of livestock is permitted. The rate of livestock that may be kept, is one per every one-half acre and incidental to the main use. All other tracts in the City where livestock may be kept is at a rate of one livestock per every one-fourth acre and incidental to the main use. **Farm Animal Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2407**. There is limited infrastructure in Planning Sub-area 4 due to terrain differential with the existing utility infrastructure systems.

- **Planning Sub-area 5:** Planning Sub-area 5 is located immediately to the east of Planning Sub-area 1 and the central core area of the City. Access to this area is provided by Twenty Mule Team Parkway which has existing utilities consisting of sewer, water, and electrical power. In addition, the Southern California Gas Company is in the process of extending natural gas lines from the central core area of the City. Access to this area is provided by Twenty Mule Team Parkway which has existing utilities consisting of sewer, water, and electrical power. In addition, the Southern California Gas Company is in the process of extending natural gas lines from the central core area to the prison which is located to the south of Twenty Mule Team Parkway in the eastern portion of Planning Sub-area 5. This will allow for future development in this area to connect to natural gas service instead of the continued reliance on individual propane tanks. Planning Sub-area 5 is currently experiencing some development, consisting of residential subdivisions north of Twenty Mule Team Parkway.

- **Planning Sub-area 6:** Planning Sub-area 6 is located immediately to the north of Planning Sub-area 1 and the central core of the City. Access to this area is provided by Randsburg-Mojave Road which extends to the northeast until it connects with SR-395. There is limited existing development, consisting of residential subdivisions and Borax Bill Park. Borax Bill is a day park with restrooms and shower facilities, parking and picnic tables. There is no RV dump station at this location.

- **Planning Sub-area 7:** Planning Sub-area 7 is in the northern portion of the area generally referred to as the northeastern portion of the community. This area includes the Silver Saddle Ranch master-planned community and some off highway vehicle (OHV) recreation areas. There is limited infrastructure in this area. However, there are Subdivision Deferred Improvement (SDI) Tracts identified in **Figure 2-1, Location of SDI Tracts**, which have water service and some roadways improved to the minimum City standards, with some roads still dirt. Currently, the SDI tracts do not have access to sewer system.

- **Planning Sub-area 8:** Planning Sub-area 8 is in the southern portion of the area generally referred to as the northeastern portion of the City. There is limited infrastructure in this area. However, there are SDI Tracts as identified in **Figure 2-1, Location of SDI Tracts**, which have water service and some roadways improved to the minimum City standards, with some roads still dirt. Currently, the SDI Tracts do not have access to a sewer system.

- **Planning Sub-area 9:** Planning Sub-area 9 is located in the northeastern most portion of the City. This area is currently undeveloped and has no infrastructure, so development potential is limited.

- **Overlay Zones: Unless otherwise noted, Planning Sub-areas 1-9.**

    - **Airport Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2403**.

    - **Manufactured Home Development Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2404**.

    - **Planned Unit Development (PUD) Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2405.**

    - **Flood Hazard Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2406**

- **Farm Animal Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2407**.

- **Equestrian Overlay Zone, California City Municipal Code (CCMC), Title 9, Chapter 2, Zoning, Section 9-2.2408.**

2.6 OVERVIEW OF THE GENERAL PLAN BASIC PRINCIPLES

This General Plan is governed by basic principles that address development within: the existing central core area of the City; development within future urban areas; development within outlying areas; and development with the Subdivision Deferred Improvement Tracts (SDI). These basic principals are discussed below.

Basic Principles for Development within Existing Central Core Area

This General Plan provides for the following basic principles for development within the existing central core area of the City. The central core area is located in Planning Sub-area 1 as shown in **Figure 1-5, General Plan Planning Area**.

- Preserve existing residential neighborhoods whose identity is characterized by the quality and maintenance of existing construction, stability, and reputation as a "special" place in the community;

- In-fill vacant parcels at densities that are consistent with existing land uses, and utilize sustainable principles;

- Provide for redevelopment and the intensification of area which are physically or economically depressed; and

- Provide linkages, where feasible, to open space areas and recreational opportunities.

Basic Principles for Development within Future Urban Area

This General Plan provides for the following basic principles for development in future urban areas outside of the Central Core Area (Planning Sub-area 1) of the General Plan planning area. The future urban areas consist of Planning Sub-areas as shown in **Figure 1-5, General Plan Planning Area**.

- Develop land uses that are compatible with the existing land uses in the existing central core area (Planning Sub-area 1);

- Develop land uses that result in sustainable development with residential areas in proximity to employment opportunities and supporting commercial uses;

- Develop in-fill areas that are nearer to existing development, public facilities, and public services;

- Implement phased development in coordination with the provision of adequate infrastructure, public facilities, and public services;

- Provide for a circulation system that has adequate vehicle capacity, accommodates alternative forms of transportation, and provides linkages to the regional transportation system.

Basic Principles for Development within Subdivision Deferred Improvement (SDI) Tracts

This General Plan provides for the following basic principles for development within the Subdivision Deferred Improvement (SDI) Tracts within the General Plan planning area. The SDI Tracts, which are not all contiguous, are located in Planning Sub-areas 1, 6, 7, and 8 as shown in **Figure 2-1, Locations of SDI Tracts**. The SDI Tracts in Planning Sub-areas 6 and 7 have water service, roads that are either paved , desert mix, or dirt, and no connection to the City's sewer system.

- Develop land uses that are consistent with the General Plan land use designations defined on **Figure 2-2, Existing General Plan Land Use Plan**;
- Develop infrastructure, utilizing SDI Fund set-aside to fund improvements to the extent feasible;
- Develop utilities and roadways consistent with the current City standards;
- Implement phased development in coordination with the provision of adequate infrastructure, public facilities, and public services;
- Provide linkage to open space areas and recreational opportunities;
- Provide buffers between urban development and natural resources and open space; and alternative forms of transportation, and provides linkages to the regional transportation system.

2.7 LAND USE PLAN

The General Plan designates the general distribution and location of land within the planning area to be used for residential, commercial, industrial, Government (Public Facilities), open space and conservation, and land use categories. These land use categories in combination with the Land Use Plan guides future development and growth that addresses the health, safety, and welfare of the community. The Land Use Plan is provided as **Figure 2-2, Existing General Plan Land Use Plan**. Each land use category is described below with the corresponding intended use and intensity and density for each land use designation summarized **Table 2-2**. In addition, **Table 2-3** provides a non-regulatory statistical summary of the land use categories for use in establishing service level demands and infrastructure needs for each land use designation.

The following land use designations are described below: Residential, Commercial, Industrial, Government (Public Facilities), Open Space/Conservation, and Community Medical Center.

Estate Density

Shall mean land designated for single family detached residential development at a density not to exceed one dwelling unity for each two acres of land. The area known as Wonder Acres has land designated for residential use not to exceed one dwelling unit for each five acres of land.

Rural Density Residential

Shall mean land designated for single family detached residential development at a density not to exceed one dwelling unit for each one acre of land.

Low Density Residential

Shall mean land designated for single family detached residential development at a density not to exceed two dwelling units for each acre of land.

Medium Low Density Residential

Shall mean land designated for single family residential development not to exceed four dwelling units per acre for sewered properties and two dwelling units per acre for unsewered properties.

Medium Density Residential

Shall mean land designated for single family residential development attached or detached housing not to exceed six dwelling units per acre of land.

High Density Residential

Shall mean land designated for single and multiple family residential development attached and/or detached housing from six to forty dwelling units per acre of land.

Neighborhood Commercial

Shall mean land designated for development of commercial retail uses serving a neighborhood area. Limited general office use may also be established in the designation. Such commercial business activities may be a single commercial use or small scale neighborhood shopping center. (Establish C-1 zoning consistency).

Community Commercial

Shall mean land designated for a wide range of retail business and compatible commercial services designed to serve the entire community. These commercial uses would be typically concentrated in a unified retail center or master community plan. (Establish C-2 zoning for consistency.)

Commercial Office

Shall mean land designated for the primary use of administrative, business, medical, professional, and general offices. Limited commercial uses related to office development may also be established. (Establish C-3 zoning consistency.)

Service Commercial

Shall mean land designated for the primary purpose of high intensity commercial uses related to commercial services and repairing establishments including wholesale/retail related activities. (C-4 zoning shall be established for consistency.)

Light Industrial and Research

Shall mean land designated for restricted, non-intensive manufacturing, processing, and storage activities which do not have the potential for detrimental impacts on surrounding properties. This land use designation also includes uses such as research/office park developments in conjunction with light industrial use where such locations are compatible with adjacent residential lands. (Establish M-1 zoning consistency) .

Heavy Industrial

Shall mean land designated for full range of intensive manufacturing, processing and storage activities. (Establish M-2 zoning for consistency.)

Controlled Development

Shall mean land designated for the express purpose of specific land development planning that is consistent with the goals, objectives and policies of the California City General Plan. Strong consideration shall be given to the development of park/open space and public/quasi-public uses which benefit the entire community on those parcels of land which were originally created for that purpose.

The Controlled Development category also provides for industrial uses, commercial uses recreational uses, large lot subdivisions, open space uses, agricultural and horticultural uses. Very low density residential uses (one dwelling unit per twenty acres) may be developed on an interim basis. Further subdivisions of land (of parcels less than twenty acres in size)and/or the development of uses other than those specified by the General Plan would require detailed plans to be provided by the owner and/or developer of such lands. In the case of residential subdivisions, the General Plan allows a maximum density up to six dwelling units per acre with approval of a detailed plan. Development proposals may be considered and adopted at any time by the City provided that the above detailed plans serve to address the social, environmental and economic concerns of the community which are consistent with the goals, objectives and policies of the General Plan.

All land area within the California City Sphere of Influence Boundary and outside the City limits boundary shall be designated Controlled Development.

Government (Public Facilities) Controlled Development

Shall mean land designated for the location or governmental and quasi-governmental facilities and services which are necessary to the general welfare of the community. Typical uses include City Hall, fire stations, police stations, wastewater treatment plant, parks and schools.

Conservation Land

Shall mean land designated for the protection, preservation and conservation of unique areas within the California City environs.

Community Medical Center

Shall mean land designated for major medical treatment facilities, medical care residences, medical offices and other related medical service establishments which are necessary for regional or local medical service needs. (CMC zoning shall be established for consistency.)

The following land use designations are based upon the total California City planning area as designated on the General Plan Land Use Plan Map, **Figure 2-2 General Plan Land Use Plan Map.**

TABLE 2-3 CALIFORNIA CITY GENERAL PLAN LAND USE DESIGNATIONS	
GENERAL PLAN LAND USE DESIGNATIONS	**ACRES**
MEDIUM DENSITY (R1) **Single Family Residential** **6 DU/AC Sewered** **2 DU/AC Unsewered**	**9091**
MEDIUM-LOW DENSITY (R2) **Single Family Residential** **4 DU/AC, Sewered** **2 DU/AC, Unsewered**	**544**
LOW DENSITY (R3) **Single Family Residential** **2 DU/AC**	**60**
RURAL DENSITY (RA) **Single Family Residential** **1 DU/AC**	**457**
ESTATE DENSITY (R4, R5) **Single Family Residential** **1 DU/2AC**	**19240**
HIGH DENSITY (RM1, RM2) **Multi-Family**	**3900**
Neighborhood Retail, Service and Office Commercial (C1, C3, C4)	**388**
Community and Regional Commercial (C2, C5)	**360**
Light Industrial (M1)	**10895**
Heavy Industrial (M2)	**322**
Controlled Development & Open Space (O/RA)	**82426**
Government (Public Facilities) (G)	**181**
Conservation Land	**2176**
Community Medical Center (CMC)	**160**
TOTAL	**130200**

2.8 LAND USE ISSUES AND OPPORTUNITIES

1. The provisions of services to urban-type development proposed on property outside the City's existing corporate boundaries will require the City to expand the existing coterminous sphere of influence. Expansion of the City's existing coterminous sphere of influence, **Figure 1-4, Existing Jurisdictional Boundaries and Coterminous Sphere of Influence,** requires approval by the Local Agency Formation Commission (LAFCO) and is a prerequisite to annexation of land into the City's corporate boundaries. When future annexation is proposed, it is anticipated that LAFCO will require detachment of a comparable amount of acreage to that proposed for annexation depending on the appropriateness of the detachment related to the provision of services.

2. Within the City's existing corporate boundaries, there are approved tract maps at urban densities which currently have no urban services and , therefore, are not developed. The detachment of these tracts may not be appropriate since the County would be unable to economically provide urban services to an isolated parcel or tract.

3. The planning process for areas within the coterminous sphere of influence or potential changes to the sphere of influence must consider existing adopted planning documents and the provisions within those documents (i.e., the Kern County General Plan, the North Edwards Specific Plan and the Mojave Specific Plan).

4. The size of the City requires separate planning sub-areas in order to address the development requirements which are unique to each sub-area.

5. The General Plan defines the location of areas within each planning sub-area which are not contiguous to the central core area, but which are most suitable for development.

6. Specific development requirements are necessary to provide an interface between the existing central core area, lands immediately adjacent to the central core area, and large areas of undeveloped land. Ownership and parcel size should dictate the type of planned land uses, and under what circumstances, the extension of infrastructure and services should occur (i.e. large parcels with single owner vs. small parcels with numerous owners). Ability to fund required infrastructure will be a primary consideration for approval of development outside the central core area.

7. The economic potential of land uses at the intersection of State Route 14 and California City Boulevard and the intersection of Interstate 58 and Airway Boulevard should be considered in designating land uses (either within the existing City boundaries, or within areas considered for the City's planned sphere of influence). The General Plan should encourage economically beneficial development at these locations.

8. Excess or underutilized lands owned by government agencies within the City's corporate boundaries may hamper orderly growth and development.

9. The correctional facility located in the Planning Sub-area 5 could serve as an anchor for additional development between that facility and the existing central core area within Planning Sub-area 1.

10. A variety of land uses should be identified along the entire length of California City Boulevard in order to preclude one contiguous commercial strip through the City. A variety of land uses would expand the ability to combine appropriate land uses, enhance the visual character of the community, and provide for a more walkable community. Transit, point, focus are hubs along a route that identifies a mode of transportation, a point of destination, and a focus on surrounding activities.

11. Land use designations may require modification or additional development requirements in order to accommodate issues associated with military activities, the future expansion of the California City Municipal Airport, and development of the areas surrounding the airport.

12. The Airport Land Use Compatibility Plans for the California City Municipal Airport, Edwards Air Force Base is considered and incorporated into the General Plan, as appropriate. Compatibility is necessary to ensure economic viability and job retention/expansion in the community.

13. The findings of the Joint Land Use Study prepared by the State Office of Planning and Research is considered, as is the local 1994 Edwards Air Force Base Joint Land Use Study and are incorporated in the General Plan, as appropriate, to maintain the viability of military operations at Edwards Air Force Base.

14. The existing rail line location and proximity to the California City Municipal Airport should be capitalized upon and expanded to include a rail head spur to the California City Municipal Airport to enhance growth of industrial activities at the Airport.

15. Additional development criterial to ensure compatibility may be necessary for lands located adjacent to areas designated for habitat protection, or for lands designated for active recreation (such as off-highway or motocross parks).

16. In-fill development in Planning Sub-area 1 around the City's central core area should be encouraged to maximize the availability of infrastructure, public facilities, and public services.

2.9 GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for land uses in the General Plan planning area.

Goals

- To facilitate and implement growth and development coordinated with the provision of infrastructure, public facilities, and public services.

- Encourage a concentrated urban land use pattern which provides for the economically efficient provision of urban services to the central core area and the adjacent areas within Planning Sub-area 1.

- Implement growth management decisions which achieve the following benefits:

  - Maximize utilization of land in already developed areas of the City.

  - Provide a more cohesive City with perceivable community or neighborhood variety and identity.

  - Increase water and energy conservation.

  - Reduce air and water pollution.

  - Maximize use of existing service systems and facilities.

  - Actively pursue federal, state and local grants to extend service systems and facilities.

- Implement development in the urban areas within the General Plan planning area which captures the economic demands generated by the marketplace and provides a variety of housing types supporting commercial amenities, and employment opportunities.

- Encourage commercial, industrial and Government (public facilities) entities that will create sustainable employment in jobs paying higher wages in compliance with the environmental standards for the City and the region.

- Accommodate new development which is compatible with and complements existing land uses within the General Plan planning area.

- Accommodate new development which is sensitive to and capitalizes on the General Plan planning area's natural environmental setting.

- Accommodate new development that is compatible with natural and manmade hazards that affect the General Plan planning area.

Policies

Residential (Non SDI Tracts)

- Allow for the development of a variety of residential types and densities.

- Ensure that residential uses are located in proximity to commercial services, employment centers, public services, transportation routes, and recreational and cultural resources.

- Encourage maintenance of the residential character of specially identified neighborhoods through such mechanisms as architectural design, use of xeriscaping, drought-tolerant landscaping, fencing, and property setbacks.

- Provide for streetscape improvements, use of xerisaping, drought-tolerant landscaping, fencing, and signage which uniquely identify major residential neighborhoods.

- Retain existing residential neighborhoods and allow for the in-fill of residential land uses which are compatible with the density, scale, and character of the surrounding neighborhood.

- Require that new multi-family residential projects incorporate design features such as screen walls, building height, infrastructure, and setbacks which foster compatibility with the adjacent existing and future single family residential uses.

- Require that new single family and multi-family residential projects accommodate the recreational needs of there residents through the provision of parks and recreational amenities.

Residential (SDI Tracts)

- Restrict future subdivision of SDI tracts.

- Require that infrastructure, including utilities and streets, be constructed consistent with current City standards.

- Additional policies related to SDI Tracts as defined in the City's Municipal Code.

Commercial Development

- Allow for the development of a variety of commercial centers which serve different users and levels of intensity, including neighborhood centers serving local residential neighborhoods, community centers which serve groups of neighborhoods, regional centers which serve the planning areas and surrounding areas and same highway commercial centers which serve visitors along regional transportation routes.

- Ensure that adequate lands are set aside for neighborhood-serving commercial uses adjacent to designated residential areas.

- Encourage the clustering of commercial development in compact areas, rather than extended along streets and highways.

- Provide for in-fill of commercial land uses to be compatible with the scale and character of existing commercial development and transportation facilities.

- Encourage new commercial uses adjacent to existing commercial uses to be of compatible height, setback, color, and materials.

- Require that commercial development provide design features such as screen walls, use of xeriscaping, drought-tolerant landscaping, and height, setback and lighting restrictions between the boundaries of adjacent residential land use designations so as to reduce impacts on residences due to aesthetics, light and glare, noise, traffic, parking and differences in scale.

- Require that automobile and truck access to commercial development be landscaped and encourage use of xeriscaping, drought-tolerant plantings.

- Minimize impacts of commercial-related traffic, noise, air quality, and visual aesthetics on adjacent residential parcels through the use of site plan review and improvement standards.

- Require new large retail commercial development projects (projects greater than 50,000 square feet) to evaluate urban decay impacts on existing commercial uses as set forth in the implementation measures.

- Enhance existing and establish new commercial centers as the principal focus of development and activity in the nine planning sub-areas, around which other land uses are grouped. Centers should be linked by adequate transportation facilities and resource amenities. Centers may be differentiated by functional activity, density/intensity, and physical character.

- Allow for the development of a low density “village-like” center (or traditional downtown area) in the central core area surrounding regional transit points as a focal point of activity which includes retail commercial, professional office, moderate density residential, and filtering outwards to lower densities.

- Enhance pedestrian activity in principal activity centers within the planning sub-areas.

Industrial Development

- Allow for a variety of industrial uses, including heavy manufacturing, light manufacturing, warehousing, and distribution, transportation-related, and research and development uses.

- Protect existing industrial designations from incompatible land use intrusions.

- Encourage new industrial development to locate adjacent to existing industrial uses and along major transportation corridors, rail corridors, and near the airport.

- Require that industrial uses provide design features, such as screen walls, landscaping, and height, setback and lighting restrictions between the boundaries of adjacent residential land use designations so as to reduce impacts on residences due to aesthetics, light and glare, noise, and vibration.

- Encourage upgrading of visual character of heavy manufacturing industrial areas through the use of xeriscaping, drought-tolerant landscaping or screening of visually unattractive buildings and storage areas.

- Require that frontages along all new industrial development be landscaped and encourage use of xeriscaping, drought-tolerant plantings.

- Minimize impacts of industrial-related traffic, noise, air quality, and visual aesthetics on adjacent residential parcels through the use of site plan review and improvement standards.

- Encourage the development of industrial activities within industrially zoned areas located within the central core area, which requires only minimal infrastructure improvements or extensions.

- Encourage the development of industrial and commercial activities that make use of multi-modal transportation facilities through cooperation in the development and use of the existing Union Pacific Branch Line Spur.

- Actively promote the area for small scale, high tech engineering and development firms on the basis of its proximity to other major high tech activities and the availability or relatively inexpensive land for industrial operation and relatively inexpensive land for industrial operation and relatively inexpensive housing.

- Actively promote and attract industrial development, which can make use of the areas climate, which is conducive to the storage of equipment in outdoor areas and requires minimal public services.

- Encourage the development of limited highway commercial activities in the vicinity of the State Route 14 and California City Boulevard west, and in areas that do not result in significant costs to the City for the provision of major infrastructure improvements.

Government (Public Facilities)

- Coordinate with the appropriate agencies and proponents of any phased large-scale development so that adequate land and facilities are set aside for schools, parks, police/fire, libraries, cultural facilities, recreational facilities, and other service uses required to serve the community.

- Encourage the development of institutions or higher education and adjacent areas for education, cultural, and supporting residential, commercial, and industrial land uses.

- Locate new institutional development where infrastructure is available or can be logically expanded to serve a new facility.

Community Medical Center

- Encourage the development of a Community Medical Center for major medical treatment facilities, medical care residences and nursing school.

- Encourage the development of respiratory related medical activities in the area and actively promote the areas climate to people who have respiratory problems.

- Actively seek out potential educational facilities that can make use of the desert environment, natural resources, and existing industries and activities (such as Edwards Air Force Base).

Open Space and Recreation

- Promote and facilitate the development of recreationally related activities in the northeastern portion of the community which take advantage of the proximity to Bureau of Land Management (BLM) and State of California recreational area and which do not require the extension of major reconstruction of municipal infrastructure in order to allow for the development.

- Work closely with the BLM in developing regulations and rules for their land holdings within the planning area.

- Promote both scenic beauty of the area and the numerous recreational vehicle activity opportunities in the area.

- Work closely with the various off and on road recreational vehicle groups located in California to promote this area, while minimizing damage to the natural resources or impacting other residents within the General Plan planning area.

Design/Image Policies

- Coordinate a consistent design vocabulary for all signage, including fixture type, lettering, colors, symbols, and logos.

- Provide signage which is adequately spaced and clearly visible during the day and night to control vehicular traffic, bicycles, and pedestrians and provide for emergency access.

- Encourage the use of creative and distinctive signage which establishes a distinctive image for planning sub-areas and identifies principal entries to the City, unique districts, neighborhoods, and locations.

- Permit the limited use of well-designed banners for civic events, holidays, and other special occasions.

- Prohibit the use of private, permanent signs in residential neighborhoods, except those for identification. Temporary signs will be permitted for sales and rental of property.

- Develop a distinctive identity for California City which differentiates it as a unique place in the region.

- Allow variation in the use of street trees and shrubs, while encouraging xeriscaping, drought-tolerant landscaping, lighting, and other details to give streets better visual continuity and increase shade canopy.

- Provide for the installation of street trees and other xeriscaping, drought-tolerant landscaping which enhance pedestrian activity and convey a distinctive and high quality visual image.

- Encourage landscaping the banks of flood control channels, drainages, roadways, and other public improvements with vegetation to provide a strong visual element within each of the nine planning sub-areas.

- Promote the establishment of attractive entrances into communities, major districts, and transportation corridors within the nine planning sub-areas.

- Encourage the establishments of design programs which may include signage, street furniture, use of xeriscaping, drought-tolerant landscaping, lighting, pavement treatments, public art, and architectural design.

- Ensure that light and glare from discretionary new development projects and minimized.

- The City shall promote Dark Sky principles in future residential, commercial, and industrial development.

  - All exterior lighting shall be designed to point downward in a manner that will reduce light and glare pollution onto neighboring properties and roadways.

  - All security lighting shall be connected to a timer and/or motion detector.

  - Exterior lighting shall be connected to a timer and/or motion detector.

  - Exterior lighting shall use one of the following types of light: Metal Halide, High Pressure Sodium, Fluorescent, or Low Pressure Sodium.

  - Exterior lighting shall be fully shielded. "Fully Shielded" denotes lighting fixtures which are shielded, focused, or constructed so that light rays do not project horizontally or vertically.

Overall Policies

- The developer shall be responsible for all on-site costs incurred as a result of a proposed project, in addition to a proportional share of off-site costs incurred in service extension or improvements. The availability of public or private services or resources shall be evaluated during discretionary project consideration. Availability may affect project approval or result in a reduction in size, density, or intensity.

- Provide adequate land area for the expansion of existing uses consistent with the policies of the General Plan.

- Provide for a mix of land uses which meets the diverse needs of residents; offers a variety of employment opportunities; capitalizes, enhances, and expands upon existing physical and economic assets; and allows for the capture of regional growth.

- Encourage new projects which are in-fill or expansion of existing urban development.

- Provide for an orderly outward expansion of new "urban" development (any commercial, industrial, and residential development having a density greater than one unit per acre) so that it maintains continuity of existing development, allows for the incremental expansion of infrastructure and public services, minimizes impact on natural environmental resources, and provides a high quality environment for living and business.

- Assure that General Plan Amendment proposals for the conversion of land urban development occurs in an orderly and logical manner giving full consideration to the effect on existing natural areas and the availability of urban services.

- Allow for flexibility in the specific siting of multi-family residential and commercial uses form the locations generally depicted on the Land Use Map in areas which are undeveloped, used for resource production, or are developed at very low densities through Planned Unit Development, Planned Commercial Developments and Specific Plans, provided that:

  - The overall density and distribution of land uses is maintained;

  - Multi-family and commercial uses are located in proximity to principal roadways, regional transit points, employment nodes, commercial services, and recreational uses.

  - Uses are sited to take advantage of pedestrian green belts, recreational amenities, and natural environmental resources;

  - The availability of infrastructure to the site or adjacent service areas will not adversely impact existing facilities, or result in additional costs to existing residents.

- Preserve existing significant sound residential neighborhoods, commercial districts, and industrial areas.

- Encourage the revitalization of deteriorated land uses and buildings.

- Encourage in-fill of vacant parcels.

- Encourage mixed-use development in Planning Sub-area 1.

- Encourage new recycling of dilapidated and economically-depressed residential neighborhoods, commercial districts, and industrial areas, where preservation is not an achievable or desirable objective.

- Encourage new uses and buildings in pedestrian sensitive areas to incorporate design characteristics which include:

  - Walls which are aesthetically treated by the use of color, materials, offset planes, columns, and/or other architectural details, to provide visual interest to pedestrians;

  - Landscaping, including trees, flowering shrubs, and ground cover, using xeriscaping, drought-tolerant plantings,

  - Pedestrian amenities, such as benches, trash receptacles, and signage oriented to the pedestrian;

- Design amenities related to the street level such as awnings, arcades, and paseos;
- Visual access to the interior of buildings;
- Uses other than parking and traffic circulation between the sidewalk and building.

- Encourage the development of a range of child care facilities including small and large family day care homes and public and private care centers.

- Encourage employers and developers of employee-intensive commercial and industrial projects to provide facilities on-site or near-by for the child care needs of employees.

- In the areas of the City outside the central core, all developments must provide complete public infrastructure improvements including community water distribution and sewage collection and treatment systems. These developments may be permitted a density increase up to 20 percent if the developments include an affordable homes component. All land division activities shall be consistent with the provision.

- When planning for new development,, coordinate with utility companies to designate future or potential electrical transmission line corridors or gas lines as needed to serve the community.

- Prohibit the establishment of highly concentrated keeping of animals such as stockyards, feedlots, dairies, hog farms, turkey ranches, etc. within the City.

- Develop a plan to ensure that all parking lots are 60 percent shaded at maturity to help alleviate “heat island effect” and use drought-tolerant shade trees.

- Encourage the use of reflective roofing material and other measures that reduce the “heat island effect.”

- To provide for a balanced community, reflecting economic diversity and a pleasant living environment.

- To encourage quality design of land use developments in both public and private facilities.

- To ensure that all portions of the community are adequately supported by infrastructure and services.

- To encourage development patterns and phasing which provides for the logical, sequential and cost-effective extension of infrastructure and services.

- To promote and facilitate economic growth and diversification.

- To encourage the development of land uses which will improve the availability of local residents to work, shop and obtain services in California City.

- To promote development of land uses which would enhance California City’s potential appeal as a “destination” recreational community.

- To ensure that the City’s environmental setting, including clean air, open character, lack of traffic congestion, and comparatively low intensity of land uses, is preserved as development of the community progresses.

- To ensure that land use policy and development in the community are consistent and fully integrated with local goals and policies governing transportation and circulation, housing, public health and safety, noise, conservation and open space.

- The central core area should be given a high priority for immediate urban development.

- Maintenance, redevelopment and improvement of existing systems should take priority over new development and expansion and extension of facilities to areas outside the central core.

- Maintenance, redevelopment and improvement of existing systems should take priority over new development and expansions and extension of facilities to areas outside the central core.

- Development innovations and creativity should be encouraged as a means to orderly growth and expansion.

- The priority phasing plan should be utilized as a means to allocate municipal resources and encourage new physical development.

- In extending higher density uses into development areas, the following criteria should be considered:

  - Contiguity with existing development (in-fill rather than leapfrog development).

  - Environmental suitability for urban or rural development.

  - Cost/benefit ratio of alternative provisions.

  - Open space and Village identify.

- Develop identifiable City edges, entry points, and landmarks which characterize the City.,

- Ensure energy efficiency and low maintenance needs through the land use planning, building design, and landscape design of future development in the City.

- Retain and attract manufacturing and industrial uses within designated areas.

- Retain and attract businesses that meet the shopping and service needs of the community as well as create quality employment opportunities.

Implementation Measures

The City shall require that new development proposals demonstrate the availability to implement the goals and policies of the Land Use Element during the environmental review and discretionary approval process.

L-1. Amending Corporate Boundaries and Sphere of Influence Boundaries

Process through the Local Agency Formation Commission (LAFCO) changes to the City's corporate limits and sphere of influence boundaries. The changes will require the annexation and detachment of land with the intent on achieving a balance and, therefore, no significant net gain or loss of acreage within the City's corporate limits and sphere of influence. Develops may file application with City's Planning Department.

L-2. Amending the Zoning Code Regulations

The principal method by which cities and counties implement land use policy is through the zoning Code. The authority to zone is inherent in the police power delegated to cities by the Code. The authority to zone is inherent in the police power delegated to cities by the California Constitution and is authorized by the Government Code. The Zoning Code consists of two basic elements: (1) a map which delineates the boundaries of districts in which like uses developed at like standards are permitted; and (2) text which explains the purpose of the zoning district, lists permitted uses and those permitted under special conditions, and standards for development (e.g., minimum lot size, density, height, setbacks, lot coverage, parking requirements , and so on). By law (G.C. Sec. 65860), the Zoning Code must be consistent with the general plan.

The City will routinely evaluate its Zoning Code and prepare a revised a revised Zoning Code to reflect the land use goals, policies, and standards.

Developers may file application with City's Planning Department.

L-3. Subdivision Regulations

Subdivision regulation is required by state law to control the manner in which land is divided. Subdivision map approvals must be consistent with the General Plan. Local subdivision regulations should be reviewed and amended as appropriate to reflect the land use goals, policies, and standards.

Developers may file application with City's Planning Department.

L-4. Specific Plan Regulations

State law (G.C. Sec. 65450) authorizes cities and counties to prepare Specific Plans for systematic implementation of the General Plan for all or part of the area covered by the General Plan. Specific Plans are intended to provide more definite specifications of the type of uses to be permitted, development standards (setbacks, heights, landscape, architecture, etc.) and circulation and infrastructure improvements.

For land that does not have a Specific Plan Area (SPA) General Plan land use designation, an amendment to the General Plan must be processed concurrent with the Specific Plan documentation process. Consistent with Section 65358 of the California Government Code, the City will be prohibited from making more than four amendments to the General Plan during any calendar year. Therefore, projects that require approval of an amendment to the General Plan must follow the same timing requirements.

Developers may file application with City's Planning Department.

L-5. Development Agreement Regulations

Development agreements are authorized by state law to enable a city or county to enter into a binding contract with a developer which assures the jurisdiction as to the type, character, and quality of development and additional "benefits" which may be contributed in excess of general development requirements associated with all development, and assures the developer that the necessary development permits will be issued regardless of changes in regulations over which the city or county has control.

This ensures that a developer of multi-phased project who has based his or her project financing or conditions negotiated with the jurisdiction at a particular time would not be adversely affected by subsequent more restrictive regulations. This, in turn, enables the jurisdiction to require additional contributions and benefits from the developer. This is a technique which may be used in lieu of a specific plan and other large development projects not requiring an increase in buildable area or height.

L-6. Redevelopment Regulations

California, through the Community Redevelopment Law (Health and Safety Code Sections 33000 et. Seq.) Authorizes cities and counties to under take redevelopment projects to revitalize blighted areas. An adopted plan provides additional tools to effectuate productive change. These include the use of tax increments (i.e., amount of additional tax revenue above a "frozen" base generated by increased property valuation resulting form new development in the project area), property acquisition, consolidation of small parcels, joint public-private partnerships, clearance of land and resale to developers, and relocation of tenants. The City has an adopted Redevelopment Plan, and Project Area and Amendments incorporating Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project. The adopted Redevelopment Plan and Project Area and Amendment encompasses the City's entire jurisdictional boundaries.

L-7. Development Review

In the City, development and building improvements requiring a building permit (except for single-family residences, duplexes, tri-plexes, are subject to review according to their adherence with City standards, regulations and policy for issuance of a Development Permit. Projects, including Planned Unit Developments and Planned Commercial Developments, are subject to review by the Planning Commission in formal public hearings. All other projects are subject to review and approval by the Planning Director, or his designee. This process provides a forum by which development projects can be assessed for compliance with the goals, policies, and standards of this plan.

Projects considered ministerial are not reviewed for consistency with the General Plan, where as discretionary projects must be consistent with the General Plan.

L-8. Environmental Review

Local guidelines for project processing shall reflect California Environmental Quality Act (CEQA) Guidelines which state that the environmental effects of a project must be taken into account as part of project consideration.

L-9. Design Review

The goals, policies, and standards contained in the Land Use Element encourage architectural and site compatibility in designated areas. The City's procedures will provide the vehicle by which the concept is implemented.

L-10. Code Enforcement

The City shall maintain an on-going program of code enforcement to help maintain neighborhoods and enhance economic vitality.

L-11. Economic Development

A coordinated economic development program would contribute to successful implementation of land use policies. This will include incentives for the development of low and moderate income housing and the attraction of new businesses and industry to the City. It may also include low interest loans and grants for commercial and residential renovation and rehabilitation. Investigate programs which provide incentives to create in-fill and redevelopment projects.

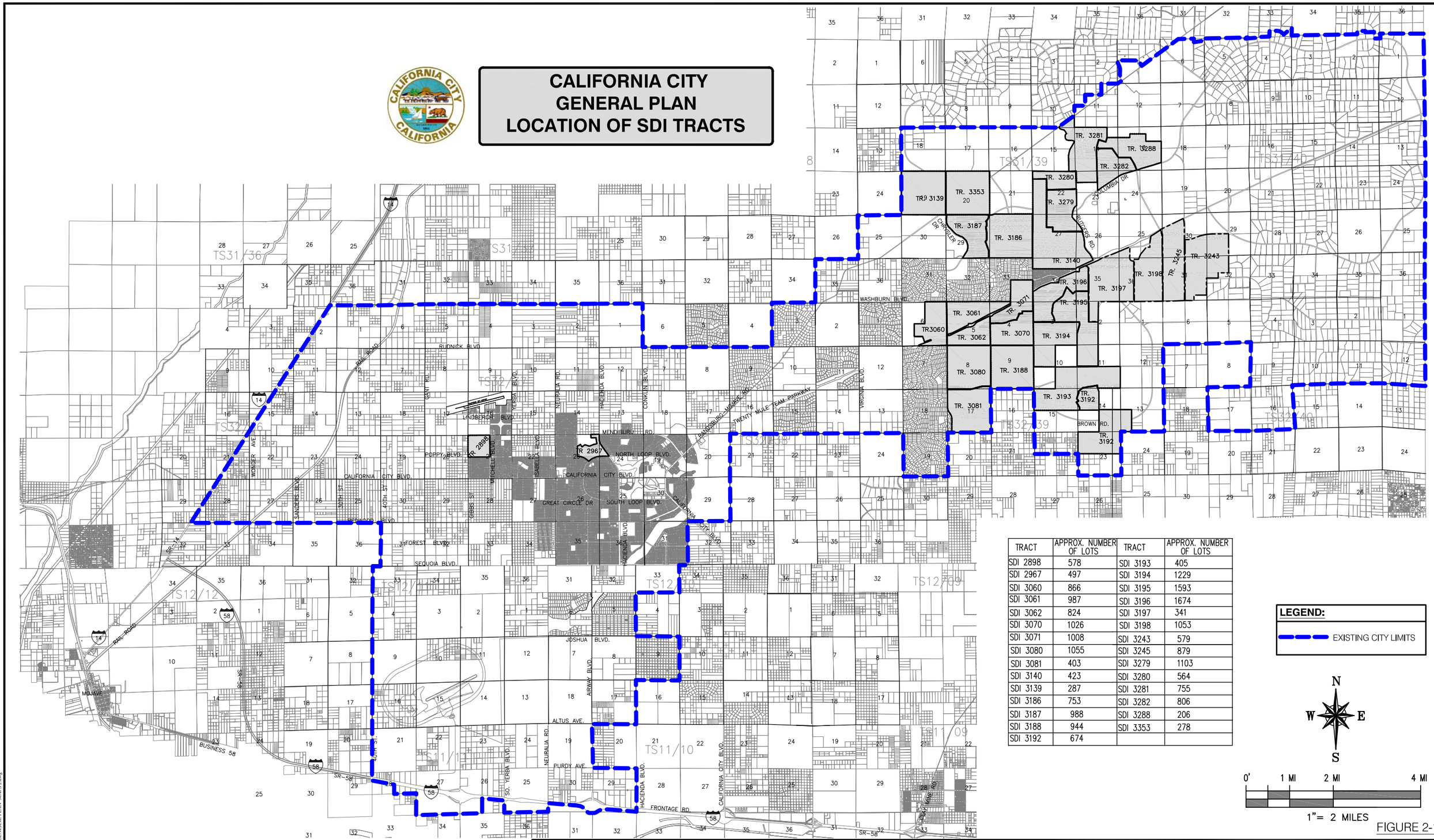
L-12. Capital Improvement Program

The Capital Improvements Program is required to be consistence with the general plan and applicable specific plans. Appropriate plan proposals are programmed into City's Capital Improvement Programs. Revenue sources may include general fund monies, general obligations bonds, benefit assessment districts, subventions and tax increment generated by redevelopment.

Review of discretionary development projects proposing urban densities and land use intensities shall consider the ability of the City or other affected agencies to provide logical, economic extensions of urban services to such development without additional costs to existing residents. Proposed new urban development should, at a minimum , be revenue neutral. Fiscal analysis of proposed new development will be required in conjunction with development which requires an amendment to the General Plan.

The City of California City Capital Improvement Plan is a seven-year strategy for establishing capital projects. The Capital Improvement Plan serves as a formal mechanism for decision making, based on long range objectives. The Capital Improvement Plan also establishes procedures for public input as well as reporting on accomplishments.

CALIFORNIA CITY GENERAL PLAN LOCATION OF SDI TRACTS



TRACT	APPROX. NUMBER OF LOTS	TRACT	APPROX. NUMBER OF LOTS
SDI 2898	578	SDI 3193	405
SDI 2967	497	SDI 3194	1229
SDI 3060	866	SDI 3195	1593
SDI 3061	987	SDI 3196	1674
SDI 3062	824	SDI 3197	341
SDI 3070	1026	SDI 3198	1053
SDI 3071	1008	SDI 3243	579
SDI 3080	1055	SDI 3245	879
SDI 3081	403	SDI 3279	1103
SDI 3140	423	SDI 3280	564
SDI 3139	287	SDI 3281	755
SDI 3186	753	SDI 3282	806
SDI 3187	988	SDI 3288	206
SDI 3188	944	SDI 3353	278
SDI 3192	674		

LEGEND:

EXISTING CITY LIMITS

N W E S

0' 1 MI 2 MI 4 MI

1"= 2 MILES

FIGURE 2-1

The information shown on this map was collected from several sources. Therefore, the accuracy of this information is not warranted in any way. The City of California City & Helt Engineering, Inc. assume no liability for any claims arising from the use of this map.

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JOB NO.	DATE: 01/21/09
04427	SCALE: AS-NOTED
	DRAWN BY: RP
	CK'D BY: RG
	DATE CK'D: 01/20/09

REVISIONS	CK'D BY	DATE CK'D

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CIVIL ENGINEERING · LAND SURVEYING · BUILDING DESIGN · AERIAL PHOTOGRAPHY

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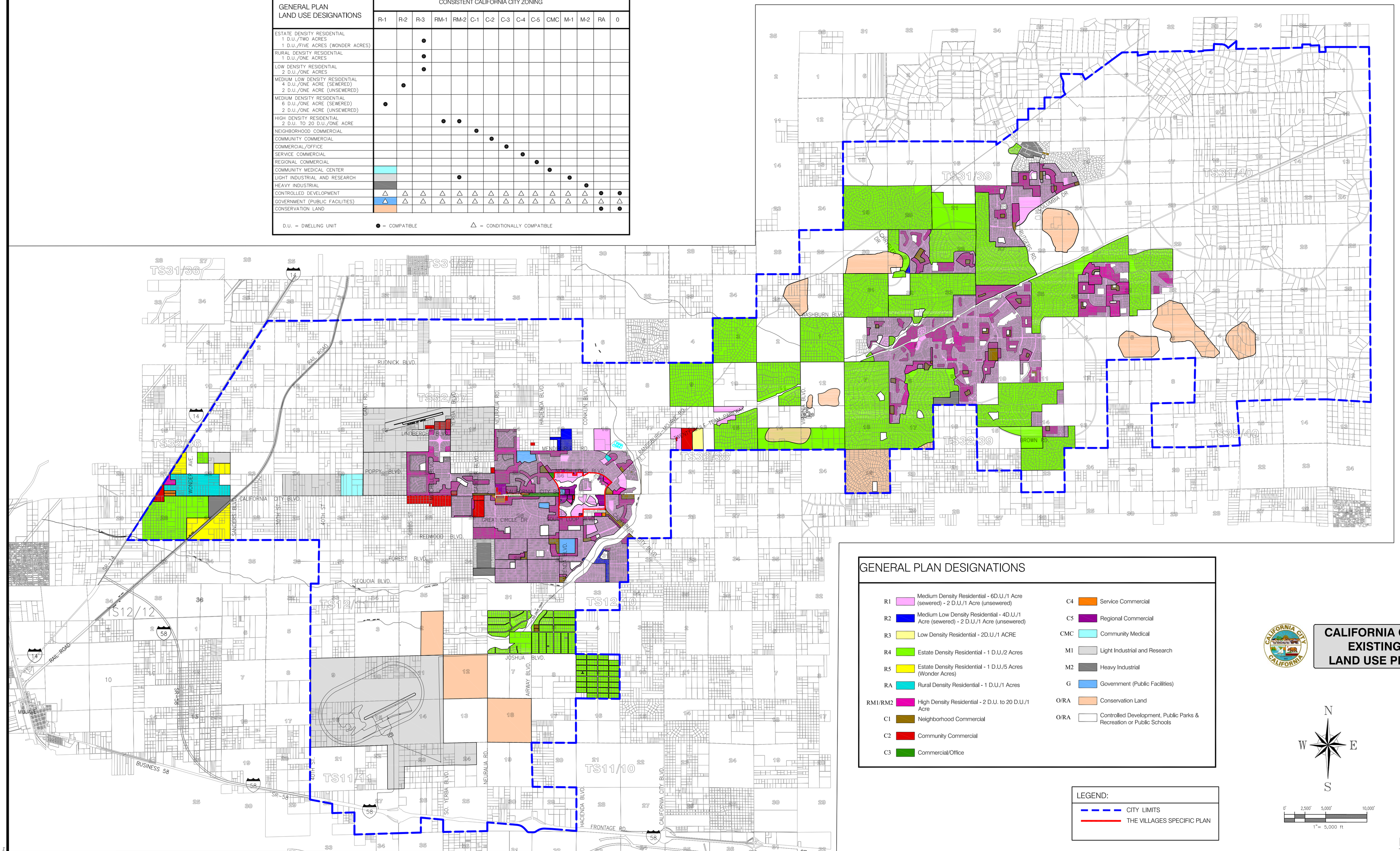
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
LOCATION OF SDI TRACTS

SHEET 1 OF 1 SHEETS

CALIFORNIA CITY GENERAL PLAN 2020

GENERAL PLAN LAND USE DESIGNATIONS	CONSISTENT CALIFORNIA CITY ZONING														
	R-1	R-2	R-3	RM-1	RM-2	C-1	C-2	C-3	C-4	C-5	CMC	M-1	M-2	RA	O
ESTATE DENSITY RESIDENTIAL 1 D.U./TWO ACRES 1 D.U./FIVE ACRES (WONDER ACRES)			●												
RURAL DENSITY RESIDENTIAL 1 D.U./ONE ACRES			●												
LOW DENSITY RESIDENTIAL 2 D.U./ONE ACRES			●												
MEDIUM LOW DENSITY RESIDENTIAL 4 D.U./ONE ACRE (SEWERED) 2 D.U./ONE ACRE (UNSEWERED)		●													
MEDIUM DENSITY RESIDENTIAL 6 D.U./ONE ACRE (SEWERED) 2 D.U./ONE ACRE (UNSEWERED)	●														
HIGH DENSITY RESIDENTIAL 2 D.U. TO 20 D.U./ONE ACRE				●	●										
NEIGHBORHOOD COMMERCIAL						●									
COMMUNITY COMMERCIAL							●								
COMMERCIAL/OFFICE								●							
SERVICE COMMERCIAL									●						
REGIONAL COMMERCIAL										●					
COMMUNITY MEDICAL CENTER											●				
LIGHT INDUSTRIAL AND RESEARCH					●							●			
HEAVY INDUSTRIAL													●		
CONTROLLED DEVELOPMENT	△	△	△	△	△	△	△	△	△	△	△	△	△	●	●
GOVERNMENT (PUBLIC FACILITIES)	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
CONSERVATION LAND														●	●

D.U. = DWELLING UNIT ● = COMPATIBLE △ = CONDITIONALLY COMPATIBLE



GENERAL PLAN DESIGNATIONS

R1	Medium Density Residential - 6D.U./1 Acre (sewered) - 2 D.U./1 Acre (unsewered)	C4	Service Commercial
R2	Medium Low Density Residential - 4D.U./1 Acre (sewered) - 2 D.U./1 Acre (unsewered)	C5	Regional Commercial
R3	Low Density Residential - 2D.U./1 ACRE	CMC	Community Medical
R4	Estate Density Residential - 1 D.U./2 Acres	M1	Light Industrial and Research
R5	Estate Density Residential - 1 D.U./5 Acres (Wonder Acres)	M2	Heavy Industrial
RA	Rural Density Residential - 1 D.U./1 Acres	G	Government (Public Facilities)
RM1/RM2	High Density Residential - 2 D.U. to 20 D.U./1 Acre	O/RA	Conservation Land
C1	Neighborhood Commercial	O/RA	Controlled Development, Public Parks & Recreation or Public Schools
C2	Community Commercial		
C3	Commercial/Office		

CALIFORNIA CITY EXISTING LAND USE PLAN

LEGEND:

- CITY LIMITS
- THE VILLAGES SPECIFIC PLAN

N W E S

0' 2,500' 5,000' 10,000'
1"= 5,000 ft

FIGURE 2-2

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JOB NO.	DATE: 01/22/09 SCALE: AS-NOTED DRAWN BY: RP CK'D BY: RG DATE CK'D: 01/23/09	REVISIONS	CK'D BY	DATE CK'D
04427				

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
LAND USE PLAN

SHEET 1 OF 1 SHEETS

TABLE 2-2

CALIFORNIA CITY GENERAL PLAN 2028

GENERAL PLAN LAND USE DESIGNATIONS	CONSISTENT CALIFORNIA CITY ZONING														
	R-1	R-2	R-3	RM-1	RM-2	C-1	C-2	C-3	C-4	C-5	CMC	M-1	M-2	RA	0
ESTATE DENSITY RESIDENTIAL 1 D.U./TWO ACRES 1 D.U./FIVE ACRES (WONDER ACRES)			●												
RURAL DENSITY RESIDENTIAL 1 D.U./ONE ACRES			●												
LOW DENSITY RESIDENTIAL 2 D.U./ONE ACRES			●												
MEDIUM LOW DENSITY RESIDENTIAL 4 D.U./ONE ACRE (SEWERED) 2 D.U./ONE ACRE (UNSEWERED)		●													
MEDIUM DENSITY RESIDENTIAL 6 D.U./ONE ACRE (SEWERED) 2 D.U./ONE ACRE (UNSEWERED)	●														
HIGH DENSITY RESIDENTIAL 2 D.U. TO 20 D.U./ONE ACRE				●	●										
NEIGHBORHOOD COMMERCIAL						●									
COMMUNITY COMMERCIAL							●								
COMMERCIAL/OFFICE								●							
SERVICE COMMERCIAL									●						
REGIONAL COMMERCIAL										●					
COMMUNITY MEDICAL CENTER											●				
LIGHT INDUSTRIAL AND RESEARCH					●							●			
HEAVY INDUSTRIAL													●		
CONTROLLED DEVELOPMENT	△	△	△	△	△	△	△	△	△	△	△	△	△	●	●
GOVERNMENT (PUBLIC FACILITIES)	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
CONSERVATION LAND														●	●

D.U. = DWELLING UNIT ● = COMPATIBLE △ = CONDITIONALLY COMPATIBLE

CITY OF CALIFORNIA CITY
GENERAL PLAN

S:\DWG\04427\FOR RONNA\GENERAL PLAN LAND USE MAP.dwg

SHEET 1 OF ____ SHEETS

CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN 2028
LAND USE DESIGNATIONS
TABLE 2-2

HELT ENGINEERING, INC.
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DATE: 01/21/09
SCALE: NTS
DRAWN BY: RP
CK'D BY: RG
DATE CK'D: 01/22/09

REVISIONS	CK'D BY	DATE CK'D	JOB NO.
			04427

CHAPTER 3 CIRCULATION

Overall Goal: Provide a balanced circulation system to meet the needs of the residents, businesses, and visitors to California City.

3.1 DESCRIPTION OF CIRCULATION ELEMENT

The Circulation Element describes the type and extent of the existing circulation network and identifies issues and opportunities. In response, the Circulation Element provides a plan for the circulation system supported by goals, policies, and implementation measures relating to the development of a balanced multi-modal circulation system for the City which includes highways and streets, a bikeway system, transit, an airport, and a railway system.

3.2 STATUTORY REQUIREMENTS

State of California Planning and Zoning Law requires that a circulation element be prepared as part of the general plan as follows:

> Government Code Section 65302(b): A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

Several travel modes comprise the transportation system in the City. Among these many systems, the street system is the most visible and most important to residents and businesses within the community. In addition, the majority of the travel in the City is by passenger vehicles and trucks. Therefore, the General Plan Circulation Element generally focuses on the highway and street system. However, goals and policies are included for all modes of travel in recognition of the roles they play in serving the diverse needs of the City.

3.3 OVERVIEW OF EXISTING CONDITIONS

The circulation system for the City includes highways and streets, bikeways, equestrian, transit, an airport, and a railway system. An overview of the existing conditions related to each of these is provided below.

Highway and Street System

The existing circulation system within the General Plan planning area comprises the following highways and major streets described below:

Highways

State Route 58 (SR-58) is currently an east-west state highway which provides regional access from Bakersfield to Barstow through Kern County. Adjacent to and traversing through some of the southern portions of the City, State Route 58 consists of four lanes with existing grade-separated interchanges at Muroc Road and Clay Mine Road. In addition, there is an existing at-grade intersection at California City Boulevard and Yerba Boulevard. The most recent improvements to SR-58 occurred in the 1990's and consisted of the construction of a bypass highway heading north around the community of Mojave to State

Route 14 (SR-14) and the construction of grade-separated interchanges along the route including an interchange at Altus Avenue.

State Route 14 (SR-14) provides regional access from the Santa Clarita Valley in Los Angeles County to the City of Ridgecrest in Kern County. Adjacent to the western portion of the City, SR-14 consists of two lanes and four lanes. The most recent improvements to SR-14 consisted of the construction of roadway widening from two lanes to four lanes near California City Boulevard.

Streets

California City Boulevard is a major transportation route through the western and southern portions of the City and is classified as part of National Highway System. California City Boulevard provides access from SR-14 and SR-58 to the City. It runs east-west through the western and central portion of the City. West of the central core area, California City Boulevard is a two-lane paved road between Baron Boulevard and the overpass at SR-14. East of Baron Boulevard, California City Boulevard is a four-lane paved road to where it turns southward and intersects with Redwood Boulevard. There it leaves the City and becomes a two-lane paved road until its at-grade intersection with SR-58. Portions of California City Boulevard have frontage roads between Yerba Boulevard and Hacienda Boulevard.

California City Boulevard is controlled with stop signs at its intersection with Neuralgia Road, 82nd Street, North Loop Boulevard, Randsburg-Mojave Road, and SR-58. In addition, California City Boulevard has a signalized intersection with Hacienda Boulevard, the only signalized intersection in the City.

Neuralia Road is currently a north-south four-lane road that enters the City on its northern boundary from Redrock-Randsburg Road and terminates at SR-58. North of the City's boundaries, Neuralia Road provides access to SR-14 and is on the National Highway System from Redwood Boulevard to SR-14. Neuralia Road is a paved four-lane road to the north of Forest Boulevard and a two-lane dirt road from Forest Boulevard to SR-58. Neuralia Road provides access for the residential areas to the north and south of California City Boulevard, Neuralia Road is controlled with stop signs at its intersection with California City Boulevard, with stop signs at all four legs, and Redwood Boulevard, which ends at Neuralia Road.

Yerba Boulevard is currently a north-south two-lane paved road that runs from Lindbergh Boulevard to Eucalyptus Avenue which provides access to California City Boulevard for property located to the north and south of California City Boulevard. Yerba Boulevard is a two-lane unpaved road between Eucalyptus Avenue and Sequoia Boulevard where it ends. At Joshua Boulevard it starts again as a two-lane paved road to south of Altus Avenue where it becomes an unpaved road to SR-58. Yerba Boulevard is controlled by stop signs at its intersection with California City Boulevard with stop signs provided on Yerba Boulevard. At SR-58 there is an at-grade intersection.

Twenty Mule Team Parkway serves the eastern portion of the City. Twenty Mule Team Parkway is currently a two-lane paved road from the intersection of Twenty Mule Team Parkway and Randsburg-Mojave Road to Rutgers Road. Twenty Mule Team Parkway turns into a narrow road-mix road until it becomes a wide dirt road to the eastern boundary of the City. Twenty Mule Team Parkway is controlled with a stop sign at Rutgers Road.

Randsburg-Mojave Road serves the northeast portion of the City. Starting at Proctor Boulevard and California City Boulevard, heading northeast, Randsburg-Mojave Road is currently four paved lanes until it transitions to two lanes in front of the California City Memorial Park cemetery. Randsburg-Mojave Road remains a two-lane paved road until the intersection with Twenty Mule Team Parkway. From this point, it remains unpaved to the northeastern City boundary.

Redwood Boulevard is currently an east-west two-lane paved road that extends from Neuralia Road to

California City Boulevard on the east. Portions of Redwood Boulevard have dirt frontage roads for residential uses. Redwood Boulevard is controlled with stop signs at its intersection with Neuralia Road, Hacienda Boulevard and California City Boulevard.

Hacienda Boulevard is currently a north-south road. Hacienda Boulevard is a two-land unpaved road north of Susan Avenue. From Susan Avenue to Columbine Avenue, it is a two-lane paved road. From Columbine Avenue to Village Center Drive, Hacienda Boulevard is a four-lane paved road. From Village Center Drive to Sequoia Boulevard, it is a two-lane paved road. Hacienda Boulevard terminates at Sequoia Boulevard. Further to the south, at Rosewood Boulevard Hacienda Boulevard starts again as a two-lane paved road to Wilson Road where it becomes a two-lane unpaved road until it intersects with Twin Butte Road and terminates. At Altus Avenue, Hacienda Boulevard starts again as a two-lane unpaved road to SR-58 where there is access to the westbound lanes. Hacienda Boulevard is controlled with stop signs at its intersections with California City Boulevard and South Loop Boulevard. The intersection with California City Boulevard is controlled with traffic signals. The intersection with South Loop Boulevard is controlled by a four-way stop. There is a bicycle lane on Hacienda Boulevard from Redwood Boulevard to California City Boulevard.

Sequoia Boulevard is currently an east-west two-lane unpaved road located to the south of California City Boulevard.

Wonder Avenue is currently a north-south two-lane paved road from California City Boulevard to Poppy Boulevard and an unpaved road to Peach Boulevard.

Baron Boulevard (Gibbs Street) is currently a two-land unpaved road from California City Boulevard to Lindbergh Boulevard.

Mitchell Boulevard is currently a north-south paved road from California City Boulevard to Lindbergh Boulevard.

Mendiburu Road is currently an east-west two-lane paved road from Randsburg-Mojave Road west to Neuralia Road and from Yerba Boulevard west to Lindbergh Boulevard.

Poppy Boulevard is currently an east-west two-lane paved road from North Loop Boulevard west to Baron Boulevard.

Airway Boulevard is currently a north-south two-lane paved road north of Moss Avenue and an unpaved road south of moss Avenue to SR-58.

Great Circle Drive is an east-west two-lane paved road from Isabella Boulevard to South Loop Boulevard.

Lindbergh Boulevard is currently an east-west, two-lane paved road from Rusche Boulevard to Neuralia Road and picks up again at Yerba Boulevard through the City's Municipal Airport and Industrial Park to the north.

North Loop Boulevard is currently an east-west paved two-lane road to the north of California City Boulevard. North Loop Boulevard begins at California City Boulevard and ends at Randsburg-Mojave Road. North Loop Boulevard is controlled with stop signs at its intersections with California City Boulevard and Hacienda Boulevard. The intersection with California City Boulevard is controlled with stop signs at all four legs. The intersection with Hacienda Boulevard is controlled with stop signs on Hacienda Boulevard.

South Loop Boulevard is currently an east-west paved two-lane road that begins at California City Boulevard and loops around to where it ends at California City Boulevard. South Loop Boulevard is controlled with stop signs at its intersection with California City Boulevard, Hacienda Boulevard, and California City

Boulevard South (east end). The intersection with California City Boulevard is controlled with a four-way stop. The intersection with Hacienda Boulevard is controlled with stop signs for Hacienda Boulevard. The intersection of California City Boulevard south at the east end, is a three-way intersection with stop signs for South Loop Boulevard. South Loop Boulevard has bicycle lanes that begin at California City Boulevard and terminates at California City Boulevard south at the east end. The bicycle lanes begin at California City Boulevard and end at Hacienda Boulevard.

Joshua Boulevard is currently an east-west paved two-lane road that starts at Yerba Boulevard and ends at El Camino Drive.

County Streets Impacting City's Circulation Element

Purdy Avenue is currently an east-west two-lane paved road that is located to the north of SR-58, to the east of the City's existing corporate limits.

20th Avenue is currently a north-south two-lane unpaved road from Sequoia Boulevard two miles west to SR-58, to the south of the City's existing corporate boundaries, where it terminates.

Muroc Road is currently a two-lane north-south road located two miles to the east of California City Boulevard outside of the City's existing corporate limits. Muroc Road is unpaved north of SR-58 and paved south of SR-58. Muroc Road intersects with SR-58 at a grade-separated interchange with diamond (eastbound) and partial cloverleaf (westbound) ramps. Muroc Road provides direct access to Edwards Air Force Base's North Gate. Muroc Road continues into the base and intersects with Rosamond Boulevard, a paved two-lane road, traversing in a southwesterly direction through the entire southwestern portion of the base, exiting at the Base's South Gate and continuing through the unincorporated community of Rosamond, intersecting with the SR-14 through existing grade-separated interchanges that runs north-south.

Existing Traffic Conditions

In general, the existing street system operates with limited to no congestion. Exceptions to this occur during the p.m. peak hour at the signalized intersection of Hacienda Boulevard and California City Boulevard.

Scenic Route Corridor

A "Scenic Route" is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality. A scenic route must be officially set as a "Scenic Route" by the City or the State of California. A route will not be selected as scenic until a plan and program for the protection and enhancement of the adjacent roadside land in the view shed is available for implementation. The California Scenic Highways Master Plan designated three state highways in the County as an "Eligible State Scenic Highway."

Two of the designated routes are not located in the vicinity of the City. However, one of the routes, Route 2, is located to and passes through portions of the southern most boundaries of the General Plan planning area, recently annexed into the City in 2002. The City boundaries extend intermittently across SR-58, approximately 3.5 miles to the south. Route 2 consists of SR-58 between the communities of Mojave and Boron. This route crosses a desert landscape dotted with Joshua trees and a display of wild flowers in early spring. The points of interest along the route include the Red Hills, Castle Butte, Edwards Air Force Base (Rogers Dry Lake), and the world's largest sodium borate deposit. This includes the world's largest open pit borax mining operation (more than 600 feet deep) at the community of Boron.

<u>Bikeway System</u>

The City adopted a Bikeways Plan in October 2008 as a subsection of the Circulation Element. The

Bikeways Plan, designates primary bicycle routes within the central core area of the City and an extended route. The bikeway system was designed to serve major community traffic generators including commercial areas, schools, recreational facilities, and major public facilities. Many of the users of the bike way system were identified to be children on their way to and from school and recreational activities. One emphasis of the plan was to link residential areas with the schools and recreational facilities. In addition, the bikeway system provides for an alternative mode of transportation consistent with the Transportation Enhancement Act (TEA) and the Congestion Mitigation and Air Quality (CMQA) Programs.

Transit System

Public transportation in the General Plan planning area consists of fixed route bus lines and demand-responsive services. Currently Kern Regional Transit provides a single fixed route and Dial-A-Ride services. The transit system links the City with Mojave, Tehachapi, Ridgecrest, Bakersfield, Rosamond, Lancaster, and Palmdale. Dial-A-Ride operates in the central core area in Planning Sub-area 1 and is sponsored by the City with State of California funding.

Airports

There are three airports that directly affect the General Plan planning area: California City Municipal Airport, Mojave Airport, and Edwards Air Force Base. The California City Municipal Airport is located approximately four miles to the northwest of the central core area in Planning Sub-area 1. The California City Municipal Airport has an adopted Airport Layout Plan, Airport Master Plan, and Airport Land Use Compatibility Plan in conjunction with the Kern County Airport Land Use Compatibility Plan, as a public use airport and serves general aviation. Powered aircraft use the northern runway and sailplanes are launched from a parallel runway to the south. The sailplane landings are made on a landing strip south of the parallel runway. California City Municipal Airport is also used for parachute activities from surface to 17,500 feet MSL by private parachute clubs and occasionally Department of Defense (DoD) aircraft. The airport has an air terminal, airplane hangers, and a 40-acre industrial park with a foreign-trade zone, approved March 2002. Since foreign-trade zone status offers numerous advantages to the industrial park users, it greatly enhances the economic development of the area. There are manufacturing and aviation-related businesses located nearby.

The Mojave Airport is located approximately four miles to the west of the General Plan planning area in the community of Mojave. The major facility at the Mojave Airport is the Civilian Flight Test Center. The airport has “cutting edge” aviation, high-tech manufacturing, and light industrial companies. Uses at the airport range from general aviation, short-term storage of aircraft, maintenance and modification services, and experimental rocket, space, and aircraft development and testing.

Edwards Air Force Base is located approximately four miles to the south of the General Plan planning area. Edwards Air Force Base is the location of the Air Force Flight Test Center (AFFTC), the U.S. Air Force Test Pilot School, and other nonmilitary government agencies. To support the testing operations, the AFFTC operates the Edwards Flight Test Range, which consists of 20,000 square miles of R-2508 Complex. Within the R-2508 complex is the Internal Restricted Area R2515 airspace, including three supersonic corridors, five aircraft spin areas, and Cords Road Test Area. Besides flight test capabilities, Edwards has an array of ground testing facilities. More detailed discussion of the airports, including overflight activities and potential hazards, are provided in the Safety Element and the Noise Element. (R-2508 Complex User’s Handbook, Jan. 2008).

Railroads

There is a Union Pacific Rail Road (UPRR) railway line that crosses the north western portion of the General Plan planning area. This rail line, located in Planning Sub-areas 1 and 2, does not have a railroad terminal

facility that serves the planning area. No passenger service is provided on this line. The City will work with the railroad to develop a multi-modal rail head into the City's Airport Industrial Park and Foreign-Trade Zone. This would give additional benefits to existing and future airport businesses involved in international trade. Currently, the UPRR rail line has an at-grade crossing with California City Boulevard. The California Public Utilities Commission (PUC) regulates railroad crossings in the state. For public safety reasons, the PUC does not support at-grade railroad crossings.

Equestrian

The history of the area dates back to the 1880's and the creation of the Twenty Mule Team Trail. The trail was created to carry borax ore from Harmony Borax Works in Death Valley to the railhead in Mojave in wagons pulled by teams of twenty mules across the Mojave Desert. At the turn of the century the area saw ranches and farms develop, such as the Conklin Ranch. Deep-rooted in history, from the days of the twenty mules to the landing of the Space Shuttle, the area lends itself to the scenic beauty which is the Mojave Desert.

One way to enjoy the scenic beauty of the area is on horseback. There are four pockets of equine ownership in the City. These areas include the northeastern portion of the City and the Silver Saddle Ranch and Club, south to the Rancho Estates, west to Wonder Acres and centrally located north of Poppy Boulevard between Neuralia Road and Yerba Boulevard.

3.4 STREET STANDARDS AND PERFORMANCE CRITERIA

Standard Street Classifications

The highways within the General Plan planning area are within the jurisdictional authority of the California Department of Transportation (Caltrans) and, therefore, the right-of-way and performance standards for SR-14 and SR-58 are determined by Caltrans. The other roads in the City's jurisdictional boundaries are governed by the California City Municipal Code (CCMC) Chapter 2, Traffic. The streets within the planning area are based on a street classification system that consists of three levels of service: arterials, collectors, and local streets, are described below:

- Arterial - A divided road with four through lanes. Arterials provide for: the movement of traffic to and from the planning area; the movement of traffic to and from activity centers within the planning area and the planning sub-areas; and the distribution of traffic to and from the highways. Arterials are located on the section lines and have a 110-foot right-of-way.

- Collector - Divided or an undivided road with four through lanes. Its primary function is as a collector facility with the ability to handle through traffic movements between arterials and local streets. Collectors are located on mid-section lines and have a 90-foot right-of-way.

- Local streets - An undivided road with two through lanes, the location of which are determined on the basis of the land uses that they serve and the location of the arterials and collectors that they provide through traffic movements to. Local streets are not shown on the Circulation Plan, but are considered to the Circulation Element roadways. Local streets have a 60-foot right-of-way.

Level of Service Criteria

An important "standard" referred to in this Element relates to the ability of a roadway and/or intersection to

accommodate traffic and may be used to describe both existing and future traffic conditions. Level of service (LOS) is a qualitative ranking that characterizes traffic congestion on a scale of A to F with LOS A being a free-flow condition and LOS F representing extreme congestion.

In addition to the LOS definition, a volume to capacity ratio or V/C ratio is used to provide more quantified description of traffic conditions at intersections. The V/C ratio is the ratio of existing or projected traffic volumes to an intersection's design capacity. A V/C ratio of 0.90 for an intersection means that the traffic volumes at the intersection represent 90 present of its design capacity. The V/C ratio can also be related to the LOS definitions. For example, an intersection with a V/C ratio exceeding 0.95 is handling traffic volumes that approach design capacity. The V/C ratio of 0.95 corresponds to LOS E, which indicates unacceptable level of service. The following six levels of service definitions relate traffic conditions to traffic volumes and the design capacity of roadways and/or intersections.

- LOS A (V/C ratio 0.0 - 0.60). There are no cycles that are fully loaded, and few are even close loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than on red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.

- LOS B (V/C ratio 0.61 - 0.70). Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drives begin to feel somewhat restricted within platoons of vehicles.

- LOS C (V/C ratio 0.71 - 0.80). Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles.

- LOS D (V/C ratio 0.81 - 0.90). Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.

- LOS E (V/C ratio 0.91 - 1.00). Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).

- LOS F (V/C ratio > 1.00). Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out to the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

3.5 CIRCULATION PLAN

The General Plan designates the circulation network within the planning area. This circulation network provides a balanced circulation system that supports the Land Use Plan which guides future development and growth for the City. Circulation Plan provided in **Figure 3-1, Circulation Plan**, indicates the highways, arterials, and collectors, and interchange locations planned for the General Plan planning area. In addition, the locations of the airport and railway line within the General Plan planning area are provided.

Highway and Street System

The following arterials and collectors comprise the highway and street system for the General Plan planning area as indicated in **Figure 3-1, Circulation Plan**:

Arterials

- California City Boulevard
- Neuralia Road
- Yerba Boulevard
- Airway Boulevard
- Wonder Avenue
- Saunders Boulevard
- Gantt Road
- Mitchell Boulevard
- Hacienda Boulevard
- Redwood Boulevard
- Sequoia Boulevard
- Joshua Boulevard
- Rosewood Boulevard
- Twin Butte Avenue
- Conklin Boulevard
- Mendiburu Road
- Randsburg-Mojave Road
- Twenty Mule Team Parkway
- Brown Road
- Rudnick Boulevard
- Cadillac Boulevard
- Chrysler Drive
- Lincoln Boulevard
- Kennedy Boulevard
- Rutgers Road
- Washburn Avenue

- Columbia Drive

Collectors

- Forest Boulevard
- Great Circle Drive
- Isabella Boulevard
- Lindbergh Boulevard
- North Loop Boulevard
- South Loop Boulevard
- Poppy Boulevard
- Proctor Boulevard
- Frontage Road (adjacent to SR-58, 3.5 miles)

Bikeway System

The City adopted a Bikeways Plan in October 2008 as a subsection of the Circulation Element. The Bikeways Plan designates primary bicycle routes within the central core area of the City and a route that extended a short distance to the northeast along Randsburg-Mojave Road. The bikeway system was designed to serve major community traffic generators including commercial areas, schools recreational facilities, and major public facilities. The Bikeways Plan provided in **Figure 3-2, Primary Bikeway System**, indicates the circulation pattern for the primary bikeways in the General Plan planning area.

The bikeways within the General Plan planning area will be based on a bikeway classification system that consists of three levels of standards as described below:

- Class I Bike Paths provide a complete separate facility designed for the exclusive use of bicycles and pedestrians with minimal cross flows by motorists. Class I bikeways have 8 feet of pavements with 2-foot graded shoulders on either side, for a total right-of-way of 12 feet. These bikeways must also be at least 5 feet from the edge of a paved roadway.

- Class II Bike Lanes provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross flows by pedestrians permitted. Class II bikeways generally require a 4-foot bike lane with a 6-inch white strip separating the roadway travel lane from the bike lane.

- Class III Bike Routes provide a right-of way designated by signs or permanent markings and shared with pedestrians and motorists. Roadways designated as Class III bike routes should have sufficient width to accommodate motorists, bicyclists, and pedestrians. Other than a street sign, there are no special markings required for a Class III bike route.

Equestrian Trails and Roadway Use

The City's Municipal Code has adopted the Farm Animal Overlay and the Equestrian Overlay Zones (EOZ).

California City Municipal Code Section 9-2.2408 Equestrian Overlay Zone permits the riding of equines along equestrian trails and roadways, if they do not cause any traffic impediment. Conditions of issuing a building permit or other land use entitlement in the Equestrian Overlay Zone shall be subject to the dedication of a sixty-foot wide vehicular, equestrian and utility easement. The City has some designated equestrian trails that move along isolated regions of the City to reduce the hazards associated with horse back riding and motorized vehicles.

Minimum lot size for keeping equines in a residential district is one acre and one horse for each one-quarter acre lot area is permitted in the Equestrian Overlay Zone, with the exception of the Rancho Estates Tracts 2162, 2192 and 2237, where the rate is one equine for each one-half acre.

3.6 CIRCULATION AND TRANSPORTATION ISSUES

1. Increased development within the City may necessitate the need for additional designated truck, OHV and equestrian routes to minimize future traffic conflicts.

2. Existing City roadway standards may require revision in order to accommodate large master planned developments and growth in areas outside the existing urban core to ensure new developments do not negatively impact existing roadways. Additional development fees, or other funding mechanisms, may be required in order for the City to provide long-term maintenance to roadways and to fund improvements in outlying areas.

3. Roadway standards should be developed for each type of roadway designation.

4. Transportation linkages may need to be identified and developed among all areas of the City.

5. Frontage roads along California City Boulevard are inconsistent, and the requirements for access along California City Boulevard must be considered as future development is proposed along the entire length of California City Boulevard through the City.

6. Economic benefits may accrue to the City with the designation of Twenty Mule Team Parkway as a scenic highway.

7. The Caltrans interchange locations along SR-58 may need to be created to accommodate new land use designations and the connection to regional routes.

8. Roadways may be required to improve access to the “Northgate” interchange to improve access to California City Boulevard and Highway 395.

9. Projects for transportation system improvements should be identified to take advantage of Caltrans and Kern Council of Governments (Kern COG) funding sources.

10. Expansion or extension of rail lines to facilitate business and industry may be required.

11. Safety issues related to at grade crossings with the rail lines may need to be addressed as planned east-west arterials are developed.

12. New development should provide areas for convenient transit access to encourage alternate methods of transportation.

13. Standards should be provided for park and ride lots to encourage ride-sharing. This will be important as areas outside the urban core develop to reduce vehicle trips and reduce associates air quality impacts.

14. Alternate parking standards may be necessary to accommodate mixed-use commercial.

3.7 HIGHWAY AND STREET SYSTEM GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for the highway and street system in the General Plan planning area.

Goals

- Develop and maintain an effective multi-modal transportation and circulation system.
- Plan and develop a street and highway system so as to maximize its effectiveness while minimizing its cost.
- Minimize the adverse impact of streets and highways on adjacent land uses and on the environment of the General Plan planning area.
- Provide a street and highway system which can accommodate alternative modes of travel.
- Provide a street and highway system which is aesthetically pleasant to the user through the incorporation of setbacks landscape buffers on applicable medians and rights-of-way.

Policies

- Plan and provide a street and highway system to move people and goods in an orderly, safe, and an efficient manner. Level of Service classification C or better shall be maintained for arterial and collector streets.
- Provide adequate and affordable public transportation choices including expanded bus routes and service and other transit choices such as shuttles, light rail, and rail where feasible.
- In conjunction with measures that encourage public transit, ride sharing, bicycling and walking, implement circulation improvements that reduce vehicle idling.
- Encourage development of school transit plans to substantially reduce automobile trips to, and congestion surrounding, schools. (According to some estimates, parents driving their children to school account for 20-25% of the morning commute.) Plans may address, e.g., necessary infrastructure improvements and potential funding sources; replacing older diesel buses with low or zero-emission vehicles; mitigation fees to expand school bus service; and Safe Routes to School programs and other formal efforts to increase walking and biking by students.
- Encourage public education and information about options for reducing motor vehicle-related greenhouse gas emissions, such as, information on trip reduction; trip linking; public transit; biking and walking; vehicle performance and efficiency (e.g. keeping tires inflated); low or zero emission vehicles; and car and ride sharing.
- Encourage comprehensive parking designs that discourages private vehicle use and encourages the use of alternative transportation. For example, reduce parking for private vehicles while increasing options for alternative transportation; review minimum parking requirements for new buildings.

- Provide an arterial system that serves the major centers of activity within the urbanized areas and provides capacity for the highest traffic volumes and longest trip lengths. To the extent feasible, direct access onto arterials from individual parcels should be restricted.

- Require that new development of major traffic generating projects restrict direct access onto arterials or collectors through the project design, which may include any combination of the following measures deemed acceptable by the City:

  - Access to other surrounding streets;

  - The limitation on the number and location of direct access point; and/or

  - The use of reciprocal access easements with other adjoining properties.

- Provide arterials for through traffic movement on continuous routes, joining major traffic generators, other arterials, and highways. Access to abutting property should be controlled.

- Provide collectors for internal traffic, movement within an area and connect local roads to the arterial system. Access to abutting property is generally permitted.

- Provide local streets for internal traffic movement within an area and primarily serve to provide direct access to abutting property.

- New residential subdivisions shall be designed with a minimum number of lots fronting directly on collector streets and with no lots fronting directly on arterial streets. Vehicular access may be permitted from an existing frontage road or from other roads, but new development will not have frontage roads. Where direct access is provided from a residential subdivision lot to a collector street, turnaround facilities should be required for each such lot as a condition of subdivision approval so that vehicles do not back out onto the roadway.

- The City shall require the completion of planned arterial and collector streets as they become necessary to serve new development or to meet cumulative traffic demands in the City. This shall be accomplished by the following:

  - Adopt a street improvement program based on a current surface maintainability and traffic impact priority system;

  - Coordinate the street improvement of necessary street facilities as a condition of land development.

  - Utilize available State and Federal funds for street and highway development; and/or

  - At such time as the LOS standard set forth in the Circulation Element of the General Plan is exceeded, the City shall review and adopt any and all legally available funding mechanisms, which will allow the City to achieve compliance with the standards.

- The City shall insure that the planned streets system operates to its maximum efficiency by providing for multi-modal use of streets. This shall be accomplished by the following:

- Develop bikeways in accordance with the City Bikeway Plan, adopted October 2008;

- Consider the need for transit and bikeway facilities when establishing the ultimate right-of-way for arterial and collector streets. The City shall prepare standard street cross sections which define standards for transit and bikeway facility improvements;

- Provide additional right-of-way and improvements off of the travel way of arterial and collector streets where deemed necessary for public transportation; and

- Provide areas for pedestrian travel which enhance the safety and efficiency of the street system.

- The City shall minimize the adverse impact of truck traffic on the residential areas and other noise sensitive land uses by maintaining and enforcing a system of designated truck, OHV, and equestrian routes. **Figure 3-1, Circulation Plan**, identifies the City's official truck route beginning at California City Boulevard (east west) and Neuralia Road (north south).

  The northern truck route from California City Boulevard on Neuralia Road is a paved road divided one-half mile north to Poppy Boulevard where it narrows into two lanes. The northern route extends four miles from California City Boulevard to the City limits and continuing through the County's jurisdiction, intersecting with the east-west Red Rock Randsburg Road approximately nine miles. Turning west on Red Rock Randsburg Road, the road quickly intersects with SR-14. Turning east, approximately twelve miles on Red Rock Randsburg Road it intersects with Garlock Road, approximately sixteen miles the Garlock Road intersects with Highway 395.

  The southern truck route from California City Boulevard onto Neuralia Road is a paved divided road to Moss Avenue. The southern truck route turns east approximately one mile from California City Boulevard on Neuralia Road to Redwood Boulevard, a paved two-lane road continues for approximately two miles where it intersects with California City Boulevard south continuing through the City
  limits for one mile and traversing through the County's jurisdiction approximately nine miles intersecting with SR-58 (this is part of the National Highway System).

- Require the installation of signals, signs, lighting, and other traffic improvements necessary for the safe and efficient movement of vehicular traffic pedestrians within the City. This shall be accomplished by the following:

  - Require the installation of necessary street improvements as a condition of land development.

- The City shall minimize the adverse environmental effect of street development by utilizing appropriate road construction methods [curb, gutter and sidewalks] which reduce the air, water [drainage plan], and noise pollution.

- Encourage local street designs within new subdivisions which promote the safety and integrity of neighborhoods.

- Review and evaluate the location of proposed and planned freeway interchanges with respect to the General Plan Land Use Plan to ensure appropriate land use relationships. This shall be accomplished by the following:

- Provide adequate setbacks, buffers, and/or restrictions on residential density and/or types of land uses to prevent traffic-related impacts;

- Assess potential for commercial services at interchange off-ramps and on-ramps; and

- Assess potential for industrial uses which can benefit by close freeway proximity.

- Development of roads within the City shall be in accordance with the Circulation Plan. The depicted roads are usually on section and mid-section lines.

- The timing and scope of required facilities should be set up and implemented through the City's Land Division Code. However, the City will routinely protect all surveyed section lines in the City for arterial right-of-way. The City will routinely protect all mid-section lines for collector highways in the City. In the portions of the City where terrain does not allow construction on surveyed section and mid-section lines, right-of-way width will be the size shown on the Circulation Plan. No surveyed section and mid-section "grid" will comprehensively apply to the City.

- Continuity and integrity of the arterial and collector system, when the roadways interface with the County's road system, must be reviewed and approved in conjunction with project adoption on an individual basis.

- Conformance to alignment minimum design standards, where roadways that deviate from section and mid-section lines intersect those lines, must be reviewed and approved in conjunction with project adoption on an individual basis.

- Elimination of non-strategic section and mid-section alignment crossings and intersections that intersect existing or planned freeways, railroads, runways, and watercourses must be reviewed and approved in conjunction with project adoption on an individual basis.

- Where there are a legal lot of records, improvement of access to County, City, or state roads will require funding by sources other than the City. Funding could be by forming a local benefit assessment district or, depending on the size of a project, direct development impact fees.

- At the City's discretion, a road constructed by a developer and/or land owner may be accepted into the City's maintained road system. Roads will be included in the City road maintenance system through approval by the City Council.

- The City will relate traffic levels to road capacity and development levels. The City's Public Works Department will set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program will be traffic zones established by the City.

- Establish Specific Plan Lines (Office Plan Line) that protects right-of-way for City, County, and state highways. Specific Plan Lines are needed where the rights-of way for arterial and collector alignment do not follow surveyed section and mid-section lines.

- Develop a system for maintaining and coordinating Specific Plan Line procedures in all elements of the City's General Plan and adopted and future specific plans.

- Establish a system for maintaining and coordinating Specific Plan Line procedures in the Zoning Code and Land Divisions Code.

- Any new, adopted Specific Plan Line and nonstandard design cross-section(s) shall be protected from land use development the same as right-of-way along surveyed section and mid-section lines.

- All adopted specific plan lines existing on the effective date of this Circulation Element shall be protected from land use development the same as road right-of-way along surveyed section and mid-section lines.

- Road vacations shall require amendment to the Circulation Element. Provide a means for guiding decisions on vacating public roads, and a means to coordinate their process with Kern County.

- A road vacation influencing the construction or operation of an arterial or collector may occur after amending this Circulation Element. The City will not vacate any public arterial or collector right-of-way without amendment to this Element.

- The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel or record.

- If the City determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized.

- A road vacation may be authorized if physical conditions such as natural or man-made topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.

- A road vacation shall only affect public recorded rights-of-way or public service easements. A vacation of private access or private service easement is not under City jurisdiction. The City considers these matters "civil" actions which should be acted upon accordingly.

Implementation Measures

The following are implementation measures to be carried out by the City and/or project applicants to implement the goals and policies of the Circulation Plan related to the highway and street system.

T-1. When and where necessary, prepare and adopt Precise Plans of streets and highways to establish and protect rights-of-way for the future development of planned arterial and collector streets.

T-2. The Planning Department shall implement the highway and street system goals and policies defined in the Circulation Element by using the City's Land Division Code, the Zoning Code, and the Circulation Plan.

T-3. With the exception of state highways, all roads and rights-of-way shall be constructed in accordance with the City's Municipal Code, Chapter 2. Traffic.

T-4. The alignment of the roads depicted in **Figure 3-1, Circulation Plan**, that deviate from the section lines (arterials) or mid-section lines (collectors) shall require the adoption of a Specific Plan Line. Subdivisions adjacent to Specific Plan Lines must reserve and/or

dedicate adequate right-of-way consistent with the City's Municipal Code, Chapter 2. Traffic.

T-5. Any private or public entity may apply for adoption of new or the revision of an existing Specific Plan Line. A Specific Plan Line application shall be processed at the same as the land use application requests for a private development project. A centerline survey describing the Specific Plan Line shall be prepared under the guidance of the City Engineer and Public Works Department. With applications for private development proposals, the City shall require a fee to defer the cost of processing a Specific Plan Line application.

T-6. Planning Department shall prepare a survey to define the Specific Plan Lines. The surveys shall address all existing and planned City-maintained roadways not on section lines and mid-section lines. The Public Works Department shall work with the Planning Department to develop a priority list of public Specific Plan Line survey projects to carry out on an annual basis.

T-7. The City shall require the preparation of a Traffic Impact Analysis (TIA) for proposed private development projects consistent with the City's Municipal Code, Chapter 2. Traffic. The TIA will, at a minimum be required to address off-site traffic circulation, on-site traffic circulation, and alternative transportation including transit and bicycles. The TIA shall identify the impacts of the proposed development project and define mitigation measures to address effects determined to be significant. The TIA shall be used in the preparation of the appropriate environmental documentation consistent with the requirements of the California Environmental Quality Act (CEQA).

T-8. The City shall prepare and adopt Traffic Impact Analysis (TIA) Guidelines. The purpose of the TIA Guidelines is to provide trip generation thresholds to determine the requirements for the types and scope of projects that require the preparation of a Traffic Impact Analysis (TIA). In addition, the TIA Guidelines shall define trip generation rate sources, study methodology, impact thresholds, and submittal requirements.

T-9. As a condition of proposed private development project approval, the City shall require that the project applicant/developer to build roads needed to access the existing highway and street system as defined in the Circulation Plan. Developers shall build these roads in accordance with the City's Municipal Code, Chapter 2. Traffic. Developers shall locate these roads along center lines shown on the Circulation Plan unless otherwise authorized by an approved Specific Plan Line.

T-10. As a part of the approval process for a private development proposal, the project applicant/developer shall be required to provide street improvements that may include, but not be limited to landscaping, lighting, and signage. Where necessary, the City will work with the appropriate parties to establish a service district to maintain landscaping and lighting adjacent to the public right-of-way.

T-11. The City shall work with and support the Kern Council of Governments (Kern COG) in developing a Countywide Transportation Impact fee for sub-regional areas to fund improvements which will benefit the City.

T-12. The City shall conduct a traffic impact fee study for private development proposals to determine the nee for such a fee. If determined that a traffic impact fee would be appropriate, the study will be considered for adoption and implementation.

T-13. An application for a road vacation shall be accompanied by a road vacation study prepared at the project application/developer's expense. The study shall provide information that will aid in finding the importance of the entire length of the right-of-way. The study shall include a review of existing and proposed land uses and localized traffic modeling. This will assist the City in the decision-making process and the corresponding changes that may be needed to the Land Use, Open Space and Conservation Elements or any affected specific plan. In addition, the study will assist the City in determining if additional public road services or other traffic management is required elsewhere due to the roadway vacation.

T-14. A vacation of improved road right-of-way or public service easement will require that the City, as the Lead Agency, make findings consistent with the requirements of CEQA, including the finding that the land is no longer needed for public use. A vacation of an improved road right-of-way or a public service easement shall not occur until the right-of-way is superseded by relocation and improved, acceptable to the City's standards. This will include the City Council's approval of the replacement facility into the maintained road system.

T-15. The City shall conduct a study of truck travel, off highway vehicle travel (OHV) and equestrian travel through the General Plan planning area and define truck, OHV and equestrian routes for adoption by the City.

3.8 BIKEWAY SYSTEM GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for the bikeway system in the General Plan planning area.

Goals

- To provide and encourage alternative transportation to reduce congestion and improve air quality.
- Develop a continuous and easily accessible bikeways system which facilitates the use of the bicycle as a viable alternative transportation mode.
- Develop programs, standards, codes and procedures to achieve and maintain safe conditions for bicycle use.
- Encourage bicycling for reasons of ecology, health, economy, and enjoyment as well as for transportation use.
- Encourage the use of the bicycle within the total transportation network.

Policies

- Priority should be given to bikeways that will serve the most cyclists and destinations of greatest demand.
- Bikeways should be designated near major traffic generators such as commercial and employment centers, schools, recreational areas, and major public facilities.
- Bicycle parking and storage facilities should be provided at major bicycle traffic generators.

- Bikeways should be provided in both existing and future parks where they will not cause serious conflicts with other uses of the parks.

- Bikeways should be continuous and should be linked to other bikeways and recreation facilities.

- Whenever possible, bikeways should be developed in conjunction with street construction and improvement projects, occurring along streets and roads where bikeways have been designated on the Bikeway Plan.

- The design and construction of bikeways shall conform to the standards defined in the Circulation Element.

- Safe conditions for bicycle use shall be developed and maintained. The following shall apply.

  - S A visually clear, simple, and consistent bikeway system with clearly defined areas and boundaries should be established.

  - S For the safety of those who use the bikeways, the City should consider stopping a bikeway before a major street intersection or dangerous railroad crossing and starting it again after the area has been passed. Within these potentially dangerous areas, bicyclists walk their bicycles or ride with extra caution at their own risk.

  - S Through mass media, school, and private efforts, the City should encourage a program of education in the rules of the road, aimed at both the cyclist and the motorist.

  - S Bikeways should be constructed and maintained to reduce or eliminate hazards such as unsafe drainage grates, dirt, glass, gravel, and other debris.

  - S The bikeway system should be monitored and evaluated in order to determine the effectiveness of established bikeway facilities in terms of use, safety, and efficiency.

Implementation Measures

T-16. The following implementation measures shall apply to the construction of new bicycle and pedestrian facilities in the City:

  - S New residential subdivisions and commercial/employment centers shall provide internal bikeways and pedestrian paths where feasible.

  - S All new pedestrian improvements shall comply with the American Disabilities Act (ADA) design requirements.

  - S Bike lanes and bike routes shall be developed consistent with the Bikeway Plan and standards defined in the Circulation Element.

  - S The design of private development proposals having frontage on arterials shall include provisions for bike lanes and bike routes. Project applicants/developers shall be responsible for the cost of bike lane or bike route construction along their arterial frontage.

T-17. The City shall study bikeway usage in the General Plan planning area and determine the appropriate locations for future bikeway system improvements. Based on this, the City shall update the Bicycle Transportation Plan, October 2008.

T-18. The City shall work with Kern COG or other agencies to determine sources from which to acquire funding for the implementation of bike lanes and bike routes defined the Bicycle Transportation Plan, October 2008.

3.9 TRANSIT GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for the transit system in the General Plan planning area.

Goal

- Expand alternative transportation modes, including transit.

Policies

- Support the efforts of the Kern Regional Transit to provide mass transit service and other alternative modes of travel for the City's residents. Work with Kern Regional Transit to develop additional routes and services linking residential areas with employment and commercial centers.

- Require new development projects, when appropriate, to incorporate transit access and facilities in their design.

Implementation Measures

The following are implementation measures to be carried out by the City and/or project applicants to implement the goals and policies of the Circulation Plan related to the transit system.

T-17. The City shall review the circulation system in the General Plan planning area to define provisions that would encourage the planning and accommodation of public transportation in the General Plan planning area. This would include the provisions of bus turn outs and transit facilities for public facilities and within or adjacent to private development proposals.

T-18. The City shall determine methods for funding transit facilities.

3.10 AIRPORT GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for the airport in the General Plan planning area.

Goals

- Maintain the airport as a valued transportation facility.

- Provide a multi-modal railhead into the City's airport.

Policies

- Plan and provide sufficient land reserve for the development of future airport facilities

capable of accommodating possible long-range air traffic requirements associated with potential demand.

Implementation Measures

The following are implementation measures to be carried out by the City and/or project applicants to implement the goals and policies of the Circulation Plan related to airports.

T-19. All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Study. Appropriate limitations and conditions shall be incorporated to address compatibility with the California City Municipal Airport and encroachment issues related to Edwards Air Force Base, Naval Weapons Station China Lake, and the military complex airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

3.11 RAILWAY SYSTEM, GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for the railway system in the General Plan planning area.

Goals

- Provide safe and convenient railroad crossings.
- Provide a multi-modal railhead into the City's airport.

Policies

- Work with the Public Utilities Commission (PUC) to identify issues related to the at-grade crossings of the rail line in the General Plan planning area.

Implementation Measures

The following are implementation measures to be carried out by the City and/or project applicants to implement the goals and policies of the Circulation Plan related to the railway system.

T-20. The City shall work with the Public Utilities Commission (PUC) to identify issues related to the at-grade crossings of the rail line in the General Plan planning area. Based on this, the City shall establish and monitor thresholds for railroad crossings in the planning area to determine potential issues and opportunities.

3.12 EQUESTRIAN TRAILS AND ROADWAY USE

The following presents the goals, policies, and implementation measures for the equestrian trails and roadway use in the General Plan planning area.

Goals

- Provide safe and convenient access to equestrian trails and roadway use.
- Provide signage designating equestrian trail and roadway routes.

Policies

- Work with local equestrians to identify additional equestrian trails and roadway use.

- Work with future developers of equestrian residential developments to adhere to the dedication of a sixty-foot wide vehicular equestrian and utility easement.

- The equestrian trails and roadway use should be monitored and evaluated in order to determine the effectiveness of established trails and roadways in terms of use, safety, and efficiency.

Implementation Measures

The following are implementation measures to be carried out by the City and/or project applicants to implement the goals and policies of the Circulation Plan related to equestrian trails and roadway use.

T-21 The City shall work with local equestrians and future developers of residential equestrian developments to identify issues related to the development and use of equestrian trails and roadway use by other modes of transportation. The City shall establish, monitor and evaluate equestrian trails and roadway use in the planning area to identify issues and provide resolution.

THIS PAGE IS RESERVED

FOR

THE HOUSING ELEMENT

CHAPTER 4.

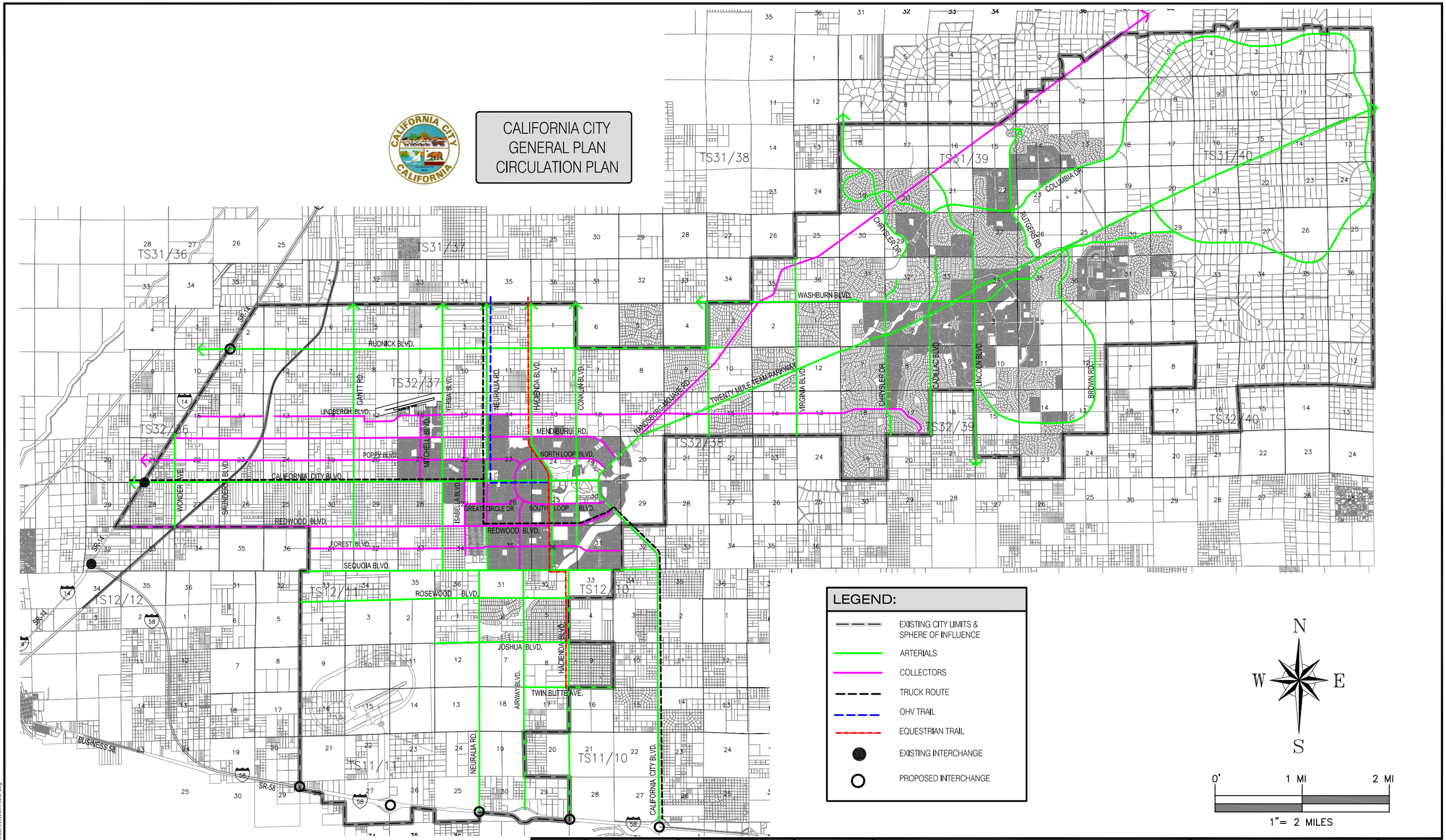
UNDER SEPARATE COVER

THE HOUSING ELEMENT IS UPDATED EVERY 5 YEARS,

WHEREAS THE GENERAL PLAN'S OTHER SIX MANDATORY ELEMENTS

ARE UPDATED EVERY 20 OR 30 YEARS.

CALIFORNIA CITY GENERAL PLAN CIRCULATION PLAN



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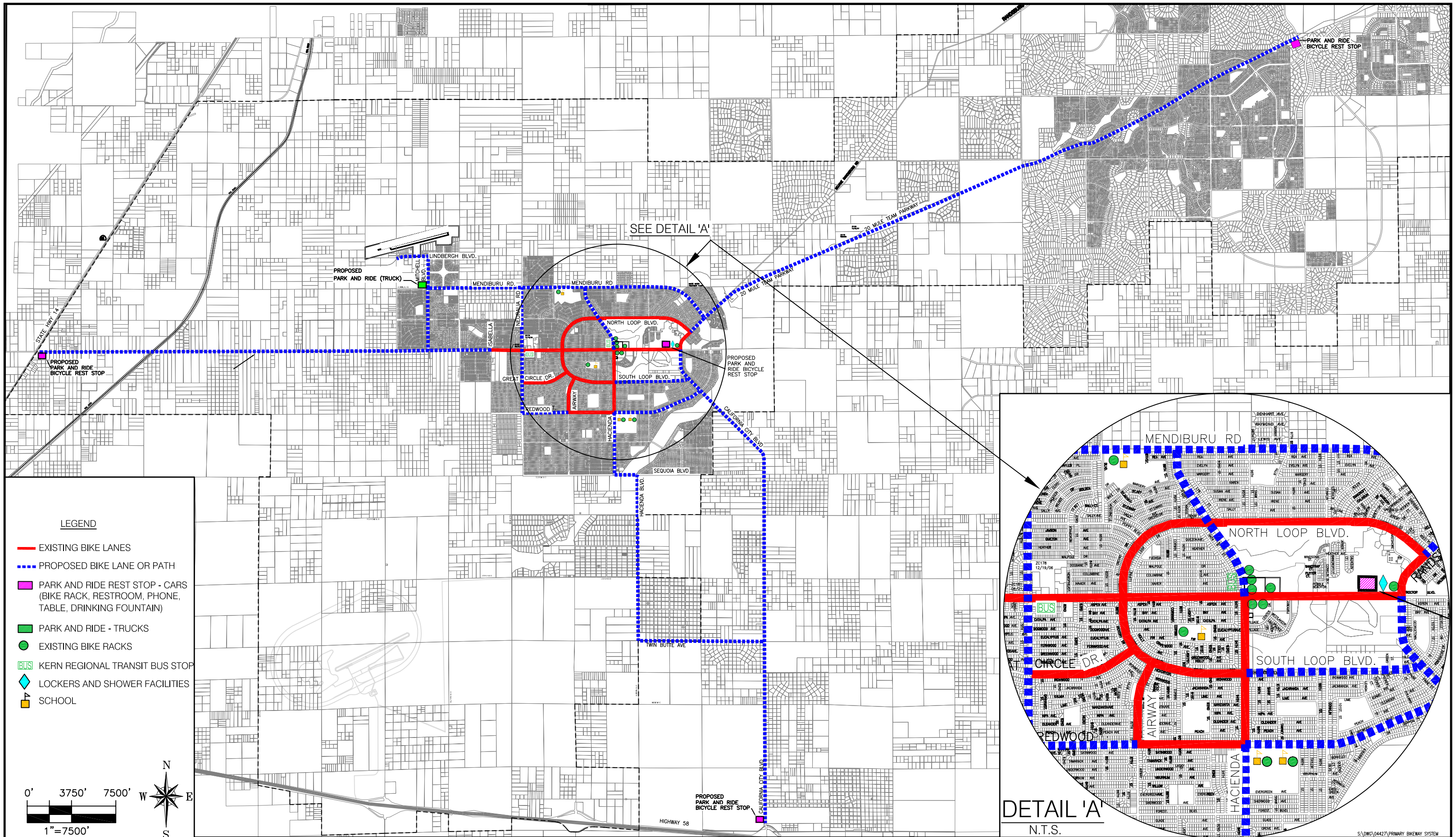
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
CIRCULATION PLAN
FIGURE 3-1

SHEET 1 OF 1 SHEETS

S:\DWG\04427\FOR RONNA\CIRCULATION MAP.dwg



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CITY OF CALIFORNIA CITY
PRIMARY BIKEWAY SYSTEM
FIGURE 3-2

SHEET ____ OF ____ SHEETS

CHAPTER 5 OPEN SPACE AND CONSERVATION

Overall Goal: To preserve and protect open space resources which contribute to the well being of California City residents. To preserve and protect conservation resources that are unique to California City environs.

5.1 DESCRIPTION OF OPEN SPACE AND CONSERVATION ELEMENT

The Open Space and Conservation Element provides goals, policies, and implementation measures that seek to preserve and protect open space resources and conservation resources in the General Plan Planning Area. Since the concerns of the Conservation Element relate directly to, and overlap many of the concerns of the Open Space Element, these two elements have been prepared as a combined element. The Open Space portion of this Element provides land for open space, parks, and outdoor recreation, for public health and safety, and the preservation and management of natural resources. The Conservation portion of this Element provides for the conservation and utilization of natural resources including water, floodplains, mineral resources, air quality, sensitive biological resources, and historical and cultural resources. In addition, this Element addresses energy conservation.

5.2 STATUTORY REQUIREMENTS

State of California Planning Law requires that an open space element be prepared as part of the general plan (Government Code Section 65302[e]). As defined by the State, open space should include lands for:

(1) the preservation of natural resources;
(2) the managed production of resources;
(3) outdoor recreation; and
(4) public health and safety (Government Code Section 65560[b]).

State of California Planning and Zoning Law requires that a conservation element be prepared as part of a general plan as follows:

> Government Code Section 65302(d): A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies which have developed, served, controlled or conserved water for any purpose for the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

The issues addressed in the Open Space and Conservation Element are integrated into the goals, policies, and implementation measures and plans, contained in other elements of the General Plan Specific discussion on water supply, water distribution, and flood control is provided in the Safety Element.

5.3 CALIFORNIA CITY'S CONTROLLED DEVELOPMENT

Controlled Development

Controlled Development in the City of California City shall mean land designated for the express purpose of specific land development planning that is consistent with the goals, objectives and policies of the California City General Plan. Strong consideration shall be given to the development of park/open space and public/*quasi-public uses which benefit the entire community on those parcels of land which were originally created for that purpose.

*The *American Heritage College Dictionary defines: quasi- To some degree, to some manner. quasi: Having a likeness to something; resembling.*

The Controlled Development category is conditionally compatible with industrial uses, commercial uses, recreational uses, large lot subdivisions, open space uses, agricultural and horticultural uses. Very low density residential uses (one dwelling unit per twenty acres) maybe developed on an interim basis. Further subdivisions of land (of parcels less than twenty acres in size) and/or the development of uses other than those specified by the General Plan would require detailed plans to be provided by the owner and/or developer of such lands and review by the Development Review Committee (DRC). In the case of residential subdivisions, the General Plan allows a maximum density up to six dwelling units per acre with approval of a detailed plan submitted to DRC and depending on the nature of the project, may require additional review by the Planning Commission and City Council at public hearings. Development proposals may be considered and adopted at any time by the City provided that the above detailed plans serve to address the social, environmental and economic concerns of the community which are consistent with the goals, objectives and policies of the General Plan.

5.4 CALIFORNIA CITY'S OPEN SPACE/RESIDENTIAL AGRICULTURAL, CONSERVATION (O/RA) AND GOVERNMENT (G) LAND

Open Space/Residential Agricultural (O/RA) Zoning

Open Space/Residential Agricultural (O/RA) is a combined zoning district.

The Open Space ("O") District provides for the preservation and conservation of unique natural resource lands, protection and preservation of unique wildlife resources and habitats, protection against flooding by storm water in flood prone areas and the establishment of active and passive recreational uses.

The Residential/Agricultural ("RA") District provides living area which combines the advantages of urban and rural location by limiting development to very low density one-family dwelling and permitting animals and fowl to be kept for pleasure or hobbies.

Conservation Land is consistent with Open Space and Residential Agricultural and referred to in the City's Zoning Code as O/RA.

Conservation Land (O/RA)

Conservation Land (O/RA) is designated for the protection, preservation and conservation of unique area within the California City environs. The City has scattered throughout its boundaries 2,176 acres of privately owned conservation land.

Government (Public Facilities) (G)

Government (Public Facilities) (G) is land designated for the location of government and all quasi-governmental facilities and services which are necessary to the general welfare of the community. Typical uses include City Hall, fire stations, police stations, wastewater treatment plant, parks and schools. There is 181 acres designated Government (G) land in the City.

Currently the City has 82,426 acres designated Controlled Development and Open Space (O/RA), 181 acres of Government (G) combined with 2,176 acres of Conservation Land (O/RA) and within its jurisdictional boundaries of 130,200 total acres. The combined total of acres is 84,783 or 65% of the land in the City is designated Controlled Development and Open Space, Government and Conservation Land as shown in **Table 5-1, General Plan Land Use Designations**.

TABLE 5-1
CALIFORNIA CITY
GENERAL PLAN LAND USE DESIGNATIONS

GENERAL PLAN LAND USE DESIGNATIONS		ACRES
MEDIUM DENSITY **Single Family Residential**	**6 DU/AC Sewered** **2 DU/AC Unsewered**	**9,091**
MEDIUM-LOW DENSITY **Single Family Residential**	**4 DU/AC, Sewered** **2 DU/AC, Unsewered**	**544**
LOW DENSITY **Single Family Residential**	**2 DU/AC**	**60**
RURAL DENSITY **Single Family Residential**	**1 DU/AC**	**457**
ESTATE DENSITY **Single Family Residential**	**1 DU/2AC**	**19,240**
HIGH DENSITY **Multi-Family**		**3,900**
Neighborhood Retail and Office		**388**
Community and Regional Commercial		**360**
Light Industrial		**10,895**
Heavy Industrial		**322**
Controlled Development & Open Space (O/RA)		**82,426**
Government (Public Facilities) (G)		**181**
Conservation Land (O/RA)		**2,176**
Community Medical Center (CMC)		**160**
TOTAL		**130,200**

Source: California City Zoning/General Plan Map and Existing Jurisdictional Boundaries and Coterminous Sphere of Influence.

Open Space and Conservation Land

Open Space is an irreplaceable resource and one of the most valuable assets within the General Plan Planning Area. It is irreplaceable because once it has been committed to urban development, it will not be recoverable as open space.

Open Space generally refers to any water or land which has value for single or multiple open space functions. There are five different functional types of open space. These include open space for:

(1) the preservation of natural resources;

(2) the managed production of agricultural and other resources;

(3) public health and safety including floodplains and unstable soil areas which require special management or regulation;

(4) controlling urban form and preventing inefficient patterns of development; and

(5) outdoor recreation including parks and areas of historic and cultural value.

As used in this Element, open space refers to:

(1) land usable by the public for passive or active recreational purposes;

(2) land conserved for the purposes of public health and safety (floodplains, areas with geologic constraints, or areas of low altitude overflight) as addressed in the General Plan Safety Element;

(3) land set aside for the preservation of habitat for sensitive vegetation and wildlife species; and

(4) land retained for the preservation of areas with known or potential historical or cultural value.

Open Space Permitted Uses:

The Open Space ("O") District shall be reviewed and approved by the Planning Director, and the planning and building officials to ensure compliance with applicable city codes, standards and regulations prior to development:

Agricultural uses (no dwellings),

Flood channels,

Land conservation preserves,

Ponds and basins,

Wildlife preserves.

Open Space Conditional Uses: The following may be permitted in the O District with a conditional use permit:

Caretaker's dwelling(s) and necessary accessory buildings,

Historic and cultural sites,

Cemetery and appurtenant uses.

Residential Agricultural (RA)

The Residential Agricultural ("RA") District provides living area which combines the advantages of urban and rural location by limiting development to very low density one-family dwelling and permitting animals and fowl to be kept for pleasure or hobbies.

The minimum lot area in the RA District is one acre.

Residential Agricultural Permitted Uses: The following uses are permitted in the RA District:

(a) Single Family Dwellings and Mobile Homes;

(b) Riding Stables. In the housing of equines, the following three requirements must be met:

(1) Corrals: A corral shall be constructed for each horse. Corrals shall be a minimum of 12 ft. by 24 ft. and constructed of proper building material to maintain an animal of this size. The corrals shall be constructed of pipe corrals, wood or equine vinyl/PVC. Each corral shall have a minimum of three (3) 2" by 6" rails and use non-climb or v-mesh wire fencing with no less than a 4" by 4" post.

(2) Shelters: Each shelter shall be a minimum of 12 ft. by 12 ft. with no less than a three-sided enclosure with a roof to provide for adequate shade and to protect against prevailing winds.

(3) Animals housed in fenced areas shall have cross-fencing in the event of failure of the primary fence. Cross-fencing shall be made of adequate strength and material to hold an animal of this size, in the event a horse escapes - a corral area.

(c) Agricultural uses, including the keeping of poultry and rabbits or similar livestock. These animals will be kept in proper housing and enclosed areas. No numerical limit shall be enforced, provided the animals' housing is not overcrowded or becomes a nuisance to neighbors or to the neighborhood. No more than one each of horse, swine, mule, cow, goat, sheep, llama, emu, ostrich, deer, or bison is permitted for each one-fourth (1/4) acre of unimproved (except for animal enclosures) area of the parcel upon which such animals are kept, provided, no person shall allow or provide for the grazing of these animals except within fenced and enclosed areas from which the animal cannot wander. No person shall drive, herd or cause such animal to be moved along or over the streets of the City except within the confines of a licensed vehicle. Equines may be ridden along equestrian trails if they do not cause any traffic impediment. No person shall raise, breed, keep, or maintain an endangered, rare (threatened species) or exotic species of bird, mammal, fish, amphibian, nonpoisonous or poisonous reptiles, spiders, scorpions, other insects, including bees;

(d) Nurseries and greenhouses;

(e) Temporary stands for the sale of agricultural, horticultural, or farming products grown or produced on the premises; and

(f) Open space and conservation lands.

Residential Agricultural Conditional Uses: The following uses may be permitted in the RA District with a conditional use permit:

(a) Churches in excess of 15,000 square feet.

(b) Public or quasi-public uses of an educational or religious type, including public and parochial elementary schools, junior high schools, high schools and colleges; nursery schools, licensed daycare facilities for more than twelve (12) children; churches, parsonages and other religious institutions.

(c) Public and private charitable institutions, general hospitals, sanitariums, nursing and convalescent homes, not including specialized hospitals, sanitariums, or nursing, rest and convalescent homes for acute psychiatric, drug addiction or alcoholism cases.

(d) Public uses of a recreational or cultural type including museums, art galleries, ambulance services.

(e) Electric distribution substations.

(f) Gas regulator stations.

(g) Public utility service yards, excluding municipally owned.

(h) Public utility pumping stations and/or elevated pressure tanks, excluding municipally owned.

(i) Mobile home parks.

(j) Planned developments.

(k) Fraternal organizations, lodge halls, private clubs, philanthropic institutions and other related quasi-public institutions.

(l) Private or public golf courses.

(m) Outdoor festivals (including those on private property and excluding City sponsored activities).

(n) Commercial and noncommercial communication facilities (equipment buildings) and towers.

(o) Portable cargo container accessory to the main structure and used on the same site.

(p) Governmental or quasi-governmental correction, probation or prison facilities and services.

(q) Recreational camps and resorts.

(r) Sites for the development or extraction of natural materials.

(s) Boat liveries.

(t) Equine veterinaries; equestrian establishments, including stables and horse corrals, riding academies, riding schools, and riding amusements.

Parks, Schools, Recreational Facilities and Conservation Land

The General Plan Planning Area contains parks, schools, recreational facilities and conservation land divided into two figures as shown in **Figure 5-1a Central Core and Figure 5-1b Northeastern Portion, Parks, Schools, Recreational Facilities and Conservation Land**.

Table 5-2, Parks, Schools, Recreation Facilities and Conservation Land tabulates the total acres and percentages of these facilities and lands as it relates to the City's overall 130,200 acres.

- **Central Park -** California City's Central Park is a popular recreational complex that is host to community celebrations, corporate picnics, and year-round fun for the entire family. Central Park, which is City-owned and operated, is located on 82.90 acres in the central core area, more specifically in the southwest quarter of Section 19, T32S, R38E, MDB&M. The recreational facilities features a community center, tennis, basketball, volleyball, and hand ball courts. There are three lighted soccer and Little League baseball fields, restroom facilities, water fountains, a new sports center offering a wide range of indoor activities for residents of all ages throughout the year. The lake offers fishing for bass, blue gill and catfish with a marina for paddle boats. The City's swimming pool is open during the summer months and the children's playground is particularly popular with the younger crowd. There are benches, lawns and the mature pine trees offer plenty of shade on hot days. The covered pavilions, offer a great place for bands to play, there are covered picnic tables with bar-be-cue pits scattered throughout the park. Recently added to the existing park grounds, is Freedom Park with flagpole, plaques, statues, and gardens honoring our service men and woman. A beautifully groomed 18-hole Par 3 Executive golf course is also part of Central Park complex.

- **18-hole PGA Golf Course -** Adjacent to the 18-hole Par 3 Executive course is the California City's Tierra Del Sol 18-hole PGA Championship Golf Course. The championship golf course totals 157.61 acres as it loops around the southwest quarter of Section 19,T32S, R38E MDB&M, into the southeast quarter of Section 24, T32S, R37E, MDB&M, where it crosses over California City Boulevard by way of a bridge, to the northeast quarter of Section 25, T32S, R37E MDB&M and the northwest quarter of Section 30, T32S, R38E, MDB&M. The course is one of the finest in the high desert. Playing over 6800 yards with long fairways, challenging bunkers and abundant water with 5 lakes, Tierra Del Sol is one of the most popular courses in Southern California. The course features a driving range, putting green and the full service pro shop hosts a popular restaurant.

- **Balsitis Park** - City-owned Balsitis Park is located on 15.01 acres to the northwest of the central core area of the City, more specifically in the southwestern quarter of Section 22, T32S, R37E, MDB&M. Balsitis Park is a popular neighborhood park with bar-be-cue pits, picnic tables, pavilions, and restroom facilities. Two lighted fields for softball, baseball or soccer and one non-lighted field, basketball and volleyball courts are also available.

- **RPU Elementary School** - RPU Elementary School, 91124 Catalpa Avenue, California City, 93505, (760) 373-4824, is a 16.71-acre site in the northwestern quarter of Section 25, T32S, R37E, MDB&M, opened in 1965. RPU Elementary School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades K-3 with an estimated enrollment of 630. Facilities include administration offices, cafeteria/multi-purpose room, 35 classrooms, library/multi-media center and playgrounds/sports fields.

- **Hacienda Elementary School** - Hacienda Elementary School, 19950 Hacienda Boulevard, California City, 93505, (760) 373-5824, is a 28-acre site the northeastern quarter of Section 36, T32S, R37E, MDB&M, opened in 2007. Hacienda Middle School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades 4-6 with an estimated enrollment of 480. Facilities are under construction with temporary facilities in use now. The anticipated completion of the school is August 2009. Facilities will include administration offices, cafeteria/multi-purpose room, 25 classrooms, library/multi-media center and sports fields.

- **California City Middle School** - California City Middle School, 9736 Redwood Boulevard, California City, 93505, (760) 373-3241, is a 45-acre site in the northeastern quarter of Section 36, T32S, R37E, MDB&M, opened in 1992. California City Middle School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades 7-8 with an estimated enrollment of 350. Facilities include administration offices, cafeteria/multi-purpose room, gymnasium, 17 classrooms, library/multi-media center and sports fields.

- **California City High School** - California City High School, 8567 Bolden Avenue, California City, 93505, (760) 373-5263, is a 63.64-acre site in the northeastern quarter of Section 20, T32S, R37E, MDB&M, opened in 2007. California City High School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades 9-12 with an estimated enrollment of 280. Facilities are under construction with temporary facilities in use now. The anticipated completion of the school is October 2009. Facilities will include administration offices, cafeteria/multi-purpose room, 26 classrooms, library/multi-media center, sports fields, and gymnasium.

- **California City Memorial Park (Public Cemetery)** - California City Memorial Park (Public Cemetery), 22000 Randsburg Road, California City, is a 10-acre memorial park opened and dedicated as a public cemetery into the East Kern Cemetery District on April 14, 1978. The Cemetery has ten acres available for development of which one and three-quarter acres is in use now. Located in the northeastern quarter of Section 20, T32S, R38E, MDB&M. Landscaped with lawn,

sidewalks, shrubs and completely fenced for present use. The Cemetery has a beautiful panoramic view of the surrounding desert and mountains. The East Kern Cemetery District Office is located at 2040 Belshaw Street in Mojave, California 93502, (661) 824- 2778 or (800) 711-6199.

- **Kiosk Park -** City-owned Kiosk Park is located to the east of the intersection of Randsburg-Mojave Road and Twenty Mule Team Parkway. The site is 3.34 acres located in the northwestern quarter reception/registration and information area. The existing facilities consists of a recreational vehicle waste disposal station, water, picnic table, patio cover and Kiosk. California City has a Desert Incident Response Team (D.I.R.T.), staff consists of police, ambulance, and fire department volunteers dedicated to all OHV riders during long weekends and holidays. California City is ranked the 12th largest OHV land use area in the state and it is ranked as the third largest city in land mass in California and is ranked 34th in the nation in land mass.

- **Borax Bill Park -** Borax Bill Park is City-owned and operated consisting of three parcels totaling 31.59 acres. Located to the north of Twenty Mule Team Parkway in the south one half of Section 6, T32S, R39E, MDB&M. The amenities at Borax Bill consist of recreational vehicle day parking, restroom and shower facilities, picnic area, and power connections for recreation vehicles.

- **Cal City MX Park -** Cal City MX Park is a privately owned 10.59-acre motocross track, located in the south one half of Section 6, T32S, R39E, MDB&M and it is directly northeast of Borax Bill Park. Cal City MX is a practice and race facility with staff including flaggers and an emergency medical technician (EMT) present at all times. Cal City MX Park offers two tracks. The main tract consists of jumps from 10 to 110 feet. The second track is a "pee wee" track for young riders and pee wee dirt bikes only. The park offers organized motocross events and races throughout the year. The facility has a concession stand and a pro shop. Parking is located outside of the fence and can be used by the Cal City MX Park customers for overnight parking at no charge.

- **Galileo Hill and Park "J" -** Galileo Hill and Park "J" is a City-owned park comprised of six parcels totaling 187.3 acres, located in the southeast quarter of Section 23, T31S, R39E, MDB&M, in the southwest quarter of Section 24, T31S, R39E, MDB&M and in the northwest quarter of Section 25, T31S, R39E MDB&M. Galileo Hill is not currently available for public use and is fenced. Galileo Hill is a police repeater site and commercial radio broadcasting tower for KGBB, FM 103.9, Edwards, California.

- **Silver Saddle Ranch and Club -** Silver Saddle Ranch and Club is a privately owned and operated recreation area comprised of nine parcels totaling 1,151.38 acres, located in the northwest quarter of Section 23, T31S, R39E, MDB&M, in the northeast quarter of Section 23, T31S, R39E, MDB&M, in the southwest quarter of Section 23, T31S, R39E, MDB&M, in the southeast quarter of Section 23, T31S, R39E, MDB&M, in the northwest quarter of Section 24, T31S, R39E, MDB&M, in the southwest quarter of Section 24, T31S, R39E, MDB&M, in the northeast quarter of Section 25, T31S, R39E, MDB&M, in the northwest quarter of Section 26, T31S, R39E, MDB&M, in the northeast quarter of Section 26, T31S, R39E, MDB&M. Facilities include recreational vehicle overnight parking, tent camping in tepees, horse stables, lodge facilities, a swimming pool, and hiking and riding trails.

- **Off Highway Vehicle (OHV) Trails -** Off Highway Vehicle (OHV) Trails include two areas where OHV trails connect the central core of the City, north along Neuralia Road on the eastside of the roadway in the City's right-of-way, to OHV trails on Bureau of Land Management (BLM) lands along the northeastern portion of the City.

- **Bikeways -** The City adopted a Bikeways Plan in October 2008 as a subsection of the Circulation Element. The Bikeways Plan, designates primary bicycle routes within the central core area of the City and an extended route. The bikeway system was designed to serve major community traffic generators including commercial areas, schools, recreational facilities, and major public facilities. Many of the users of the bike way system were identified to be children on their way to and from school and recreational activities. One emphasis of the plan is to link residential areas with the schools and recreational facilities in the central core and extend the bicycle route to State Highway 14. In addition, the bikeway system provides for an alternative mode of transportation consistent with the Transportation Enhancement Act (TEA) and the Congestion Mitigation and Air Quality (CMQA) Programs.

- **Equestrian -** The City is working to establish equestrian trails to connect the southern portion of the City with the central core. There are four pockets of equine ownership in the City. These areas include the northeastern portion of the City and the Silver Saddle Ranch and Club, south to the Rancho Estates, west to Wonder Acres and centrally located north of Poppy Boulevard between Neuralia Road and Yerba Boulevard.

TABLE 5-2 CITY OF CALIFORNIA CITY PARKS, SCHOOLS, RECREATION FACILITIES, AND CONSERVATION LAND		
PARK, SCHOOL, RECREATION	**APN**	**ACRES**
Central Park, lake and 18-hole Par 3 Executive Golf Course	**APN 212-010-04 SW 1/4**	**82.90**
Golf Pro Shop 18-hole Tierra Del Sol PGA Championship Golf Course	**APN 212-010-22 SW 1/4 APN 212-010-23 SW 1/4 APN 212-010-24 SE 1/4 APN 205-320-16 NE 1/4 APN 210-160-39 NW 1/4**	**3.56 24.56 54.77 53.36 21.36**
Balsitis Park	**APN 299-200-03 SW 1/4 APN 299-210-10 SW 1/4**	**5.00 10.01**
RPU Elementary School	**APN 205-040-01 NW 1/4**	**16.71**
Cal City Middle School	**APN 207-100-01 NE 1/4**	**45.00**
Hacienda Elem School	**APN 207-100-01 NE 1/4**	**28.00**
Cal City High School	**APN 213-110-14 NE 1/4**	**63.64**
Cal City Memorial Park	**APN 212-550-01 NW 1/4**	**10.00**
Kiosk Park	**APN 212-370-07 NW 1/4**	**3.34**
Borax Bill Park	**APN 262-130-01 S 1/2 APN 262-260-02 S 1/2**	**22.89 8.70**
Cal City MX Park	**APN 262-260-01 S 1/2**	**10.59**
Galileo Hill (GH) and Park J	**APN 457-020-06 SW 1/4 repeater site (GH) APN 457-020-07 SW 1/4 repeater site (GH) APN 457-020-08 SW 1/4 radio tower (GH) APN 457-020-11 SE 1/4 Park J APN 457-020-26 SE 1/4 Park J APN 457-030-09 NW 1/4 Galileo Hill (GH)**	**.23 .23 .23 24.35 3.41 158.85**
Silver Saddle Ranch & Club	**APN 457-020-05 SW 1/4 APN 457-020-12 SE 1/4 APN 457-020-13 NW 1/4 APN 457-020-14 NE 1/4 APN 457-020-16 NW 1/4 APN 457-020-25 SW 1/4 APN 457-030-04 NW 1/4 APN 457-030-05 NE 1/4 APN 457-030-10 NE 1/4**	**158.58 129.44 136.78 63.95 78.85 151.16 135.35 157.59 139.68**
Parks, Schools, and Recreational Facilities 13.85% of 130,200 acres.	**TOTAL ACRES**	**1,803.07**
Privately Owned Conservation Land 16.72% of 130,200 acres.	**TOTAL ACRES**	**2,176**

5.5 DEVELOPMENT PROCESS

Description of Application Process: The City of California City has assembled this material in a brochure and information guide in order to assist in the processing of all planning applications and tentative, parcel and final maps for subdivisions within the city. The development process in California City includes the steps described in:

Pre-application Conference: Prior to preparing any plans to the City for review, contact should be made with the Planning Technician to discuss the proposed development. This step will insure that all applicants are familiar with the zoning, land development regulations in the City, and application requirements, as well as other issues that may relate to the specific development proposal, including California Environmental Quality Act (CEQA) requirements. The Planning Department has available an electronic version of the application packet and copies are available at the City Planning Department counter for **anyone** not having access to a computer and the internet.

Concept Plan Review (DRC or Site Plan): A Concept Plan, with a complete Concept Plan Review Application must be submitted to the Planning Technician. A complete application will contain all items on the concept plan checklist.

Conceptual Review: Conceptual review is referred to as Development Review Committee (DRC) or site plan approval. Applicants must complete the conceptual review checklist and return it with the completed application form, initial study, environmental checklist form, backup material requested, such as, developer drawings, plans and applicable fees. Equally important, is the need for title reports (not more than 30 days old) and biota studies. Biota studies are required for all newly constructed projects on raw land. Existing structures do not require a biota study. CEQA fees may apply and consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service may also be necessary. Applicants are informed of CEQA fees that may apply to their project during the pre-application conference. At the DRC, determinations will be made regarding initial CEQA requirements and depending on the nature of the project, more extensive CEQA review and fees may be required. A description of all CEQA documents and fees are available in the DRC application packet.

Concept plans will be placed on Planning Commission agendas only after a DRC conference has taken place and a completed application and fees have been submitted to the Planning Department. Additional fees may be required, if the project needs other permits. For example, if a project requires conceptual review prior to applying for a conditional use permit, zone change/general plan amendment, annexation/detachment or a variance, adult care or large family day care. At the discretion of the Planning Director, the Planning Commission may review the concept plan and may offer opinions, suggestions, comments and any other input they feel is appropriate. Commission comments are not binding and are intended only to benefit the developer as they prepare Tentative Map applications. Any concept plan must be acted upon within 120 days. After that time the concept plan will require a re-review.

Tentative Plan Review: After the DRC and/or Planning Commission makes any suggestions or changes to the concept plan, a tentative subdivision/parcel map for the project may be prepared. Maps must be prepared by a registered licensed civil engineer or licensed land surveyor and must contain their stamp. The plans are again reviewed by the Development Review Committee. A DRC report will be prepared advising

the developer of any required changes which must be made. The report will also outline suggested changes, which may be made to improve the project. When any required changes have been made and re-submitted to the Planning Department they will be reviewed by the Director of Public Works, City Engineer and Planning Director. If satisfactory, the project will be placed on the Planning Commission Agenda. As required, the Planning Commission will conduct a public hearing on the tentative map. This hearing is scheduled in accordance with the attached Planning Commission calendar after the submittal is deemed to be complete. The Planning Technician will notify affected property owners within 300 feet. Applicants will receive a written report of conditions of approval from the Planning Director, which will be required to be met prior to recording of the Final Map.

Final Plan Review: After the Planning Commission completes their tentative map review, applicants may proceed to prepare the Final Map documents, construction drawings, etc. that are needed to obtain final approval. The City Council shall review and approve the Final Map(s). The staff review is thorough on the final map and one can save time by making sure that everything needed is complete when submitted, especially information for the City Engineer. The City Planning Commission may review the concept plan for the entire project at the discretion of the Planning Director, or, at the request of the applicant. Complete applications will be scheduled for a conference with the Development Review Committee. The DRC Conference is intended to provide guidance to developers in getting map applications approved.

Projects that must go through conceptual review are:

1) **Commercial and industrial projects** involving new construction, extensive modification to an existing structure, or if the proposed business is new to the building.

2) **Large apartment complex**, involving four (4) or more units. Two (2) duplexes on the same lot qualifies as four (4) units and requires conceptual review.

3) **Subdivisions** consisting of **parcel map or tract map** and **amendments** to these maps. A parcel map generally requires partial infrastructure be put in place or provisions be made for future development or phases. However, a tract map requires complete infrastructure be in place or provisions be made for future development or phases. Infrastructure includes, water, sewer, natural gas, electricity, curb, gutter, sidewalk, street lights, storm drain, etc. An amendment is defined as considerably changing the scope of what was originally approved. These subdivisions have checklists for both the tentative map and final map process in the application packet. Tentative maps are reviewed and approved by the Planning Commission at a public hearing. Final tract maps require the filing of an application with the Planning Technician and payment of a final map fee, before the final map is sent to Council. Final maps require only City Council approval and are scheduled when the City Engineer deems the map is complete and coordinates with the Planning Technician that all final map fees have been paid.

4) **Conditional use permit CUP)** must go through conceptual review and Planning Commission approval at a public hearing.

5) **Zone change** requires conceptual review, Planning Commission and City Council approval at public hearings.

6) **General plan amendment** must go through conceptual review, Planning Commission and City Council approval at public hearings. A General Plan Amendment may be filed only four times in one year: January, April, July, and October.

7) **Annexation/detachment and zone change/general plan amendment** must go through conceptual review, Planning Commission and City Council approval at public hearings. A General Plan Amendment may be filed only four times in one year: January, April, July, and October.

8) **Adult Care or Large Family Day Care**. The definition for Large Family Day Care, according to the Community Care Licensing Division (CCLD) of the State of California, Large Family Day Care consists of nine to fourteen children. Also requiring a DRC meeting, as approved in the California City Municipal Code (CCMC), is the twenty-four hour care facilities for foster homes, for a maximum of six individuals in addition to the residing family. The *American Heritage College Dictionary* defines "foster" as providing parental care and nurture to children not related through legal or blood ties. The standard application form, DRC and CUP fees apply to Day Care Centers and commercially zoned Adult Care Facilities. "Large" scale facilities such as, Child Care Centers, Adult Residential Facilities (ARF), Residential Care Facilities for the Elderly (RCFE), and Group Care Facilities, are only permitted in the appropriate City zones, such as open space residential agricultural (O/RA), where the lot size is a minimum of one acre or an appropriate commercial zone.

Projects that do not require conceptual review are:

1) **Lot line adjustment, parcel map waiver, lot merger, unmerger, or certificate of compliance**. A certificate of compliance is typically filed with a parcel map waiver, lot merger, unmerger of lots or a lot line adjustment. Parcel map waivers can be used when creating 40-acre parcels or quarter-quarter sections, a maximum of 4 parcels can be created using this process. Maps must be prepared by a registered licensed civil engineer or licensed land surveyor and must contain their stamp on the before map, after map and on the new metes and bounds legal description. Approval by the Planning Commission at a public hearing is required. On occasion, an owner will file for a certificate of compliance as a "stand alone" document, when a parcel was created without using one of the acceptable processes recognized by the Subdivision Map Act; being a parcel map, tract map or a parcel map waiver.

2) **Variance**. A minor variance is approved by the City Manager/Planning Director. However, the process does require an application be filed, backup material be provided and payment of a fee. Depending on the nature of the variance, the City Manager/Planning Director may require a conceptual review and approval by the Planning Commission at a public hearing.

Development Agreement: A Development Agreement may be required at the discretion of either the Planning Director or Planning Commission. The Development Agreement will apply to the entire project. City Staff can provide copies of the Development Agreement Form.

Appeal Process: If an application is denied by the Planning Commission, the owner/applicant may file an appeal within ten (10) days of the denial and pay the fee to be heard by City Council.

5.6 CALIFORNIA CITY'S OPEN SPACE AND CONSERVATION EFFORTS

The City of California City open space and conservation efforts include:

(1) No person shall drive, herd or cause such animal to be moved along or over the streets of the City except within the confines of a licensed vehicle.
(2) Equines may be ridden along equestrian trails if they do not cause any traffic impediment.

(3) No person shall raise, breed, keep, or maintain an endangered, rare (threatened species) or exotic species of bird, mammal, fish, amphibian, nonpoisonous or poisonous reptiles, spiders, scorpions, other insects, including bees.
(4) No person shall discharge a firearm within the City limits.
(5) Off Highway Vehicles (OHV) may be ridden along designated trails and within approved areas for the racing and riding of such vehicles.
(6) Biota studies are required by developers for all new construction projects.
(7) Educating the public on the protection of vegetation and wildlife that inhabit the Mojave Desert.

5.7 OVERVIEW OF EXISTING CONDITIONS

Today construction projects are developed in the City on raw land following the DRC process. However, early in the City's history the laws were different and so was the approval process for construction projects. The history of the City is available to the public in a brochure and an information guide that includes vegetation and wildlife in the area. The City's wildlife is shown in **Figure 5-2, Wildlife** and the chronological order of the environmental impact reports (EIR's), subsequent or supplemental environmental impact reports or negative declarations that allowed for the construction of the facilities that the City enjoys today. There are so many more amenities California City needs, to make it totally self-sufficient. However, the encroaching urban cities with larger economic resources, seek areas that are rural and isolated to satisfy the "take" requirements, including the purchase of an equal amount of land for habitat replacement for their projects. Leaving small rural communities surrounded by habitat protected land or open range, such is the case of California City. The purpose of growth management is to limit irresponsible actions but without discouraging or penalizing entrepreneurial actions which could have a positive benefit for the City. California City acknowledges its responsibility to protect its ecosystem.

Chronological Order of EIR's, SEIR or Neg Dec's *(incorporated by reference)*

The State Clearinghouse (SCH) number begins with the year it was submitted according to the State Clearinghouse personnel. In earlier environmental documents, the first two digits were omitted however, it is understood that the omitted digits would be the year. In staff's research for this Element of the General Plan update, according to the State Clearinghouse personnel, older documents may have been inadvertently omitted in the transfer of documents to the State's upgraded system. The City's environmental documents allowed projects to be constructed or transferred land from one entity to another. The City's Planning Department maintains these permanent records and are ***incorporated by reference*** and maybe the only surviving documents.

1. **The Airport Master Plan**, ***incorporated by reference, The Airport Environmental Impact Report, April 1977, (SCH #1976112293) planning years 1975-1995, updated December 1994 planning years 1995-2015, updated June 2005 planning years 2005-2025.*** The Municipal Airport is located to the north and is zoned Light Industrial and Research (M1)

   The Airport Land Use Compatibility Plan, ***incorporated by reference, The Kern County Airport Land Use Compatibility Plan, June 1994, City of California City's Negative Declaration filed February 1999 (SCH #1998122031). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

2. **California City Annexation/Detachment #3**, ***incorporated by reference, Wonder Acres Specific Plan - Kern County (SCH #1984110505). Documents are on file in the California City Planning***

Dept., 21000 Hacienda Blvd., California. Inside the City's jurisdictional boundaries to the west is the rural area of Wonder Acres, annexed into the City in 1991 and today has multiple zoning designations from residential to commercial.

3. **The 1988-2028 City of California City Redevelopment Plan and Project Area,** ***incorporated by reference, 2028 City of California City Redevelopment Plan and Project Area Environmental Impact Report (SCH #1987110918) and amendments known as first, second, and third. The third amendment was by Negative Declaration (SCH #2003061080). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** The 2028 Redevelopment Plan and Project Area is a 40-year planning document. The EIR reviewed potential impacts on land use, circulation, housing, population, public services and utilities. The original project area incorporated 81,500 acres and encompassed both the central core and northeastern portion of the city. However, through mitigation with the State of California Department of Fish and Game, the City reduced the acreage by 59,500 acres, thus eliminating the northeastern portion of the City from the plan and leaving the central core's 22,000 acres intact for future development. The EIR is similar to a habitat conservation plan for the central core of the City with the giving up 59,500 acres in order to develop the remaining 22,000 acres.

4. **Citywide California City General Plan,** ***Environmental Impact Report, incorporated by reference, (SCH #1992062069), General Plan Update 2012.***

5. **Villages Specific Plan,** ***incorporated by reference, The Villages of California City Supplemental Environmental Impact Report, April 1993 (SCH #1992072089) amending the 2028 City of California City Redevelopment Plan and Project Area Environmental Impact Report (SCH #1987110918), known as the first amendment. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** The Villages Specific Plan, approved in April 1993 is 500 acres located in the central core of California City with access to infrastructure for recreational, residential, government, medical, and regional commercial development. Bound on the north by North Loop Boulevard, on the east by Randsburg-Mojave/California City Boulevard, on the South by South Loop Boulevard and on the west by Hacienda Boulevard.

6. **Corrections Corporation of America (CCA) at 22844 Virginia Boulevard, California City, California**, ***incorporated by reference, Environmental Impact Report (SCH #1993082030 and SEIR 1997091045) . Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** California City has within its jurisdictional boundaries a minimum security, privately owned and operated prison by Corrections Corporation of America (CCA) at 22844 Virginia Boulevard, California City, California. The California City Correctional Facility houses over 2,300 Federal detainees awaiting deportation. The overall site is 320 acres and zoned open space/residential agricultural (O/RA), of which there is a 105-acre footprint that incorporates the existing 70-acre facility and an additional 35 acres for future expansion. This 105-acre footprint has received all of its environmental approvals.

7. **Annexation/Detachment #5,** ***incorporated by reference 2002 Final Environmental Impact Report Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project, Volume III, October 4, 2002, (SCH #2002041025). This report incorporates Clarifications and***

Revisions to the Draft EIR, Comment Letters on the Draft EIR, and Responses to Comments. The final EIR (which consists of Volume I: Draft EIR dated July 17, 2002; Volume II: Technical Appendices to the Draft EIR dated July 17, 2002; Environmental Findings of Fact and Statement of Overriding Considerations for the Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 4, 2002; Mitigation Monitoring Program for the Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 2, 2002; Environmental Assessment/Habitat Conservation for issuance of an Endangered Species Section 10(A)1(B) Permit /2081 Permit for the Incidental Take of the Desert Tortoise and Mojave Ground Squirrel dated July 2, 2002; Initial Study: Annexation, Detachment, Sphere of Influence Amendment, Redevelopment Area Expansion, General Plan Update Including the Housing Element), and Automotive Test Course Project dated April 4, 2002. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City. The existing sphere of influence includes the previous annexation (Annexation #5) of approximately 17,993 acres or 28.1 square miles in the southeast portion of the City and detachment of 18,676 acres or 29.1 square miles generally in the northeastern and eastern portion of the City, approved in 2003 by the Local Agency Formation Commission (LAFCO). In addition, in 2003 approximately 5.04 square miles was acquired by Hyundai Proving Grounds and Technical Center for the purpose of providing additional desert tortoise habitat in order to mitigate potential impacts to the desert tortoise and its habitat, as a result of the construction and on-going operation of the Hyundai Proving Grounds and Technical Center. This mitigation area is located to the north of the General Plan Planning Area, in the vicinity of the Desert Tortoise Research Natural Area. The privately owned and operated Hyundai Proving Grounds and Technical Center is zoned Light Industrial and Research (M1).

8. **California City Motocross Track*, incorporated by reference, (SCH #2003081099*). *Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** Cal City MX Park is a privately owned 10.59-acre motocross track, is zoned Open Space/Residential Agricultural (O/RA), located in the south one half of Section 6, T32S, R39E, MDB&M and it is directly northeast of Borax Bill Park. Cal City MX is a practice and race facility with staff including flaggers and an emergency medical technician (EMT) present at all times. Cal City MX Park offers two tracks. The main tract consists of jumps from 10 to 110 feet. The second track is a "pee wee" track for young riders and pee wee dirt bikes only. The park offers organized motocross events and races throughout the year. The facility has a concession stand and a pro shop. Parking is located outside of the fence and can be used by the Cal City MX Park customers for overnight parking at no charge.

9. **Hacienda Elementary School*, incorporated by reference, (SCH #2003121039). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** Hacienda Elementary School, 19950 Hacienda Boulevard, California City, 93505, (760) 373-5824, is a 28-acre site the northeastern quarter of Section 36, T32S, R37E, MDB&M, opened in 2007. Hacienda Middle School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades 4-6 with an estimated enrollment of 480. Facilities are under construction with temporary facilities in use now. The anticipated completion of the school is August 2009. Facilities will include administration offices, cafeteria/multi-purpose room, 25 classrooms, library/multi-media center and sports fields.

10. **California City High School,** ***incorporated by reference, (SCH #2004111117). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.*** California City High School, 8567 Bolden Avenue, California City, 93505, (760) 373-5263, is a 63.64-acre site in the northeastern quarter of Section 20, T32S, R37E, MDB&M, opened in 2007. California City High School is under the jurisdiction of the Mojave Unified School District, located at 3500 Douglas Avenue, Mojave, California, 93501, (661) 824-4001. The school services grades 9-12 with an estimated enrollment of 280. Facilities are under construction with temporary facilities in use now. The anticipated completion of the school is October 2009. Facilities will include administration offices, cafeteria/multi-purpose room, 26 classrooms, library/multi-media center, sports fields, and gymnasium.

History of the City

California City is located in a portion of the Mojave Desert that was occupied by Paiute Indians on a nomadic basis. In 1776, the first explorers came to the area under the leadership of Father Franciso Garces and the Conquistadores are believed to have conducted mining operations in the region using Paiute labor.

During a later stage in the exploration of the area, Rogers and Manly are believed to have passed through the area in late 1849 or early 1850 in their attempt to reach help for the stranded Death Valley 49'ers.

In the 1880's, the Twenty Mule Team Trail was created to carry borax ore from Harmony Borax Works in Death Valley to the railhead in Mojave. The road from Randsburg to Mojave became an important local artery for mines opening in the Randsburg/Johannesburg area. The portion of the Twenty Mule Team Trail located in what is now the southern portion of the City is designated as a National Historic Trail.

At the turn of the century, sheep farming began at the Conklin Ranch, located in the present day central portion of the City. Later, generally unsuccessful agricultural operation, which included alfalfa and cotton production, occurred.

In 1958, private land development activities began when a group of developers started buying land in what is now the eastern portion of the City and two farms in the western portion. During the 1960's, promotional efforts resulted in the sale of home sites to individuals throughout the United States.

Community planning commissioned at the time, envisioned a revolutionary new city concept and design that would discourage single family tract development, control architectural quality, and incorporate a vast area of natural desert and farmland open space, into a new type of living environment. The economic base of the City was predicated on continuous land sales and development activities, resulting in the employment of a significant portion of the City's population by the land developer.

On December 8, 1965, the City was incorporated with a population of 617 persons and a City Council-Manager form of government.

City Facts

- The City's current population is 14,365, as of January 1 2008, as reported by the State of California Department of Finance.

- Vicinity location: The City is located on the western edge of the Mojave Desert in the southeastern corner of Kern County. The City is located approximately 60 miles to the southeast of the Metropolitan Bakersfield area, approximately 35 miles north of Lancaster, and approximately 65 miles northwest of Victorville. The City is approximately one mile to the north of Edwards Air Force Base and 7 miles to the east of the community of Mojave and the Mojave Airport.

- City boundaries totals 130,200 acres (203.4375 square miles). Third largest City in the state **in land mass**. Thirty-fourth largest City in the nation **in land mass**.

- The City's annual rainfall of 7-10 inches, low humidity and clean air.

- The City's weather provides 360 days of sunshine a year.

- The City's elevation is 2,400 feet.

- City coordinates in decimal, latitude 35.161119, longitude -117.873033

5.8 MOJAVE DESERT DESIGNATED AREAS

The City of California City is located on the western edge of the Mojave Desert in the southeast corner of Kern County, California, **Figure 5-3, Mojave Desert Designated Areas Map**. The vast 54,000 square miles of the Mojave Desert has biological, mineral, cultural, historical and archeological resources and many efforts are in place to protect it. This portion of the Open Space and Conservation Element will discuss the Mojave Desert's national parks, national preserves, state park, military installations and their protected airspace, and the largest privately owned and operated open pit mine in the world in relationship to California City's location.

Vegetation

The native flora of the region is dominated by the Mojave Creosote bush scrub plant community which occurs throughout the Mojave Desert at elevations ranging from 2,300 to about 4,500 feet above sea level. Mojave Creosote bush scrub (Larrea diverticata) generally has an understory of hop sage (Grayia spinosa), bladder sage (Franseria dumosa), or black brush (Coleogyre ramosissima), with an interspersion of various perennial bunch grasses such as desert needle grass (Aristida californica) and annual grasses, including cheat grass (Bromus tectorum). During the spring months, depending on the amount of precipitation received during the November-March/April period, few to numerous species of annual forbs are present in the understory. During wet years, a carpet of wildflowers will exist for a period of a few days to several weeks, depending upon the frequency and amounts of rainfall which occur during the spring season, such as, the desert candles (Caulanthus Inflatus). In dry years, there is little or no evidence of these annual plants, because the seeds lack adequate moisture for germination. Common forbs that are present throughout the region include popcorn flower (Plagiobothrys arizonicus), Mojave aster (Aster abatus), poor shepard's purse (Capsella bursa-pastoris), and fiddleneck (Amsinckia Tessellata). In addition, although not considered to be a dominate species, the Joshua Tree (Yucca brevifolia) can be found in scattered locations throughout the region. In the recently annexed southern portion of the City in 2002. The City boundaries extends intermittently across SR-58, approximately 3.5 miles to the south between the communities of Mojave and Boron. This route crosses a desert landscape dotted with Joshua trees and a display of wild flowers in early spring.

Joshua Tree National Park

To the southeast of California City along Interstate Route 10 in San Bernardino County is the 794,000 acres of the Joshua Tree National Monument established in 1936 for the protection of cacti and other plants being removed and transplanted in Los Angeles gardens. The Joshua Tree provides habitat for 712 higher plant species, 40 reptile species, 41 mammal species, and 240 bird species. The federal register lists one park reptile, the desert tortoise, as threatened and one park plant species, the Coachella Valley milk vetch, as endangered. In addition there are 26 species of special concern being protected within the park.

Desert Wildlife

Wildlife species which inhabit the Mojave Desert and the areas around the City are associated with those found in the Lower Sonoran Life Zone, a zone characterized by rolling desert plains, dry sinks, low levels of precipitation and sparse, drought-resistant vegetation. Species include: the coyote (Canis latrans), a black-tailed hare (Lepus californicus); roadrunner (Geococcyx californianus); white-tailed antelope ground squirrel, Ammospermophilus leucurus); Mohave ground squirrel (Citellus mojavensis) which is listed as Threatened by the California Department of Fish and Game (CDFG) and as a candidate species (Category 2) by the U.S. Fish and Wildlife Service (USFWS); desert tortoise (Gopherus agassizii) listed as endangered by USFWS and threatened by CDFG; sidewinder (Crotalus cerastes); desert whiptail lizard (Cnemidophorus tessellatus); mourning dove (Zenaidura macroura); Gambel's quail (Lophortyx gambeli); burrowing owl (Speotyto cunicularia hypugaea) listed as a Species of Special Concern to California and is listed on the Migratory Bird Treaty Act (MBTA) of 1918 and is protected by international treaty; turkey vulture (Cathartes aura); and numerous birds of prey, songbirds, and varieties of rodents.

As previously discussed, the City-owned Kiosk Park is located to the east of the intersection of Randsburg-Mojave Road and Twenty Mule Team Parkway. The site is 3.34 acres located at the edge of Planning Sub-area 1, in the northwestern quarter of Section 20, T32S, R38E, MDB&M. The parkland is used as a off highway vehicle (OHV) reception/registration and information area. The information provided to OHV riders is the location of the designated OHV trails. California City has a Desert Incident Response Team (D.I.R.T.), staff consists of police, ambulance, and fire department volunteers dedicated to all OHV riders during long weekends and holidays. The D.I.R.T. team also enforces the rules the OHV riders are given when they enter the area. This has helped tremendously to educate the public on the conservation efforts to protect the desert wildlife. The privately-owned and operated Cal City MX Park provides similar educational information to the public, brochures are also available in the Planning Department at City Hall on the History of the City and the vegetation and wildlife species which inhabit the Mojave Desert and the areas around the City.

Desert Tortoise

The Desert tortoise (Gopherus agassizii) has been officially declared a threatened species and listed as endangered by United States Fish and Wildlife Service (USFWS) and a threatened species by the California tortoise is most often found within the Mojave Cresote Bush Scrub plant community. It typically lives in washes, sand and gravelly flats, canyon bottoms, rocky hillsides, and even areas of fine, wind-blown sand. The desert tortoise needs firm soil for the construction of its burrows, and often shares these dens with other desert reptiles such as the sidewinder (Crotalus cerastes), spotted night snake (Hypsiglera torquata), and banded geckos (Coleonyx variegatus). The species is seriously threatened by the collecting activities of humans, on and off-road vehicle mortality, raven predation, respiratory disease, habitat disturbance such as, the herding of sheep on surrounding County lands, a practice the City does not permit, and the conversion

of its habitat to urban development. Tortoises and their designated habitat are protected by federal laws. The loss of habitat upon which the tortoise depends is considered "taking" and is potentially punishable by fines and/or imprisonment. Recovery plans for this species are currently being implemented, and studies are underway to discover more about the tortoises life cycle and how to best manage this wildlife resource and ensure its long-term survival. The desert tortoise scaly reptilian skin is tough and protects against water loss. The tortoise's shape claws and strong legs provide the tools needed to dig deep burrows in sandy soils. Tortoises relish spring and summer rains and seek puddles where water collects. They store water within their bodies in a specialized urinary bladder. When water is scarce, they depend upon this internal water reserve to survive. Tortoises hatch from small eggs laid within burrows and reach maturity at about 15 years of age. For the first five years, life is risky for the small soft-shelled hatchlings, as they often fall prey to common ravens, coyotes, roadrunners, and other predators.

Desert Tortoise Preserve

The City is surrounded by undeveloped desert, including a 25,000-acre Desert Tortoise Preserve administered by the U.S. Bureau of Land Management, located along a portion of the City's northeastern border **outside** the City's jurisdiction. The Desert Tortoise Preserve is fenced and closed to vehicular traffic, there is no livestock grazing within it perimeters, and the area is closed to numerous human activities, however, the fencing is not tortoise fencing. Tortoise fencing is the approved fencing by the California Department of Fish and Game (CDFG) and the U.S. Department of Fish and Wildlife Service (USFWS), to prevent tortoise from entering and leaving a site. The City is bounded by an unincorporated area of Kern County to the north, east, south, and west. The 2002 Annexation/Detachment Municipal Reorganization No. 2., as part of the overall detachment of land, removed Sections 4, 5 and 6, T32S, R38E, MDB&M. Section 4 and Section 6 are designated Desert Tortoise Preserve. Section 5, also known as Tract 2714, is between Sections 4 and 6, the City decided to detach Section 5, due to its proximity to the Desert Tortoise Preserve. There is no Desert Tortoise Preserve land within the jurisdictional boundaries of the incorporated City.

Mohave ground squirrel

The Mohave ground squirrel (Citellus mojavensis) which is listed as threatened by the California Endangered Species Act enforced by the California Department of Fish and Game (CDFG) and as a candidate species (Category 2) by the U.S. Fish and Wildlife Service (USFWS). The loss of habitat upon which the Mohave ground squirrel depends is considered "taking" and is potentially punishable by fines and/or imprisonment. Because of their relatively isolated location, not much is known about their need and behavior. Located only in the western side of the Mojave Desert in the southwestern United States, the Mohave ground squirrel is acclimated to a dry, desert environment.

The Mohave ground squirrel is a small ground-dwelling rodent, growing only to about 8 or 9 inches (20-22 cm), they have long tails about 2-3 inches (5-7.5 cm). Their fur is typically reddish gray with an almost red-brown tail. Their underbelly and the underside of the tail is white, and they don't really have any markings or stripes. The Mohave ground squirrel is found on the sandy desert floor throughout the Lower Sonoran Life Zone. Ground squirrels are seed eaters, spermophilus literally translates to "seed lover" in Greek. They will also eat fruit and green plants when available. Its diet consists mainly of shrub leaves, with hop sage being the most important component.

In the middle of summer, the Mohave ground squirrel retreats to its underground burrow to sleep through the summer. Winter in the desert often brings rain, and this cues the squirrel to emerge and hunt for new

greenery getting the moisture they need from the seeds and plants they consume. The Mohave ground squirrel coexists in the same habitat as the white-tailed antelope ground squirrel. Interestingly, the Mohave ground squirrel seems to control its population and food sources by refusing to mate when there is significantly low rainfall. They will often hibernate early, sometimes as early as April, and wait until the next year to try again. This leads to near extinction in the area with little or no rain, but the population seems to increase steadily after the rains return.

Burrowing Owl

The burrowing owl (Speotyto cunicularia hypugaea) is a migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21).

Sections 3503, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15, annually. Disturbance that causes nest abandonment and /or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or the loss of habitat upon which the bird depends is considered “taking” and is potentially punishable by fines and/or imprisonment.

The burrowing owl is a small predatory ground owl only nine inches tall, has a short tail and very long legs, and weighs about 4 ounces. The burrowing owl coexists in the same habitat as the Mohave ground squirrel and its diet consists of small rodents including the Mohave ground squirrel, kangaroo rat, field mice, insects, small frogs, lizards, snakes and various species of birds. Instead of nesting in the trees, as most birds do, the burrowing owl gets its name because it burrows into holes in the ground to live or will take over burrows of other burrowing animal such as, the Mojave ground squirrel or desert tortoise.

Red Rock Canyon State Park

North of California City along State Route 14 is Red Rock Canyon State Park. Red Rock Canyon State Park is known for its rock formations and surrounding desert mountains. In addition to its scenic qualities, the canyon is known for its geological, archaeological and paleontological history. Off-highway vehicles are allowed on designated four wheel drive routes located in the park. All vehicles must be registered and drivers must be at least 16 years of age and possess a valid driver’s license.

Mojave National Preserve

To the east of California City along Interstate Route 15 at Baker, California to the Nevada state line and southerly along Interstate Route 40, ending before Needles, California near the Arizona state line, is the 1.4 million acres of the Mojave National Preserve in San Bernardino County. The Mojave National Preserve is where you will find the Rosy Boa. The Rosy Boa is protected by the State of California and sightings are rare within the Mojave National Preserve. Among other residents of the Preserve are the endangered Desert Tortoise, Red Racer, Mojave Rattlesnake, Mojave Desert Sidewinder, Gopher Snake, numerous rodents, birds and mammals. Included within the Mojave Nation Preserve is Mitchell Cravens State Park, Granite

Mountains Natural Reserve, and Soda Springs Desert Study Center. In addition, there are tribal governments and communities historically associated with the region in which the Preserve is located. Most of the lands surrounding Mojave National Preserve are administered by the Bureau of Land Management.

Death Valley National Park

Northeast is Death Valley National Park in California and Nevada. The park was established on February 11, 1933, covers almost 3,000 square miles and is a vast natural museum, larger than the Yellowstone National Park. It is recognized as the lowest point in the Western Hemisphere and one of the hottest places on earth. 134 degrees F was recorded in 1913, second only to the 136 degrees registered in Libya in 1936. In the 1880's the Twenty-Mule Team Trail was created to carry borax ore from Harmony Borax Works in Death Valley to the railhead in Mojave, California.

Military Installations

All branches of the military are active in the Mojave Desert. To the southeast and the closest to California City is Edwards Air Force Base, to the north is China Lake Naval Weapons Center, northeast of California City is Inyokern Naval Ordnance Test Station, also the Army's Fort Irwin Military Reservation and to southeast is the United States Marine Corp's (USMC) Twentynine Palms Military Reservation. The City of California City is proud to support the Missions of all branches of our military.

Much of the area within the confines of California City, including the developed area of the central core, was utilized as a practice bombing range during World War II, from 1941 to1945, with preparations for the United States to enter the war as early as 1939. The unique and sensitive biological resources of the Mojave Desert so adamantly protected today, was turned into a practice bombing range by the U.S. Air Force. The "practice" bombs that were utilized were slightly smaller than a normal mortar shell and only a small percentage of them actually contained explosives. According to local fire department officials, approximately 304 of these practice bombs are found each year....primarily by residents who are completing landscaping tasks around their homes, nearly 65 years later. Following discovery of a bomb, authorities at the U.S. Army's Fort Irwin are contacted and a bomb disposal unit is dispatched to properly dispose of the potential hazard.

In addition, portions of the Planning Area were utilized by the military for the training of ground troops. As a result, there are scattered bullet shells that have been discovered within the City. In 1983 a 500-pound bomb lying on the surface of the ground was discovered in the southeastern portion of the City. Another large bomb was uncovered during the construction of the Hyundai Proving Grounds in mid-2004 and disposed of by the ordnance team from Fort Irwin. Other bombs of a similar size may exist in the large expanses of vacant land within the confines of the General Plan Planning Area. According to the California City Police Chief, the Army Corp of Engineers are currently scanning, identifying and recovering these hazards. The City is working to adopt an *Ordnance Ordinance, State to notify property owners of defined risk areas and building permits to include information.

**Webster's Collegiate Dictionary defines: Ordnance - Military supplies including weapons.*

California City is located in the R2508 Restricted Airspace Complex. The R2508 Complex encompasses 20,000 square miles of electronically surveilled ranges permitting unrestricted flight testing from near ground

level to near space at various locations. Within the R-2508 Complex, there are other designated restricted airspaces known as R2505, R2506, and R 2515, which are the immediate and adjacent airspaces to Naval Air Weapons Station China Lake and Edwards Air Force Base, Supersonic Corridor and CORDS Road. **Figure 5-4, R2508 Restricted Airspace, Supersonic Corridor (SSC) and CORDS Road**.

In January 2007, the City working in conjunction with Edwards Air Force Base prepared an Avigation Notification that is distributed with the application for a building permit within the City. The Avigation Notification defines the use of the airspace within the Air Force Flight Test Center (AFFTC) at Edwards Air Force Base and the resulting potential effects of this use. New residential subdivisions may require an Avigation Easement be recorded with the County Clerk's office.

AVIGATION EASEMENT

The Air Force Flight Test Center (AFFTC) at Edwards AFB is currently, has in the past, and intends in the future to engage in flight testing throughout the R-2508 Restricted Airspace Complex and is authorized under federal law to engage in flight testing, including low level flight testing, throughout such airspace. Project Proponent acknowledges the value of the Air Force's aircraft test and evaluation program to the United States national defense and the Air Force has acknowledged Developer value in the private sector. Proponent is hereby notified that the Air Force has the right to make necessary or reasonable required low and/or frequent flights over or near said site and above said surface and, in doing so, to generate noise, light, electromagnetic emissions, radio transmissions, vibrations, fumes, particles, sonic booms, and other effects incident to military aviation, whether or not while directly over the site, which might affect the free use and enjoyment of the property. Nothing in this paragraph will negate the requirement for compliance by the Air Force with the current applicable rules and regulations promulgated by the Federal Aviation Administration for civil and military aircraft flights over residential developments.

Sadly, on March 25, 2009 a test pilot was killed in an F-22A Raptor, approximately 35 miles north of Edwards Air Force Base. Tragically, almost two months later, on May 21, 2009 another test pilot was killed and another one was injured in a T-38 Talon, approximately 9 miles north of Edwards Air Force Base, both accidents occurred in the R2508 Complex.

The City of California City integrated designated flight corridors, as set forth in the 1994 Edwards Air Force Base Joint Land Use Study (JLUS), incorporated by reference, into the California City General Plan and Updates, (SCH #199494112035, filed a negative declaration in 1994). The base represents a substantial investment by the Department of Defense in facilities and equipment and has a major role in the development and testing of the nation's military aircraft for the foreseeable future. The natural assets of the base (especially climate and lakebed landing areas) and its access to airspace over the Pacific Ocean as well as over Nevada and Utah are not possible to duplicate anywhere else in the country. The base is a major job generator providing employment for both military and civilian personnel. This payroll represents an infusion of economies of California City, Lancaster, and Kern, Los Angeles, and San Bernardino Counties. The loss of this asset due to encroachment of incompatible urban development would be a long-term economic disaster for local residents and businesses. Thus, it behooves these jurisdictions to take the steps necessary to protect the base and its ability to effectively perform its mission.

The 1994 Edwards Air Force Base JLUS is on file in the California City Planning Department, 21000 Hacienda Boulevard, California City, California.

The City of California City has reaffirmed its commitment to Edwards Air Force Base and its Mission with its participation in the ***R2508 Joint Land Use Study (JLUS) of May 2008, incorporated by reference, is on file in the California City Planning Department, 21000 Hacienda Boulevard, California City, California.***

Mineral Resources

There are no mineral resources within the City General Plan Planning Area. However, there are some mineral resources outside the City's boundaries. In the eastern portion of the Mojave Specific Plan it contains areas with mineral resources consisting of several gravel pits. In the western portion of the North Edwards Specific Plan is a mineral extraction owned by Rio Tinto (Borax) Mine that is the world's largest sodium borate deposit. This includes the world's largest open pit borax mining operation (more than 600 feet deep) near the community of Boron.

Cultural Resources

A cultural resources record search conducted by the California Archaeological Inventory Southern San Joaquin Valley Information Center (California State University, Bakersfield, May 7, 1992) indicated that within the California City corporate boundary the following cultural resources surveys have been recorded:

- California City South 7.5' Quadrangle: two surveys covering approximately 240 acres.
- California City North 7.5' Quadrangle: eight surveys covering approximately 480 acres.
- Galileo Hill 7.5' Quadrangle: three surveys covering approximately 1,100 acres.
- North Edwards 7.5' Quadrangle: one survey of 50 acres.

No surveys were recorded within the corporate boundaries on the Sanborn, Mojave NE, Boron, or Boron NW 7.5' Quadrangles.

Within the California City corporate boundaries, the following archaeological sites are recorded:

- California City South 7.5' Quadrangle: one aboriginal quarry site.
- California City North 7.5' Quadrangle: eight sites, quarries and lithic scatters, and two isolated finds.
- Galileo Hill 7.5' Quadrangle: nineteen sites, quarries, and lithic scatters.
- North Edwards 7.5' Quadrangle: two sites, lithic scatters.

There are no sites within the corporate boundaries on the Sanborn, Mojave NE, Boron , or Boron NW 7.5' Quadrangles.

Hundreds of archaeological sites are recorded on Edwards Air Force Base, where numerous archaeological surveys have been carried out. Numerous sites and isolated finds are also recorded in the Rosamond, Mojave, Cantil vicinity. Most have been discovered as a result of archaeological surveys.

Very little of the land within the California City corporate boundaries has been inventoried for cultural resources, yet 30 sites are recorded. Archaeological surveys on Edwards Air Force Base and other small communities in the western Mojave Desert have resulted in the location of hundreds of prehistoric archaeological sites. The cultural resource sensitivity of the California City area appears to be very high.

Recently annexed areas to the south and in the northeastern portion of California City has yielded the following new information within the jurisdictional boundaries of the City as part of an ***Environmental Assessment/Habitat Conservation Plan dated June 16, 2003 and Subsequent Environment Impact Report dated August 2006 in the northeastern portion of the City, both incorporated by reference. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

CA-KER-2486, sparse, lithic scatter, located in Section 13 on the Virginia Boulevard site.

A records search was conducted to define the existing archeological resources recorded in the annexation #5 project area and to determine if any sites are currently listed on local, state, or national registers. This data was used to assess the percentage of each area that has been previously examined and to make some inferences regarding the type, number, density, distribution, and significance of sites that might occur in remaining areas. The records and archival research was further augmented by Phase I pedestrian transect completed for the Facility in May 2002.

The records search was conducted, by a ROPA- certified archeologist meeting the Secretary of Interior's Standards in the field of archeology and having specific knowledge and experience with the Western Mojave Desert. A preliminary records search for the Facility was completed by the Southern San Joaquin Valley Information Center in October 2001. A complete records and archival search for the proposed project area, at the Southern San Joaquin Valley Information Center, California State University Bakersfield, was completed on March 18-19, 2002. All information on previous archaeological studies and previously recorded sites within the proposed project area and an additional one mile wide buffer was compiled and reviewed (Table 5-3, Archeological Studies and Previously Recorded Prehistoric Sites).

TABLE 5-3 CALIFORNIA CITY ARCHEOLOGICAL STUDIES AND PREVIOUSLY RECORDED PREHISTORIC SITES			
USGS 7.5 Minute Series Topographic Quadrangle/ /Township/ Range	**Sections**	**Sites**	**Comments**
Sanborn			
T 11 N, R 11 W	2 (E ½)	KER-5056H KER-5059 20 Isolates	Two sites are located within the proposed Annexation Area: KER-5056H consists of a trash dump with domestic debris including 70 pieces of ceramic ware have been exposed to fir in a 1600-m2 area. The materials appear to date to the 1940s or 1950s. KER-5059 consists of a small scatter of chalcedony flakes and fire-affected rock in a 120-m2 area.
	6 portions	None	
	10 (S ½)	6 Isolates	
	12 (all)	None	
	14 (all)	KER-3951H KER-3952H KER-3953H 5 Isolates	Three sites are located within the proposed Redevelopment Expansion Area, Annexation Area, and Automotive Test Course Facility Site: KER-3951H consists of an historic trash scatter that appears to be less than 50 years old. KER-3952H consists of an historic trash scatter that appears to be more than 50 years old. KER-3953H consists of an historic trash scatter that appears to be more than 50 years old.
	22 (E ½)	KER-5053 KER-5054 KER-5055 2 Isolates	Three sites are located within the proposed Redevelopment Expansion Area, Annexation Area, and Automotive Test Course Facility Site: KER-5053 consists of a scatter of flakes and approximately 30 pieces of fire-affected rock in a 20-m2 area. KER-5054 consists of a scatter of artifacts including flake, a bifacial core tool, and a metate, with a scatter of 50 or more pieces of fire affected rock in a 140-m2 area. Six STPs were excavated. KER-5055 consists of a bedrock milling complex containing at least nine mortars and one slick formed in a granitic exposure an historic trash scatter in a 576-m2 area.
Source: Environmental Assessment/Habitat Conservation Plan, June 16, 2003.			

There are six previously recorded archeological sites within the area of potential effect (APE) for the proposed Facility. None of the sites are eligible for listing on the California Register of Historical Resources or the National Register of Historic Places. Twenty-six additional archaeological sites were identified within the proposed project site as a result of directed surveys. (Table 5-4, Newly Recorded Prehistoric Sites within the Proposed Facility Area). Twenty-five of these archaeological sites were identified as being prehistoric; one site was identified to be of historic origin. It was determined that four of the newly recorded sites do not

have the potential to constitute significant archeological or historic resources. Archaeological sites and newly recorded prehistoric archaeological sites, identified during the field survey by ASM Affiliates, Inc., are shown in Table 5-4, Newly Recorded Prehistoric Sites within the Proposed Facility Area.

TABLE 5-4
CALIFORNIA CITY
NEWLY RECORDED PREHISTORIC SITES WITHIN THE PROPOSED FACILITY AREA

USGS 7.5-Minute Series Topographic Quadrangle/Trinomial	Site Type
ASM-1	Lithic Scatter
ASM-3	Small Lithic Scatter
ASM-5	Large Lithic Scatter
ASM-6	Small Lithic Scatter
ASM-7	Small Lithic Scatter
ASM-9	Large FAR Scatter
ASM-10	Small Lithic Scatter
ASM-12	Small FAR Scatter
ASM-13	Small Lithic Scatter
ASM-14	Small FAR Scatter
ASM-15	Small FAR Scatter
ASM-16	Small Lithic Scatter
ASM-17	Small Lithic Scatter
ASM-18	Large FAR Scatter
ASM-19	Small Lithic Scatter
ASM-20	Small Lithic Scatter
ASM-21	FAR Scatter
ASM-22	Lithic Scatter
ASM-23	Lithic Scatter
ASM-24	FAR Scatter
ASM-25	FAR Scatter
ASM-26	FAR Scatter

Source: Environmental Assessment/Habitat Conservation Plan, June 16, 2003.

To ensure that impacts to the remaining 26 newly recorded archaeological sites are minimized to the maximum extent practicable prior to the initiation of construction activities, the Final EIR requires completion of a Phase II cultural resource investigation to make a determination of significance for ASM-1 through -26, completed November 2006, Cultural Resources Report, Phase II and Final Cultural Resources Data Recovery Report completed April 2007. Those sites that are determined to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources will be treated in accordance with one of the three feasible measures described in the "CEQA and Archeological Resources", CEQA Technical Advice Series: capping or covering the site with a level of soil prior to construction over the site, incorporation in open space areas of the project site, or excavation where the first two measures are feasible. These measures also will provide the protection to cultural resources required by Section 106 of the National Historic Preservation Act. The Hyundai Proving Grounds and Technical Center completed construction on April 12, 2006.

Historic Resources

Historic resources are defined by the Office of Historic Preservation (OHP), as those items that are at least 45 years of age or older that represent a significant time, place, origin, event, or work of a master. Historic resources may be identified as structures and as archaeological sites. There are five recorded historic archaeological sites in the proposed project area, Table 5-5, Historic Sites within the Proposed Project Area. The site records for locations of all previously and newly recorded sites for historic resources are mapped on USGS 7.5-minute topographic quadrangle and are on file with the City and available on a "need to know" basis only. The site records have been suppressed to protect extant historic resources from vandalism. It has been determined that all previously identified archaeological sites that occur on-site are not eligible for inclusion under the OHP in 1997. No historic structures or features were identified on the proposed project site. The historic archaeological sites are identified in the Table 5-5, Historic Sites within the Proposed Project Area. ASM-11 is a newly recorded historic archaeological site identified by ASM Affiliates, Inc.

Outside the City's jurisdiction, Randsburg and Garlock are listed in the California Historic Landmarks due to the early historic mining in the area.

TABLE 5-5
CALIFORNIA CITY
HISTORIC SITES WITHIN THE PROPOSED PROJECT AREA

USGS 7.5-Minute Series Topographic Quadrangle/Trinomial	Site Type
CA-KER-3951H	Historic shed with an associated trash scatter
CA-KER-3952H	Historic trash scatter
CA-KER-3953H	Historic trash scatter
CA-KER-3956H	Glass & Ceramics
ASM-11	Potential WWII Desert Training or Military Disposal Items

Source: Environmental Assessment/Habitat Conservation Plan, June 16, 2003.

Native American Sacred Sites

The City had no Native American Sacred Sites within the City's boundaries and a search was conducted of the Annexation #5 area to the south of the City. As part of the records and archival investigation, the Native American Heritage Commission was contacted regarding the potential presence of Native American sacred lands or other resources within the proposed project site. The Native American Heritage Commission responded that there are no recorded Native American sacred sites or other resources known in the proposed project site. The Native American heritage Commission provided a list of local Native American individuals and organizations that may have knowledge of Native American resources within the proposed project area. Letters requesting information were provided to the following points of contact, but no responses were received:

Kern Valley Indian Community
Ron Wermuth, Chairperson
P.O. Box 168
Kernville, CA 93238

Tehachapi Indian Tribe
Charlie Cook
32835 Santiago Road
Action, CA 93510

Delia Dominguez
981 North Virginia
Covina, CA 91722
(Representing the Yowlumne and Kianemuk Tribes)

Eugene Albitre
3401 Aslin Street
Bakersfield, CA 93312
(Representing the Diegueno Tribe)

Dr. Robert Yohe, Coordinator
California State University, Bakersfield
9001 Stockdale High
Bakersfield, CA 93311

5.9 WATER

Water Supply

The majority of the domestic water supply in the General Plan Planning Area is pumped from the underground aquifer. The balance is surface water purchased from the Antelope Valley-Eastern Kern Water Agency (AVEK), an independent special district of the State of California. The AVEK wholesales imported water brought through the State Water Project (SWP) facilities located in Quartz Hill in Los Angeles County. Prior to the water being delivered to the City, the SWP water is treated and distributed through facilities to Boron, Edwards Air Force Base, Rosamond, and the Mojave Public Utilities District. In Rosamond, the

water is re-disinfected and delivered to the City's connection the AVEK system. The City's connection to the AVEK system is a 16-inch line near Highway 58 and California City Boulevard. (Municipal Services Review, City of California City Annexation/Detachment/Sphere of Influence Amendment (Reorganization No. 2), February 25, 2003).

The City has a three acre-foot minimum monthly usage agreement with AVEK, and has 1,000 acre-foot limit for water purchase in a full allocation year. The existing City connection to the AVEK system would allow 1,600 gallons per minute to be transferred to the City's water distribution system. (Municipal Services Review, City of California City Annexation/Detachment/Sphere of Influence Amendment (Reorganization No. 2), February 25, 2003).

AVEK is currently in an adjudication process. Since the AVEK boundaries stop at the City's southern corporate boundaries, the adjudication could have the potential to affect the deliveries of water in the future or result in changes to the cost per acre feet of water delivered. Future large developments may need to negotiate with AVEK for supplemental water supplies rather than drilling new wells.

Figure 5-5, Groundwater Units, provides the location of U.S. Geological Survey groundwater units within the General Plan Planning Area. The underground aquifer that supplies groundwater for the General Plan Planning Area is comprised of the following groundwater units: Chaffee Subunit, California City Subunit (Zones 1 and 2), Koehn Subunit, Peerless Subunit, Rand-Boron Subunit, and Randsburg-Castle Butte Area. The City pumps its water entirely from Zone 2 of the California City Subunit. (Groundwater Resources of California, 1991, page 2).

Groundwater units and subunits have commonality of recharge or storage, and in the Planning Area, their boundaries are often determined by topographic features and fault lines which run in various directions throughout the area. The following summarizes the locations and characteristics of the groundwater units, (Stetson Ground Water Study 2008 and Groundwater Resources of California, 1991, page 2).

The Chaffee Subunit, located in the western portion of the Planning Area, contains several million acre feet of high quality water. It is recharged primarily by water flowing under Cache Creek and Sand Creek which drain a large area of the Tehachapi Mountains that is subject to relatively high annual precipitation levels. Although the two drainages rarely bring surface water onto the desert floor, there are significant under-surface flows that contribute to the subunit's recharge.

The Muroc Fault divides the Chaffee Subunit from the California City Subunit and provides a barrier for sub-surface water to move from west to east, even though the water table southwest of the Muroc Fault is higher than that to the east of the fault line. Therefore, there is no opportunity for water from the Chaffee Subunit to fill the depression that has been created by past agricultural pumping activities as well as domestic water pumpage in the California City Subunit.

The effect of the Koehn Subunit to the north has a negative effect on the California City Subunit in that groundwater migrates in that direction toward Koehn Dry Lake, the surface collection point in earlier times for water draining from the Tehachapi Mountains, Red Rock and Jawbone Canyons, the El Paso Mountains, and Rand Hills. Groundwater contours reveal this natural movement in the direction of Koehn Dry Lake, a movement which is enhanced by the depression in that subunit caused by long-time pumping from the irrigation of alfalfa.

The Peerless Subunit occupies Peerless Valley and receives little or no recharge to the estimated 250,000 acre feet of water that accumulated during the Ice Age. Water pumped from this aquifer is truly being mined and is of marginal quality.

Similarly, the Rand-Boron Subunit has no recharge from the surrounding hills, and although a portion of the Subunit is located within the boundaries of the Planning Area, it has little potential to provide a sustained water supply for anything more than a small population.

The Randsburg-Castle Buttes Area is a small amount of water, probably on the order of a few tens of acre -feet a year flows into the area from the valley located along Randsburg-Mojave Road between Desert Butte and Castle Butte. The recharge to this little valley is almost zero, and what water is flowing into the California City Subunit from there is doing so in response to the draw-down in the California City. (Groundwater Resources of California City, 1991, page 5).

At the time the land sale promotion activities within the General Plan Planning Area began in 1958, an estimated 70-foot depression had occurred under the area that is now the center of the community as a result of agricultural pumping for the irrigation of alfalfa. Upon the cessation of this pumping, the depression began to fill in, and in 1961 about 50 feet of the depression had recovered, leaving a 20-foot depression in and around the developed community. By 1990, however, the depression had returned to about 50 feet as a result of pumping for domestic water. (Groundwater Resources of California City, 1991, page 5).

Two groundwater studies (Kreiger and Stewart 1971 and Saint-Amand Scientific Services, 1991) estimated that the recoverable water in Zone 2 of the California City Subunit is about 2.1 million acre-feet.

Water Utilization

The City prepared an updated Water Master Plan in 2002. According to information in the Water Master Plan, in 11,000, the population of the City utilized over a billion gallons of water annually. Based on a population of 10,800 estimated for the year 2002 (which includes the population housed at the California Correction Facility), water consumption was approximately 340 gallons per person per day (gpd) for an average total of 3.25 million gallons per day (mgd).

Water to meet the current demand in the City is supplied by six existing City wells and imported surface water supply purchased from AVEK. The City's groundwater wells produced over 93 percent of the water supply in 2000 and 2001. According to the Water Master Plan, the groundwater table (at 320 to 380 feet below ground surface) has been stable or has risen slightly since 1983. In addition, the Water Master Plan indicated that future water demands (2020 requirements) will be met by the construction of five new water wells and through additional purchase of AVEK water. A greater reliance on AVEK water supplies would reduce the number of new wells required.

The groundwater from the City's wells currently does not require treatment to meet current state and federal drinking water standards. However, as discussed above, AVEK water does require treatment, which occurs at the Rosamond Water Treatment Plant prior to delivery to the City. Typical of treated surface water, AVEK water is more prone to taste problems.

According to the analysis in the Water Master Plan, the major deficiency in the City's existing water system is the integrity of the steel water mains. The original water mains, installed in the early 1970's, were uncoated steel and are severely corroded and prone to leaking. The Water Master Plan identifies a comprehensive 10 to 15-year replacement program for the water mains, which is estimated to cost over $42 million.

To meet water storage requirements for the water system, the City primarily relies on underground water supplies. The City also has five above-ground storage reservoirs, and AVEK provides an independent back-up source. Current available storage volume is 5.71 million gallons, and the current required storage volume is 8.85 million gallons. The long-term demand has been calculated at 9.31 million gallons. To meet current required storage demands for system operation, one City-owned water well will provide 1.15 million gallons into the water storage system and AVEK can provide another 2.45 million gallons. As with other components of the City's water system, on-going maintenance and upgrades of the water storage system will be required.

The Water Master Plan outlines a phased system improvement plan to direct the required system upgrades and supply requirements to meet growth demands. Implementing the Water Master Plan will ensure water services will be available to meet existing and future demands.

Funding for the water distribution system upgrades, as well as supply and storage facilities, will come from a variety of sources. While the City has implemented a water stand-by charge, and certain portions of the City will be served by facilities funded by the Subdivision Deferred Improvement (SDI) fund.

As provided by the City's Municipal Code, Subdivision Deferred Improvement Tracts" or "SDI Tracts" are 29 tracts within the City subject to a deferred improvement agreement and identified as tract numbers 2898, 2967, 3060, 3061, 3062, 3070, 3071, 3080, 3081, 3139, 3140, 3186, 3187, 3188, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3243, 3245, 3279, 3280, 3281, 3282, 3288, 3353. Figure 2-1, Location of SDI Tracts.

Subdivision Deferred Improvement Lots" or "SDI Lots" are lots within Subdivision Deferred Improvement Tracts.

"Subdivision Deferred Improvement Agreements," "Deferred Improvement Agreements," or "SDI Agreements" means agreements calling for payments by owners of SDI Lots to finance the subsequent construction of certain improvements for SDI Tracts.

"Subdivision Deferred Improvements," "Deferred Improvements," or "SDI Improvements" means the improvements described in the SDI Agreements.

"SDI Advisory Committee" means the committee created to advise the City on compliance with this Chapter. (Sec. 2, Ord. 98-552)

Money paid by SDI Lot Owners under the SDI Agreements for the construction of SDI Improvements shall be deposited into the SDI Fund.

The City shall spend the money in the SDI Fund:

To promptly construct any SDI Improvements remaining for tract numbers 3281, 3282, and 3288.

To construct SDI Improvements for SDI Tracts not identified in (a) as the need arises. As used herein, "construction" means the actual costs related to and necessary to construct and put improvements in place for their intended use, including but not limited to the design, solicitation, evaluation, award of construction contracts and administration of construction contracts.

To pay the costs of maintenance of SDI Improvements. As used herein, "maintenance" means the actual cost of operating and maintaining SDI Improvements, but does not include the cost of administering operation and maintenance programs.

The City's policy on expenditures of monies in the SDI Fund for the construction of SDI Improvements is to encourage the development of new home construction consistent with prudent municipal development and expending as much of the accumulated money as necessary to provide for and stimulate the development of SDI Tracts. The City's goal is to develop sufficient interest to require the annual expenditure of 5 to 10 percent or more or less of the accumulated SDI Fund.

On or before May 1st of each year, the City Engineer shall submit a list of proposed SDI Improvements to the SDI Advisory Committee and City Manager. A SDI Lot Owner may also propose an SDI Improvement by submitting a description of the project. Except when an urgency exists, e.g., a home under construction, proposals by SDI Lot Owners shall be reviewed by the City Engineer as described in the annual report. SDI Lot Owners proposing SDI Improvements are encouraged to submit evidence showing how the proposal will benefit SDI Lots and how the proposed improvements will be used at an early date. Proof of impending construction such as working drawings, approved construction loan, monies in escrow, building plans and water meter application must be shown to ensure the SDI Lot Owner is committed to improving the lot.

The SDI Advisory Committee and the City Manager shall evaluate the report of the City Engineer and make recommendations to the City Council concerning the construction of the SDI Improvements as part of the annual budget process. The City Engineer shall prepare plans and specifications for each SDI Improvement project identified in the approved budget and shall submit such plans and specifications to the Council for action during the first quarter of each fiscal year. SDI Improvement projects identified in the approved plans and specifications shall be constructed as soon as feasible, taking into consideration variations in staffing, climate, and staging of projects.

The City may expend monies from the SDI Fund to maintain SDI Improvements and pay for administrative expenses as permitted by this chapter under the terms and conditions of this Section.

Money shall annually be transferred from the SDI Fund to the City's General Fund for such purpose and shall not exceed the Lessor of: $290,000 per fiscal year, which total may be an average of such expenditures over a four-year period.

Redevelopment Agency funds could also be utilized, along with the creation of assessment districts, bonds, low-interest loans and grants. The primary funding source is rates and impact fees.

In addition to water utilization for domestic purposes, approximately 10,000 acre-feet of groundwater is translocating annually to the Koehn Subunit from the Chaffee Subunit and Zone 1 of the California City Subunit. This is the result of the depression that exists in the Koehn Subunit from long-term agricultural pumping, which still continues (Saint-Amand Scientific Services, 1991). This is water that can not be captured by the City for domestic use. (Groundwater Resources of California City, 1991, page 7).

As discussed above, as of 2001, the City purchases approximately 300 to 400 acre feet of surface water per year from AVEK. (Water Master Plan for California City, 2002, page III-4.) The conveyance system can accommodate the delivery of as much as 2,000 acre feet annually, however the amount of surface water that is available varies year-to-year depending upon precipitation levels in northern California where the majority of the water is captured and stored in manmade reservoirs and the court enforced state water system pumping limitations.

Water Quality

The groundwater utilized by the City as domestic water is not treated. It is high in total dissolved solids (450-660 parts per million) and in fluoride content (1.0-1.8 ppm). However, the groundwater quality is higher than that of the surface water purchased from AVEK. The AVEK has a high content of Trihalomethanes (THM) produced by decaying organic matter (principally algaes) and must be blended with the City's groundwater to reduce the concentration of THM to permitted levels. (Saint-Amand Scientific Services, 1991). The City in 2009 sold its share of AVEK water to Rio Tinto (Borax) Mine in Boron, as did the community of Rosamond, due to the high concentration of THM. The City will use its well water and Rio Tinto (Borax) Mine would be able to continue operation.

5.10 FLOODPLAINS

The area adjacent to a drainage channel is a floodplain. A floodplain is an area that is inundated during a flood event and is often physically discernable as a broad flat area created by prior floods. Typically, the term floodplain refers to an area that has the potential to be inundated by a 100-year flood, which is a flood that has a one percent chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard by which communities regulate development within a floodplain through the National Flood Insurance Program (NFIP) by the Federal Emergency Management Agency (FEMA). (Kern County, California, Multi-Hazard Mitigation Plan, 2006).

Refer to the General Plan Safety Element for a detailed discussion of floodplains within the General Plan Planning Area, **Figure 5-6, Flood Hazard Areas**, provides the drainages, floodplains, and flood hazard areas for the Planning Area. As appropriate, the majority of these areas have a Open Space/Flood Control Facilities (OS/FCF) land use designation on the General Plan Land Use Plan. This designation provides for the protection, preservation, and conservation of open space utilized for drainage and flood control for the protection of people and property. These areas may characterized by physical constraints, may constitute an important watershed recharge area or wildlife habitat, or may have value as a buffer between resource areas and urban areas.

5.11 AIR QUALITY

The General Plan Planning Area is located within the Mojave Desert Air Basin and is under the jurisdiction of the Kern County Air Pollution Control District (APCD). The APCD has jurisdiction over a 3,700-square mile region of the eastern portion of Kern County, located on the western edge of the Mojave Desert. High summer temperatures and solar radiation can promote photochemical ozone formation when local sources or transported volatile organic compounds (VOCs) and oxides of nitrogen (NOx) precursors are present. A number of passes in the mountains ranges surrounding the region serve as transport corridors from the South Coast and San Joaquin Valley air basins into the basin. Tehachapi Pass connects the western Mojave Desert to the southern San Joaquin Valley, and Soledad Pass and Cajon Pass connect the area to the South Coast Air Basin. The Kern County portion of the western Mojave Desert is influenced primarily by transport

through the Tehachapi Pass corridor, with some potential influence through Soledad Pass. Prevailing winds through the Soledad and Cajon Passes are the primary influence on the eastern portion of the Mojave Desert. The California Air Resources Board (ARB) has established that meteorological conditions can potentially result in overwhelming transport of ozone into the basin, (Assessment of Ambient Air Monitoring Resources in the Kern County Air Pollution Control District, Sonoma Technology, Inc., October 16, 2006).

5.12 ENERGY CONSERVATION

The City makes an effort to educate the public on energy conservation through brochures and information guides available on **Energy Tips** and **Reducing Greenhouse Gas Emissions and the Effects of Global Warming**. The brochures are available in the Planning Department, lobby at City Hall, Library, Senior Center, Chamber of Commerce, Police Department, Fire Department, and distributed at City sponsored events. Information guides are available on the City's website at www.californiacity-ca.us and the electronic version is emailed to anyone requesting it from the Planning Department at planning2@ccis.com.

5.13 OPEN SPACE AND CONSERVATION ISSUES

1. Parks facilities (particularly neighborhood parks) have not been developed in the existing urban core.

2. The lack of City funds for development and operation of land set aside for park use in General Plan Sub-areas 7 and 8 as shown in Figure 1-5, Planning Area Boundary Map in the Introduction of the General Plan, has resulted in these lands being returned to the respective property owners. The areas previously set aside for parks to serve these Planning Sub-areas will be developed as another use.

3. The locations of the existing parks which have been developed within the City should be identified on the General Plan Update Land Use Plan.

4. Create paths for pedestrian, bicycles, equestrian and non-motorized modes of transportation within the City's existing corporate boundaries and to connect to paths outside of the City corporate boundaries. The creation of these paths are discussed in the Circulation Element of the General Plan.

5. The potential for a linear park along Cache Creek and other drainage-ways in the City should be considered to enhance recreational facilities and minimize incompatible land uses in areas with development constraints.

6. Additional development standards for neighborhood and community parks should be developed to ensure usable park land is available to all residents. Development standards should be required to ensure that existing residents are not impacted by the recreational demands of the future residents.

7. The City should investigate funding opportunities for long-term operations and maintenance of recreational facilities.

8. Parks and school sites which are identified on the General Plan Land Use Plan should be reviewed to determine appropriateness to serve the community as it grows and develops.

9. Trail systems are needed to accommodate off-highway vehicles (OHV) within the City's existing corporate boundaries and to connect to (OHV) trails outside of the City's corporate boundaries.

10. The effects of light and glare should be considered as development extends outside the central core area of the City. Light and glare is also a consideration related to military overflight activities from Edwards Air Force Base and research and development activities at the Mojave Airport.

11. Habitat preservation areas should be re-designated as such in the General Plan update to ensure adjacent land use compatibility and to identify these areas as unsuitable for future development.

12. The presence of a variety of threatened and endangered species in the City may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies (primarily U.S. Fish and Wildlife Service and California Department of Fish and Game).

13. Provisions should be made for historical and cultural resources as the City grows outside the urban core.

14. Continue to review projects at the DRC level for the incorporation of energy efficiency features, including building design and orientation, reduction of "heat islands," utilization of solar or other alternate energy supplies, and landscaping materials. Incentives could be developed to encourage energy efficient developments above the requirements of Title 24.

15. The location of wind turbines in the City would conflict with low overflight aircraft operations from Edwards Air Force Base and the noise generated from wind turbines affect sensitive aircraft testing data.

16. The weather and climate within the General Plan Planning Area makes it suitable for potential solar in both residential and commercial development.

17. Commercially viable solar facilities could be feasible within the General Plan Planning Area.

5.14 OPEN SPACE GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures for open space in the General Plan Planning Area.

Goals

- Acquire, preserve, and enhance parks and open space for active and passive recreation to meet the needs of existing and future residents.

- Promote the maintenance of the open space characteristics of the General Plan Planning Area.

- Utilize floodplain areas and areas with geologic constraints to provide additional open space and recreation opportunities.

Policies

- Encourage maximum cooperation amoung all levels of government, private interests, and individuals in the management, conservation, and protection of open space resources.

- Promote residential, commercial, and industrial development in established development areas to minimize the loss of open space resources.

- Residential and commercial development may be clustered to promote retention of desert landscapes, preservation of open space or recreation areas, or to mitigate physical constraints from nbatural resources.

- Develop open-space corridors along utility easements, drainages, slopes, and other natural features, whenever possible.

- To conserve open space, the Controlled Development land use designation as indicated on the General Plan Land Use Plan will continue to apply to outlying areas where infrastructure and public services are not provided or where there are significant biological resources, drainage areas, or mineral resources.

- Plan and develop new park and recreation facilities at locations what are within or accessible to existing and planned concentrations of residents. Where possible, develop parks in conjunction with school facilities.

- Establish priorities for the development of planned parks based on anticipated community need and acquire and develop planned park sites in accordance with these priorities.

- Encourage that public parks provide a diversity of recreational uses, including a mix of active athletic facilities and passive open space uses.

- Utilize the policies defined in the General Plan Safety Element to assure the proper management of the existing open space lands which are prone to flooding and exhibit unstable soli conditions.

- Through the City Parks and Recreation Department, assess the usage of park facilities on a regular basis, and identify physical changes needed to accommodate anticipated use patterns.

- Continue to work with the Mojave Unified School District to keep public access to school fields on weekends or during non-school use times available.

- Developers shall dedicate appropriate lands or pay in-lieu fees for parkland acquisition as required by the City's Land Division Code. Construction and development of parkland could be considered as an additional amenity during negotiations for a development agreement.

- Work closely with community groups in the utilization and potential expansion of Borax Bill Park to meet the needs of the community and visitors.

Implementation Measures

OS-1. The City shall preserve open space in the portions of the General Plan Planning Area that are proposed for urban development by implementing the following measures:

- Develop open space corridors along utility easements, drainage-ways, slopes, and, whenever feasible, other natural features.

- Utilize clustering to encourage habitat conservation and the provision of common open space areas, open space corridors, or recreational areas.

- Where feasible, as part of discretionary project approval, require that adequate pedestrian facilities and bicycle trails be incorporated into new residential and commercial development projects.

- Encourage commercial development projects to incorporate common spaces, such as squares or plazas.

OS-2. The City shall work with local sports organizations, the Mojave Unified School District, and community groups to develop a comprehensive Citywide recreational system and Recreation Plan to serve the needs of the community. Focused efforts shall be made towards youth and family activities. The City shall maintain a parks and recreation standard of 2.5 acres per 1,000 residents consistent with the City's Land Division Code.

OS-3. The City shall investigate the possibility of joint use agreements with the Mojave Unified School District to allow public access to school fields on weekends or other times when facilities are not being utilized for school-related activities.

OS-4. The City shall review recreational facilities and programs on an annual basis and revise, where necessary, to respond to chaning nees of the community. This shall include periodic revisions to the Recreation Plan.

OS-5. The City shall require the preservation of park land within the General Plan Planning Area identified on the General Plan Land Use Plan and work closely with community groups regarding their utilization and future development.

OS-6. The City shall require new development proposals to provide parkland and, as appropriate, park improvements so that the City can achieve a parks and recreation standard of 2.5 acres per 1,000 residents consistent with the City's Land Division Code.

5.15 CONSERVATION GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures related to conservation in the General Plan Planning Area.

Goals

- Ensure an adequate water supply for existing residents and businesses and planned growth and development.

- Protect groundwater quality.

- Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.

- Promote the improvement of air quality and the maintenance of State and federal air quality standards.

- Encourage conservation of energy resources.

- Promote conservation of sensitive vegetation and wildlife.

- Promote conservation of historical and cultural resources.

Policies

- Protect the community's environmental setting from deterioration, compromising the quality of life enjoyed by the existing and future residents.

- Provide sufficient water to meet the existing and projected needs of the community, while emphasizing conservation goals.

- Continue to promote and encourage water conservation to residents and businesses in the community.

- Establish a water conservation program encouraging and promoting xeriscaping and municipal recycled water usage.

- Encourage the Antelope Valley East Kern Valley Water Agency (AVEK) and the City Public Works Department to notify all new residential, commercial, and industrial development of water conservation and recuycling measures implemented by the agencies which supply water to their area.

- Coordinate with AVEK and the City Public Works Department to implement the water master plan that addresses new infrastructure, as well as improvements and upgrades to the existing water systems in the General Plan Planning Area.

- Require compliance for development projects with the requirements of the California Water Code Section 10910 regarding water supply.

- Require urban development that implements the General Plan Land Use Plan to be served by AVEK, the City, or other community or public water system.

- New high consumptive water uses, such as lakes and golf courses, will require evidence of additional verified sources of water other than local groundwater. Other sources may include recycled stormwater or wastewater.

- Groundwater quality shall be maintained to allow local resources to meet local needs.

- Require support of regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Compliance with the measures contained in the California Water Code and other requirements shall be required.

- New development proposals shall implement Best Management Practices (BMP's) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects.

- Prohibit use of septic systems in areas where it has been determined to be unsuitable for such systems and as described in City Resolution No. 08-01-1941.

- Urban development shall be served by a public sewage system or a private centralized sewage system, unless waived by the City or the Kern County Environmental Health Services Department. Urban development is defined as residential lots less than one-half (½) acre, and industrial and commercial uses regardless of size.

- Require industrial and commercial businesses to comply with the County Hazardous Waste Management Plan (CHWMP).

- Utilize the policies defined in the General Plan Safety Element for the proper management of lands where soil or geologic conditions pose risks to development.

- Require mining activities to comply with California Surface Mining and Reclamation Act (SMARA) requirements.

- Require buffering between mining and adjacent residential uses.

- Cooperate with the Kern County Air Polution Control District (APCD) to implement the APCD's Air Quality Attainment Plan.

- Continue to enforce the City's grading Code, along with dust control and other rules and measures through the Air Pollution Control District to mitigate air quality effects during the construction of new development.

- Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

- Bicycle lanes shall be developed along with other City improvements to encourage alternative methods of transportation.

- Promote energy conservation measures contained in Title 24 of the Califonria Code of Regulations.

- Promote a logical extension of development to utilize existing infrastructure and conserve resources.

- Encourage energy conservation in both the private and public sectors by promoting utility company incentive programs for both new development and retrofitting of existing structures.

- Protect sensitive vegetation and wildlife species, in accordance with State and federal laws and regulations, and to provide for maintenance of supportive habitat for such species in balance with the needs of humans.

- Maintain and promote the retention of natural setting and use of native or adaptable vegetation.

- Encourage the preservation of Joshua trees, known wildflower displays, or other biologically sensitive flora determined during biological surveys.

- Ensure that development expands without adversely impacting significant natural resources.

- Continue to require biota studies as a requirement of DRC for all new subdivisions, large apartment complexes, commercial and industrial projects.

- Preserve historical and cultural resources which may exist and are of significant value to the community now and in the future.

- Encourage public and private efforts toward preserving structures or sites which are of historic value to the community.

Implementation Measures

C-1. The City shall require that new development proposals provide evidence th sufficient water supply, including fire flow, exists to serve the project without impacting service to existing uses or resulting in the long-term decline and overdraft of groundwater sources.

C-2. The City shall implement the following measures to address water conservation goals and policies in the General Plan Planning Area:

- Work with the South Lahontan Regional Water Quality Control Board to ensure that future use of the Chaffee and Proctor sub-units by development in the General Plan Planning Area, other water districts, or by individual users will not lead to overdraft of groundwater sources.

- Require new development proposals to provide evidence that water conservation measures such as the use of drought-tolerant landscaping, application of new technologies (such as low-flow toilets), implementation of recycling measures for different land uses, and Best Management Practices (BMPs) have been incorporated into the project.

C-3. The City shall implement the following measures to address water quality goals and policies in the General Plan Planning Area:

- Work with local, regional, and State agencies to provide or a cost-effective and equitable means of reducing urban runoff and addressing water quality. If required, continue to use National Pollutant Discharge and Elimination System (NPDES) permits, including Best Management Practices (BMPs) for new development projects to help reduce runoff. Examples of BMPs include: schedule excavation and grading work for dry weather, covering stockpiles and excavated soil with tarps or plastic sheeting, sweeping dry spilled materials immediately, and never hosing down dirty pavement or impermeable surfaces where fluids have spilled.

- Require new development proposals to provide evidence of how urban runoff will be reduced and water quality will be addressed prior to issuance of grading and/or building permits.

- Require new development proposals to comply with City Resolution No. 08-01-1941 related to the suitability of new development to occur with a proposed use of a septic system.

- Require new development proposals with a proposed septic system to conduct a soils analysis to determine if the soils are suitable for such systems.

C-4. The City shall require that all mining activities in the General Plan Planning Area implement the following measures:

- Ensure that mining operations within the General Plan Planning Area comply with all applicable State law requirements.

- Mining operations shall require consultation with the Lahontan Regional Water Quality Control Board regarding compliance with the current water quality requirements.

C-5 The City shall participate with the California Air Resources Board (CARB) and/or the Kern County Air Pollution Control District (APCD) on programs to reduce mobile and stationary source emissions.

C-6 The City shall implement the following measures associated with air pollution emissions from new development proposals in the General Plan Planning Area.

- Evaluate proposals for discretionary projects to ensure that the project complies with air quality standards.

- For development proposals not subject to a discretionary approval or environmental review, an air quality analysis shall be required as a part of the site plan review (DRC) process.

- For development proposals subject to a discretionary approval (General Plan Amendment, Zone Change, or Subdivision) and environmental review, an air quality analysis shall be required as a part of the environmental review process.

C-7. The flowing measures shall be incorporated into new development proposals, as applicable, to address the energy efficiency goals and policies in the General Plan. Verification of these measures shall occur during development review and building inspection:

- Solar or low emission water heaters shall be encouraged in all residential and commercial projects to reduce natural gas consumption and emissions. All restaurants with charbroilers shall have PM 10 /ROG emissions control systems.

- Commercial and industrial development involving heavy duty truck usage shall be reviewed to verify the parking lot access and circulation related to vehicle queuing. This review will include consideration of entrance/exit driveways and ease of turning movements, as well as whether a proposed commercial or industrial use contains parking spaces for heavy duty trucks or overnight parking.

- The project applicant for development of commercial and industrial development involving heavy duty truck usage shall limit engine idling times to no more than 10 minutes at the project site by posting signs instructing drivers to turn off engines as they park at loading/unloading docks. Overnight truck parking areas shall be no idling zones and shall be equipped with plug-in power supplies.

- Development, including commercial and industrial development, shall provide sidewalks and on-site pedestrian facilities to encourage non-vehicular employee, customer, and resident trips.

C-8. As applicable, new development proposals shall address the requirements of the Kern County Air Pollution Control District (APCD) Permit to Operate. The APCD maintains Permit to Operate requirements that direct owners/operators of certain types of stationary equipment to obtain an Authority to Construct (ATC) from the District. As part of this process, the need for emission control equipment is assessed and the APCD determines whether a Human Health Risk Assessment must be prepared. Future uses subject to the requirements for a health risk assessment are typically those using substances subject to the National Emission Standards for Hazardous Air Pollutants issued pursuant to Section 112 of the federal Clean Air Act (42 U.S. Code, 7401, et seq.) and Sections 44340 to 44383 of the California Health and Safety Code. Risks must be reduced such that facilities do not emit carcinogenic to toxic air contaminants that could indirectly or cumulatively exceed individual cancer risk thresholds established by the APCD. If required, a project must provide proof of compliance with the APCD regulations prior to issuance of a building permit or certificate of occupancy, as appropriate.

C-9. The City shall promote energy conservation in the General Plan Planning Area through the following measures:

- Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

- Encourage energy conservation programs in both the private and public projects.

C-10. The City shall require that construction of new development proposals comply with the City's Grading Code and all adopted applicable dust control measures of the Kern County Air Pollution Control District (APCD).

C-11. The City shall implement the following measures to reduce the potential impact of odors and airborne pollutants on surrounding sensitive land uses:

- Utilize buffer areas for commercial, industrial, or public facility projects that generate odors in areas adjacent to sensitive land uses (such as residences and schools).

- Evaluate new development proposals regarding whether they may cause nuisance from odors and airborne pollutants if located near residential areas or sensitive receptors.

C-12. The following measures shall be incorporated into new development proposals, as applicable, to address the goals and policies of the General Plan related to air quality. Verification of these measures shall occur during site plan review and building inspection:

- During grading operations, project applicant/developer shall be responsible for the application of water to the development site at least twice daily to mitigate the impact of dust and PM 10 emissions. Spraying should be sufficient to ensure that soils remain damp, with the frequency of spraying dependent on weather conditions. Graded areas that are to be left undeveloped or unpaved for more than six weeks are to be sufficiently dust controlled through use of an applied surface agent, daily watering, or revegetated.

- During grading operations, all activity should be restricted to periods of low wind generally considered under 25 miles per hour, to reduce dust emissions.

- Construction speed limits will be posted at 15 miles per hour. Preparation of roadway surfaces in a phased manner (where segments of the route are graded in succession) will greatly minimize the amount of time the surfaces are left exposed, thereby reducing vehicle-related dust emissions.

C-13. The City shall require the preservation of biological resources by implementation of the following measures:

- Prior to issuance of a grading or building permit, new development proposals, including on previously disturbed land, shall be required to complete a general biological resources assessment to identify the presence of any sensitive biological resources, including but not limited to sensitive habitat, sensitive plant species, and sensitive wildlife species, jurisdictional drainage features, and wildlife corridors on the project site. Recommendations and/or mitigation measures shall be incorporated into project as conditions of approval.

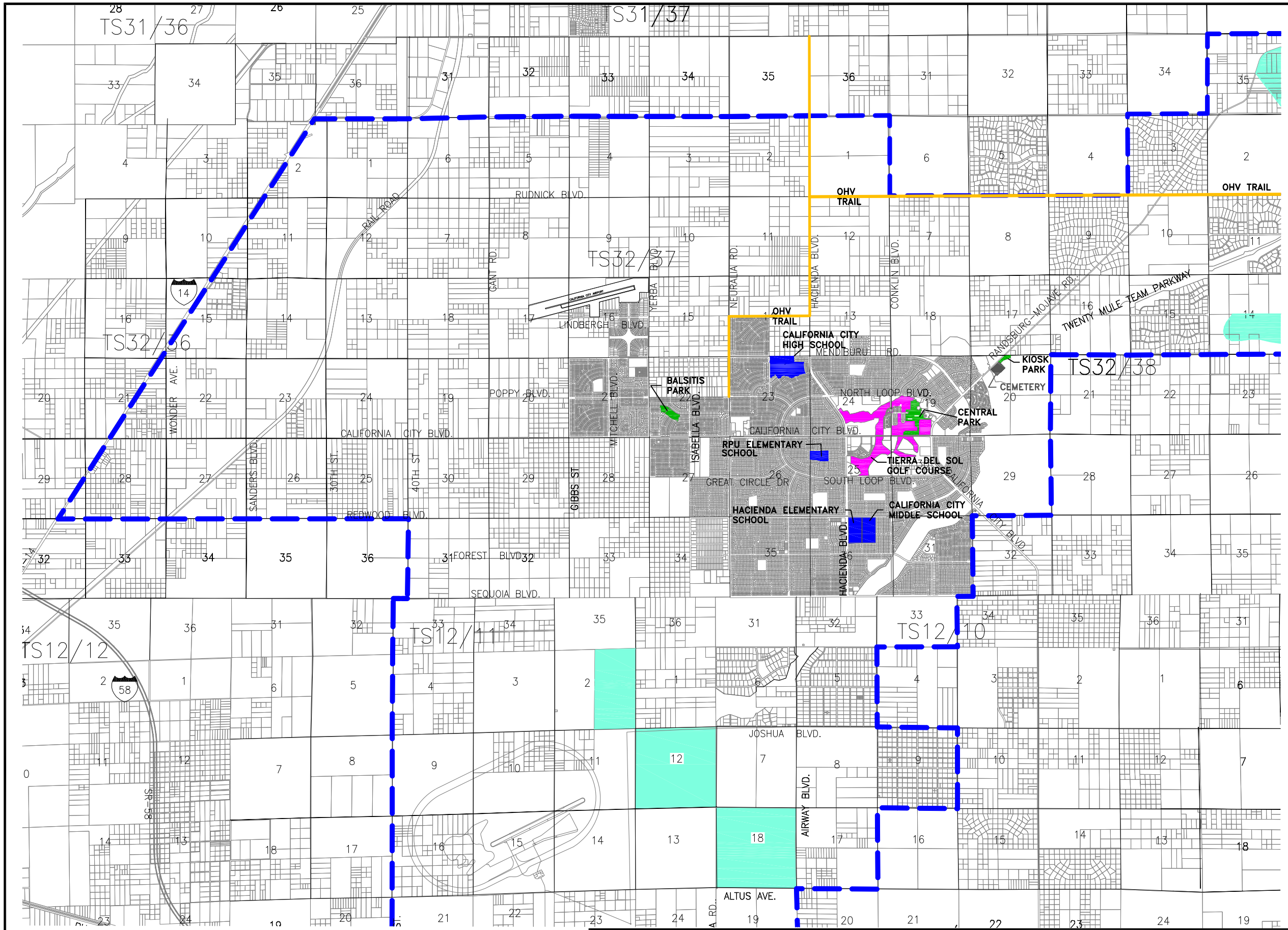
C-14. The City shall require the preservation of historical and cultural resources by implementation of the following measures:

- Encourage local groups and schools to enhance and promote historical resources and community activities for all residents within the General Plan Planning Area.

- Prior to issuance of a grading or building permit, new development proposals shall be required to complete records and literature search and/or a Phase 1 Assessment to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project as conditions of approval.

CENTRAL CORE

CALIFORNIA CITY GENERAL PLAN PARKS, SCHOOLS, RECREATION FACILITIES & CONSERVATION LAND



LEGEND:

- EXISTING CITY LIMITS
- SCHOOLS
- PARKS AND RECREATION AREAS
- GOLF COURSE
- CEMETERY
- CONSERVATION LAND
- OHV TRAIL

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FIGURE 5-1a

The information shown on this map was collected from several sources. Therefore, the accuracy of this information is not warranted in any way. The City of California City & Helt Engineering, Inc. assume no liability for any claims arising from the use of this map.

JOB NO.	DATE: 06/05/09 SCALE: NTS DRAWN BY: DSO CK'D BY: RP DATE CK'D: 06/05/09	REVISIONS	CK'D BY	DATE CK'D
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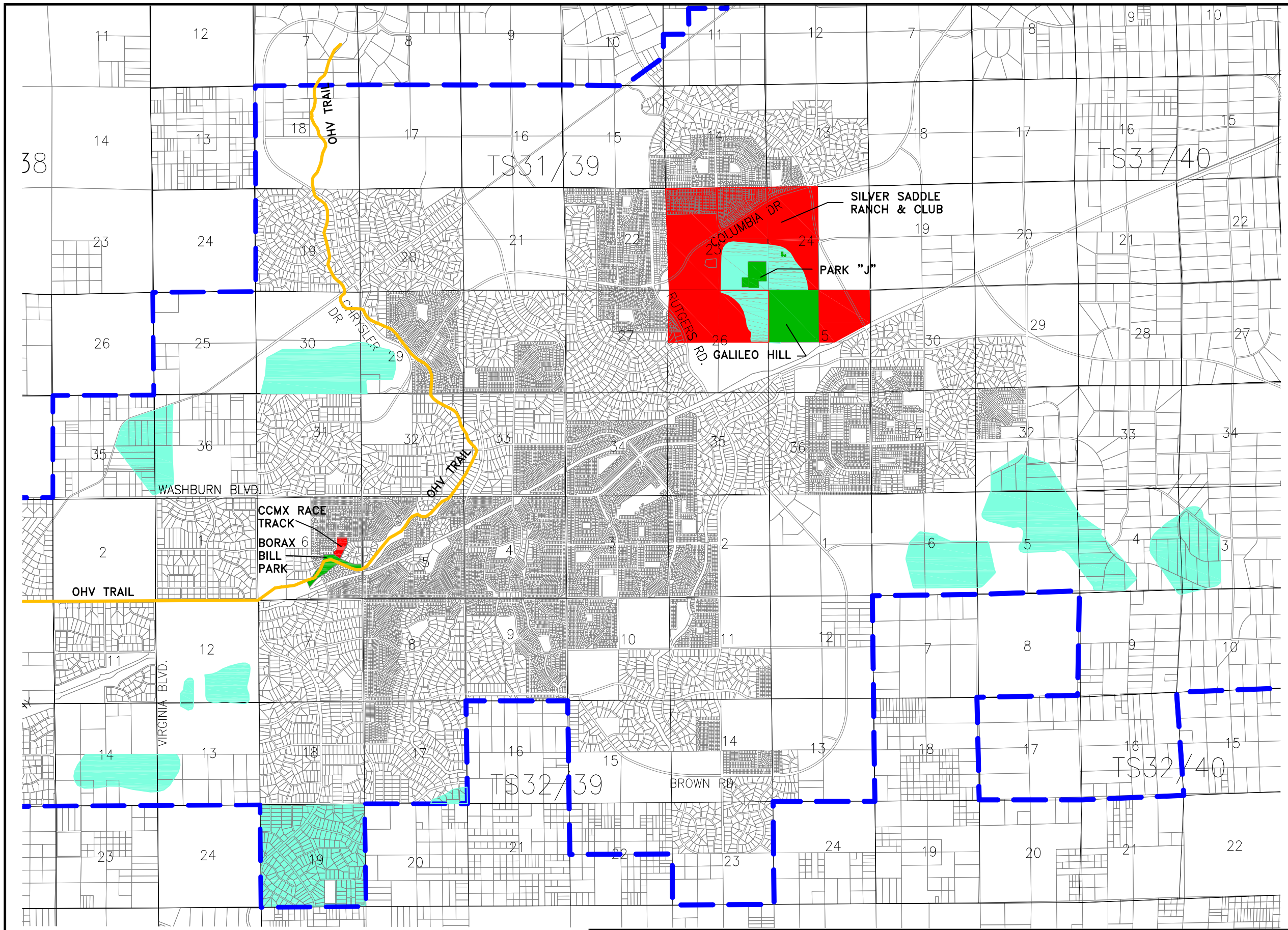
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
PARKS, SCHOOLS, RECREATION FACILITIES AND CONCERVATION LAND

NORTHEASTERN COMMUNITY

CALIFORNIA CITY GENERAL PLAN PARKS, SCHOOLS, RECREATION FACILITIES & CONSERVATION LAND



LEGEND:

- EXISTING CITY LIMITS
- SCHOOLS
- PARKS AND RECREATION AREAS
- GOLF COURSE
- CEMETERY
- CONSERVATION LAND
- OHV TRAIL
- PRIVATELY OWNED

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FIGURE 5-1b

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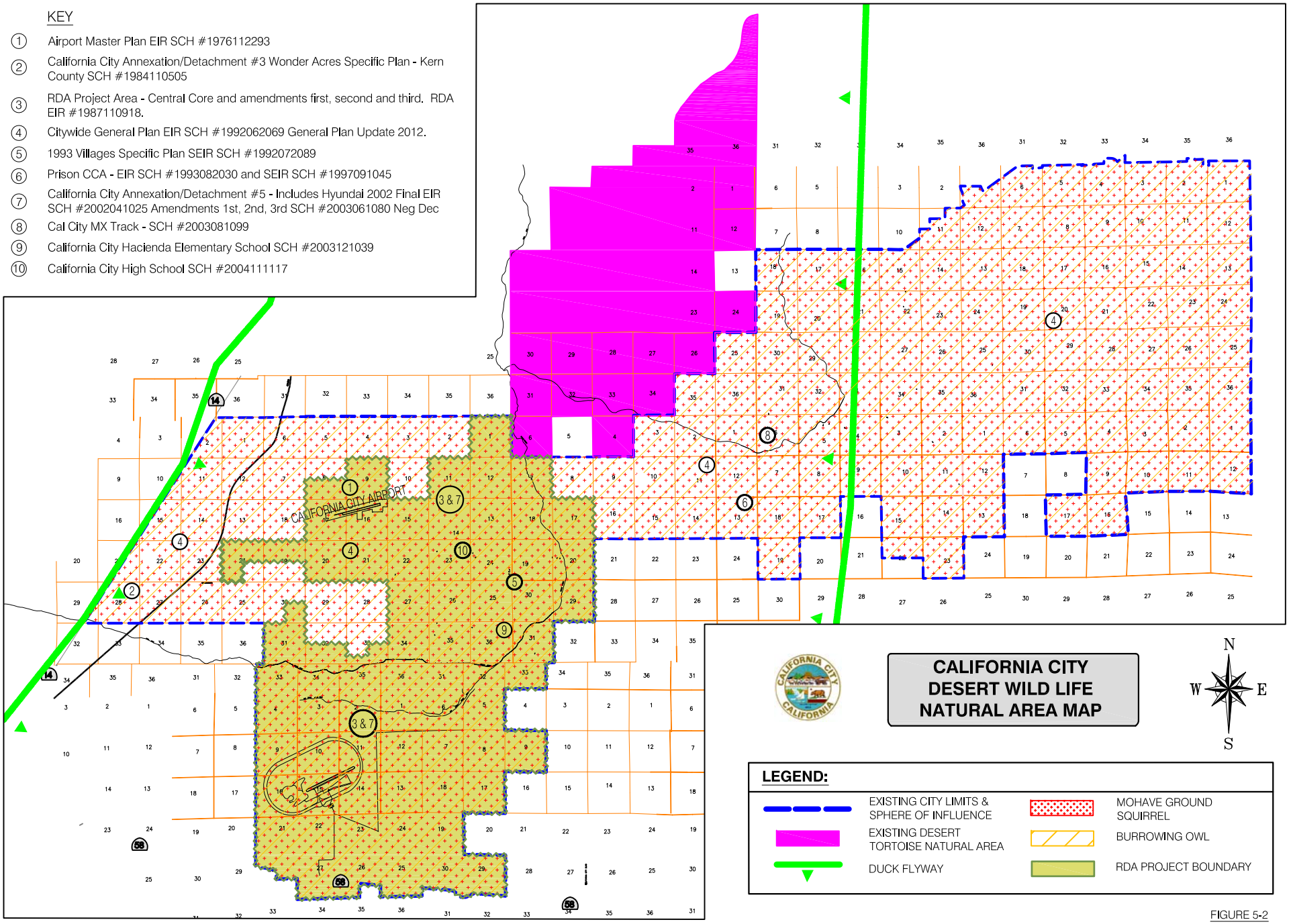
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
PARKS, SCHOOLS, RECREATION FACILITIES AND CONCERVATION LAND

KEY

1. Airport Master Plan EIR SCH #1976112293
2. California City Annexation/Detachment #3 Wonder Acres Specific Plan - Kern County SCH #1984110505
3. RDA Project Area - Central Core and amendments first, second and third. RDA EIR #1987110918.
4. Citywide General Plan EIR SCH #1992062069 General Plan Update 2012.
5. 1993 Villages Specific Plan SEIR SCH #1992072089
6. Prison CCA - EIR SCH #1993082030 and SEIR SCH #1997091045
7. California City Annexation/Detachment #5 - Includes Hyundai 2002 Final EIR SCH #2002041025 Amendments 1st, 2nd, 3rd SCH #2003061080 Neg Dec
8. Cal City MX Track - SCH #2003081099
9. California City Hacienda Elementary School SCH #2003121039
10. California City High School SCH #2004111117



CALIFORNIA CITY DESERT WILD LIFE NATURAL AREA MAP

LEGEND:

- EXISTING CITY LIMITS & SPHERE OF INFLUENCE
- EXISTING DESERT TORTOISE NATURAL AREA
- DUCK FLYWAY
- MOHAVE GROUND SQUIRREL
- BURROWING OWL
- RDA PROJECT BOUNDARY

FIGURE 5-2

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JOB NO.	DATE: 06/03/09 SCALE: 1"= 20,000' DRAWN BY: RG CK'D BY: RP DATE CK'D: 06/03/09	REVISIONS	CK'D BY	DATE CK'D
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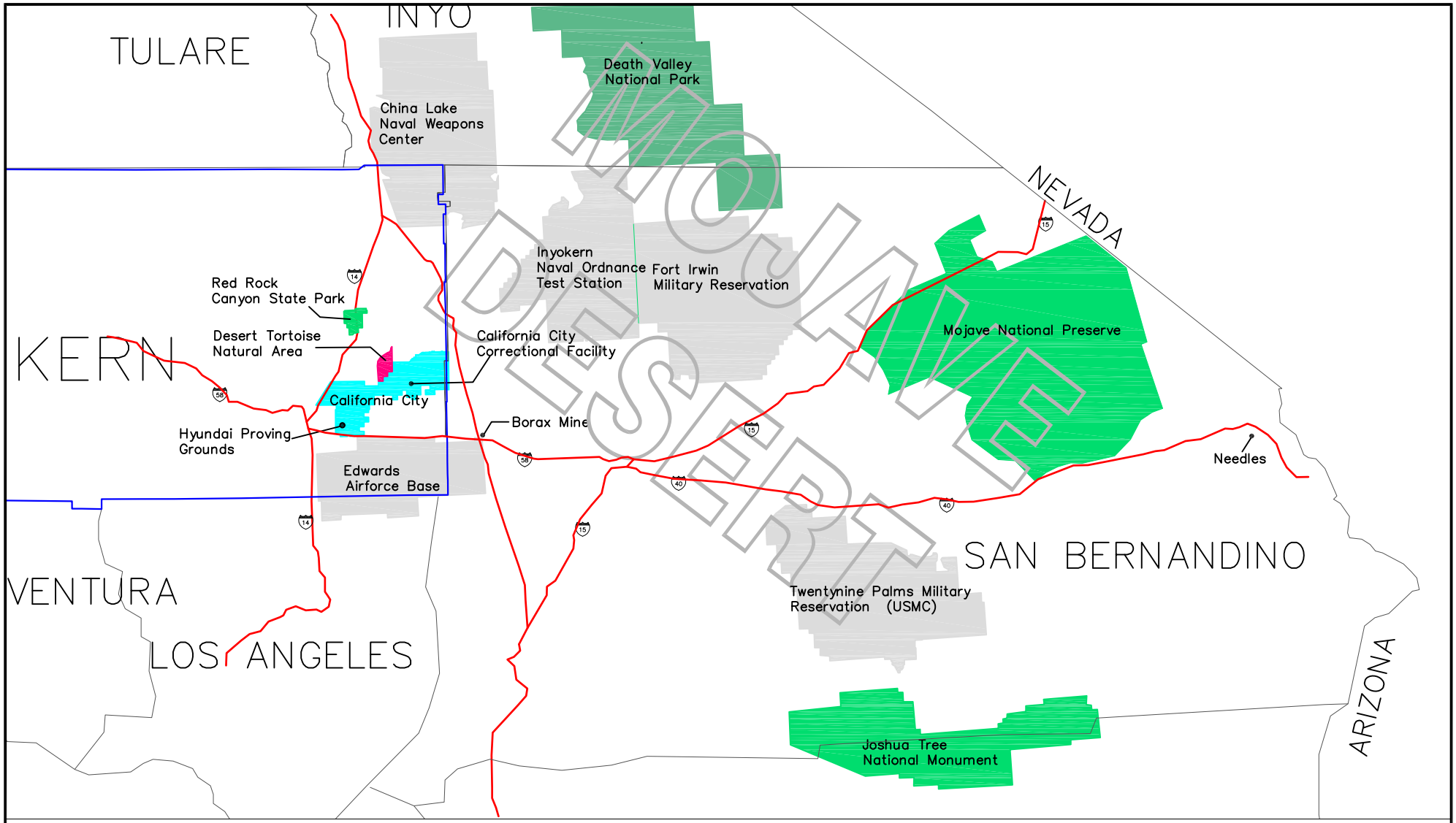
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
FIGURE 5-2
DESERT WILD LIFE



LEGEND

- MILITARY RESERVATIONS
- NATIONAL PARKS
- FOREST

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FIGURE 5-3

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
MOJAVE DESERT DESIGNATED AREAS
GENERAL PLAN
FIGURE 5-3

SHEET 1 OF ____ SHEETS

CITY OF CALIFORNIA CITY
KERN COUNTY, CA

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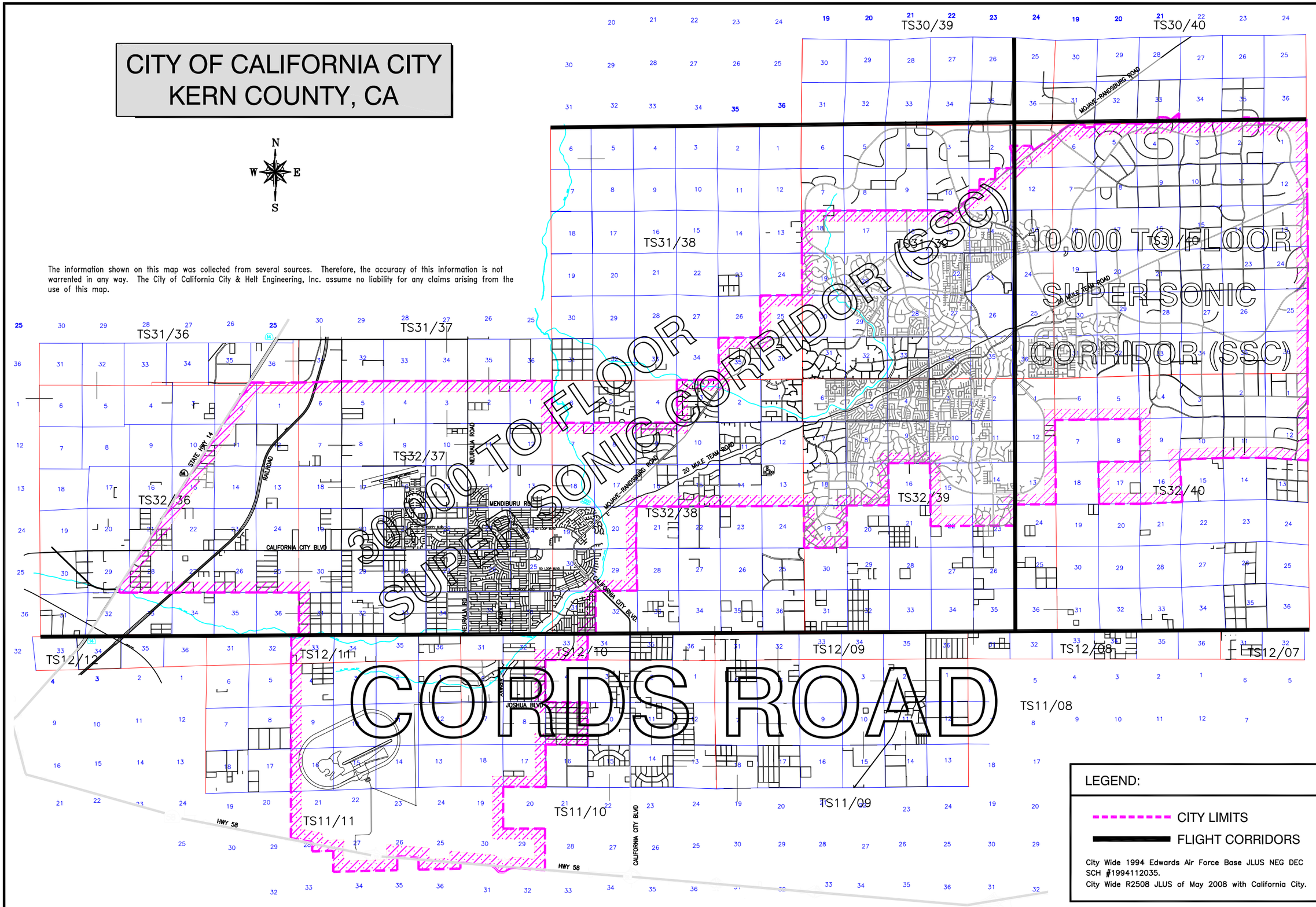

LEGEND:

CITY LIMITS

FLIGHT CORRIDORS

City Wide 1994 Edwards Air Force Base JLUS NEG DEC SCH #1994112035.
City Wide R2508 JLUS of May 2008 with California City.

REVISIONS	CK'D BY	DATE	CK'D	JOB NO.
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S:\JOBS\04427\FOR ROMA\super sonic corridor FIGURE 5-4.dwg

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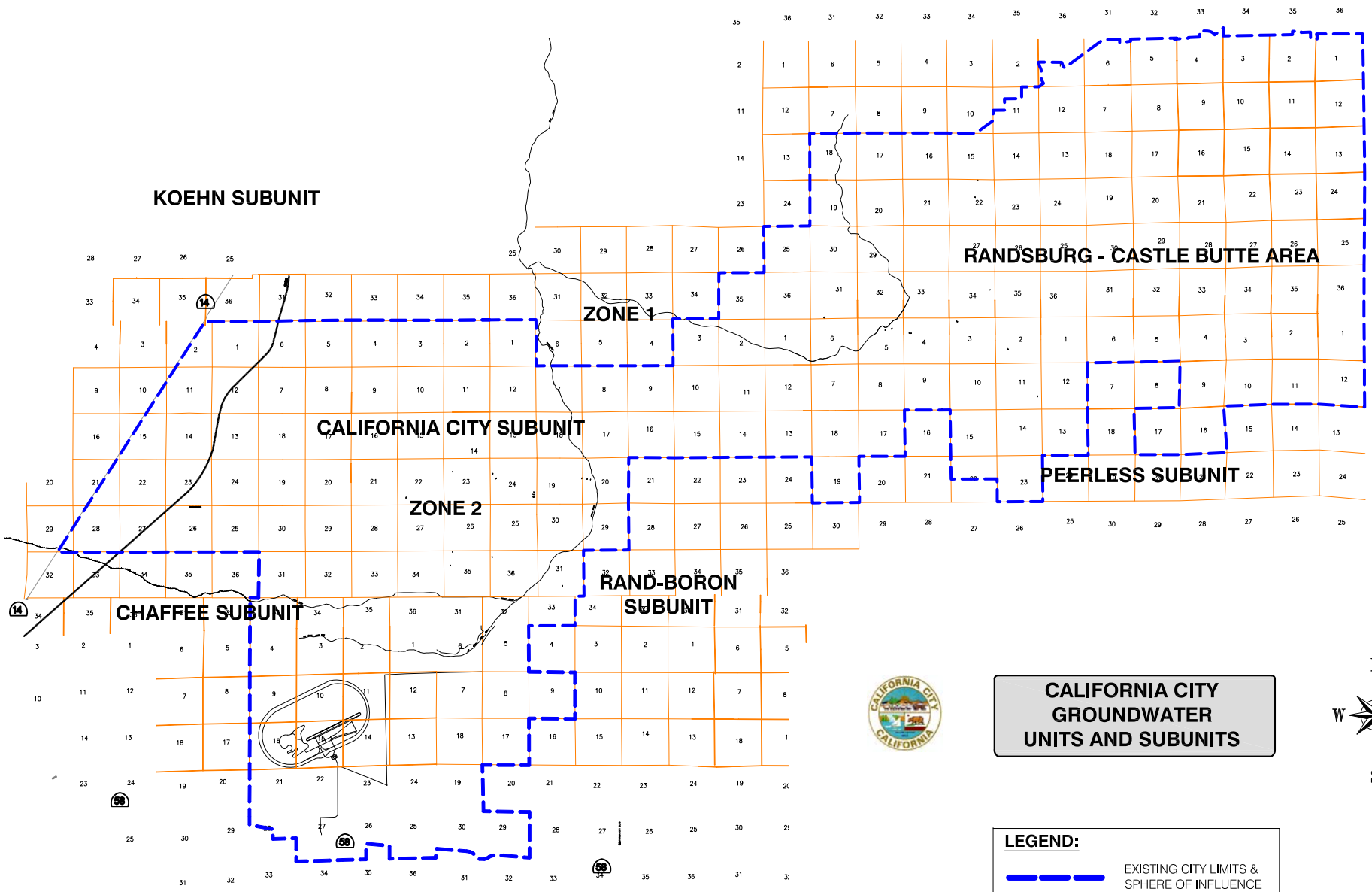
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
FIGURE 5-4
R2508 RESTRICTED AIR SPACE,
SUPER SONIC CORRIDOR (SSC) & CORDS ROAD

SHEET 1 OF 1 SHEETS

LTS = 0.5



CALIFORNIA CITY GROUNDWATER UNITS AND SUBUNITS

LEGEND:

EXISTING CITY LIMITS & SPHERE OF INFLUENCE

FIGURE 5-5

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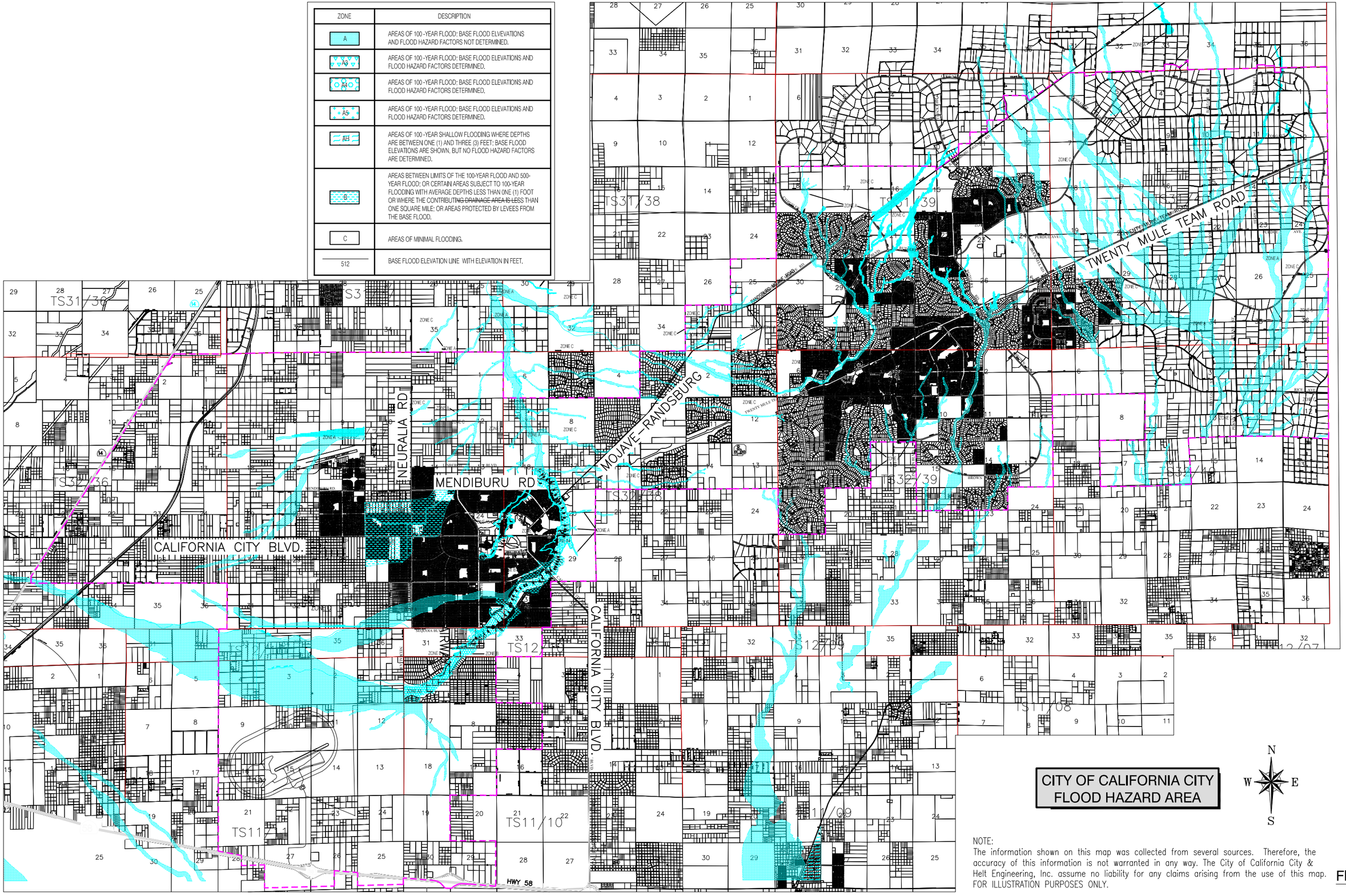
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
FIGURE 5-5
GROUNDWATER UNITS AND SUBUNITS

SHEET 1 OF 1 SHEETS

ZONE	DESCRIPTION
A	AREAS OF 100-YEAR FLOOD: BASE FLOOD ELVEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED.
A1-A9	AREAS OF 100-YEAR FLOOD: BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED.
AO	AREAS OF 100-YEAR FLOOD: BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED.
AS	AREAS OF 100-YEAR FLOOD: BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED.
AH	AREAS OF 100-YEAR SHALLOW FLOODING WHERE DEPTHS ARE BETWEEN ONE (1) AND THREE (3) FEET; BASE FLOOD ELEVATIONS ARE SHOWN, BUT NO FLOOD HAZARD FACTORS ARE DETERMINED.
B	AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE (1) FOOT OR WHERE THE CONTRIBUTING ~~DRAINAGE AREA IS LESS~~ THAN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD.
C	AREAS OF MINIMAL FLOODING.
512	BASE FLOOD ELEVATION LINE WITH ELEVATION IN FEET.



CITY OF CALIFORNIA CITY
FLOOD HAZARD AREA

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NOTE:
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FIGURE 5-6

CHAPTER 6 SAFETY

Overall Goal: Protection of the community from known risks as a result of natural and human-induced hazards, including geologic and seismic hazards, flood hazards, fire hazards, and aircraft over flight hazards.

6.1 DESCRIPTION OF THE LAND USE ELEMENT

The Safety Element addresses safety through goals, policies, and implementation measures that seek to reduce the potential for the loss of life, injuries, and property damage associated with natural and human-induces hazards. These hazards include geologic and seismic hazards, flood hazards, fire hazards, over flight hazards, and other human-induced hazards. The goals provide guidelines that respond to the identified issues, while the policies and implementation measures define how to protect the community from these hazards through strategies that will be considered in the planning process in order to provide a safe living and working environment.

6.2 STATUTORY REQUIREMENTS

State of California Planning and Zoning Law requires that a safety element be prepared as part of the general plan as follows:

> Government Code Section 65302(g): A safety element is necessary for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; substance liquefaction and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

The issues addressed in the Safety Element are integrated into the goals, policies, implementation measures, and plans, including the Land Use Plan and Open Space and Conservation Plan, contained in other elements of the General Plan.

6.3 OVERVIEW OF EXISTING CONDITIONS

The following provides a brief summary of existing conditions related to each type of hazard and the public safety services and facilities within the General Plan Planning Area.

Geologic and Seismic Hazards

Geologic and seismic hazards may result in threats to the safety of residents and the loss of businesses and property in the General Plan Planning Area. Potential geologic and seismic hazards include unsuitable soil conditions, erosion ground shaking, fault rupture, ground failure (subsidence, liquefaction, or lateral spreading).

The Planning Area is located in the northern portion of the Antelope Valley, a triangular-shaped plain of 3,000 square miles bounded by the San Gabriel Mountains on the south, the Tehachapi Mountains on the west, and the Rand Mountains on the north. The Planning Area is located within the Mojave Desert geomorphic province which is characterized by a gently undulating ground surface with isolated buttes and low to moderate relief across the desert floor. The Planning Area's topography consists of gently sloping alluvial plains with a series of steep rock buttes and several arroyos, including Cache Creek. The average elevation within the Planning Area is 2,400 feet above sea level. The groundwater in the Planning Area ranges from 600 feet to 800 feet below the ground surface.

The Mojave Desert is a Cenozoic feature, assumed to have been formed during the Oligocene Epoch (about 40 million years ago) from movement along the San Andreas and Garloc Faults. The broad alluvial basins that dominate the region were formed by eroded materials formed by eroded materials from the adjacent mountain ranges. The alluvial sediments reach a maximum depth of 4,000 feet in the Antelope Valley and have been measured to a depth of about 1,000 feet in the General Plan Planning Area. The buttes that rise around the alluvial fill are remnants of ancient eroded mountains. In addition, there are a number of playas, or dry lake beds, in the valley portions of the desert floor where imperceptible rises in elevation block drainage routes, (Norris & Webb, Geology of California, 1976).

Soils in the Planning Area generally consist of five types: Cajon-Arizo-Alko; Cajon; Rosamond-DeStazo; Torriorthents-Rock outcrop; and Garlock-Neuralia. These soils types are generally characterized as being shallow in depth with very low to moderate available water capacity. Therefore, these soil types have the potential to result in hazards related to water and wind erosion, (U.S. Department of Agricultural Soil Conservation Survey, Soil Survey of Kern County California, Southeastern Part, 1976).

The Planning Area is located in the area known as the Mojave Block. The Mojave Block, referred to as the Eastern California Shear Zone (ECSZ), is an area of increased seismic activity which stretches from the San Andreas Fault near Indio, north-northeast across the Mojave Desert, and northward into the Owens Valley. The numerous faults in this region may accommodate as much as 10 to 20 percent of the relative motion between the North American and Pacific Plates. As a result, the Planning Area has the potential to experience seismic-related hazards. **Figure 6-1, Active Faults in Region**, provides the approximate locations of major active faults that could affect the Planning Area. **Table 6-1**, summarizes the characteristics of the active faults that could affect the Planning Area. As indicated in Figure 6-1, the Garlock Fault is located approximately 10 miles to the northwest of the central core area of the City. The Garlock Fault zone is one of the most obvious geologic features in southern California and marks the northern boundary of the Mojave Block, as well as the southern end of the Sierra Nevada and the valleys of the westernmost Basin and Range province. The Garlock Fault intersects the San Andreas Fault at Lebec and follows a northeast trend through the Tehachapi Mountains to the east and south of Tehachapi, eventually traversing the Desert region between Tehachapi and California City. Although no earthquake has produced surface rupture on the Garlock Fault in historic times (although cracks opened along a short segment of the fault in 1952 due to the shaking of the Kern County earthquake), there have been a few sizable earthquakes recorded along the Garlock Fault zone. The most recent seismic event was a 5.7 magnitude near the community of Mojave on July 11, 1992. At least one section of the fault has shown movement by creep in recent years. This, in addition to scarps from previous ruptures and the on-going seismicity associated with the Garlock Fault zone, indicated that the Garlock Fault zone will experience a seismic event resulting in surface rupture in the future, (Kern County, California, Multi-Hazard Mitigation Plan, 2006).

TABLE 6-1 CALIFORNIA CITY POTENTIALLY ACTIVE FAULTS IN THE REGION				
Potentially Active Faults	**Distance from Central Core Area of California City (miles)**	**Maximum Earthquake Magnitude (Mw)**	**Peak Acceleration (g)**	**Estimated Site Intensity (MMI)**
Garlock Fault (West)	10	7.1	0.297	IX
Garlock Fault (East)	13	7.3	0.280	IX
Lenwood - Lockhart Fault	14	7.3	0.269	VII
Helendale - S. Lockhart Fault	26	7.1	0.119	VII
South Sierra Nevada Fault	29	7.1	0.106	VII
Gravel Hills - Harper Lake Fault	30	6.9	0.084	VII
White Wolf Fault	31	7.2	0.104	VII
San Andreas Fault	39	7.1	0.73	VI

Source: Geological Hazards Study, Mojave Joint Unified School District, Elementary School Site, April 2003. Note: The estimated site intensity of ground shaking intensity is described by the Modified Mercalli Intensity (MMI) Scale.

The San Andreas Fault, California's most active and most dangerous fault, is located approximately 39 miles southwest of the Planning Area. As shown in Figure 6-1, the Lockhart Fault is located within the Planning Area approximately 14 miles to the east of the Central Core Area of the City. In addition, the Muroc Fault traverses the southeastern portion of the Planning Area. This fault has not demonstrated Holocene movement during the past 11,000 years and, therefore, is not classified as an active or potentially active fault.

Given the seismic history and the close proximity of the Garlock Fault and its relationship with the San Andreas Fault, the Planning Area is located in an area that is likely to experience significant earthquake activity in future years. As a result, the potential seismic hazards that have the potential to occur within in the Planning Area include strong ground shaking, fault rupture, liquefaction, and earthquake-included landslides.

Strong Ground Shaking

There is the potential for the Planning Area to experience strong ground shaking during a seismic event on a major fault in the region. This could result in significant damage to structures. The most vulnerable structures in an earthquake and unreinforced masonry buildings which were built before seismic codes were first instituted by the County and the City. Other building types that may pose substantial hazards in an

earthquake include precast concrete tilt-up buildings and predominantly multi-story buildings of non-ductile concrete frame and composite precast concrete construction of types.

The Planning Area falls within Seismic Zone 4 of the Uniform Building Code (UBC). The design of proposed structures in accordance with current Uniform Building Code (UBC) standards would reduce the potential for significant damage to structures resulting from strong seismic ground shaking.

Fault Rupture

A fault is defined as a fracture in the earth's crust forming a boundary between rock masses that have shifted. Fault rupture is a break in the ground's surface and associated deformation resulting from the movement of a fault. Surface rupture would be a potential problem within the Planning Area if a strong earthquake occurs along a known or an unknown fault within or near the Planning Area. As discussed above, the Lockhart Fault zone is located within the Planning Area and the Garlock Fault, which is designated as an Alquist-Priolo Earthquake Fault Zone, is located 10 miles to the northwest of the central core area of the City.

The California Geologic Survey (CGS) has identified Alquist-Priolo Earthquake Fault Zones in California. The locations of these zones are indicated in Figure 6-1, Active Faults in Region, and are shown in detail on the Alquist-Priolo Earthquake Fault Zone Maps at www.data.scec.org. The areas designated as an Alquist-Priolo Earthquake Zone are where surface fault rupturing has previously occurred, or where local topographical, geological, or geotechnical conditions indicate the potential for permanent ground displacements. In addition, these areas have special building regulations and limitations, including the preparation of special studies, restrictions on types of land uses, and required setbacks from faults. There are no Alquist-Priolo Earthquake Zones identified within the General Plan Planning Area.

Liquefaction

Liquefaction is a phenomenon in which loose, saturated, granular soils temporarily behave similarly to a fluid when subjected to high intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater, 2) low density silty or fine sandy soils, and 3) high intensity ground motion. Areas of high ground water are at a greater risk for liquefaction of soils during a major earthquake and can result in the settlement of the foundations of structures and roadways.

The groundwater in the Planning Area ranges from 600 feet to 800 feet below the ground surface. Due to the depth to groundwater in the Planning Area, no liquefaction would be anticipated to occur during a seismic event.

Earthquake-Induced Landslides

A strong earthquake could trigger landslides or slope failures on steeper slopes generally in the eastern and southeastern portions of the Planning Area. The common types of landslides induced by earthquakes are bluff and stream bank failures rock falls, and soil slips on steep slopes. Deep-seated landslides are not necessarily reactivated during a seismic event, **Figure 6-2, Slope of Terrain**.

Landslides

Slopes subject to failure within the Planning Area are predominately found at Galileo Hill and Twin Buttes. Physical investigations to date have documented that Twin Buttes is consider a minimal risk, however, Galileo is closed to the public due to the poor condition of the narrow one lane service road. Galileo Hill is used as a repeated station by the California City Police Department. A local radio tower is also located at the top of Galileo Hill. The value of Galileo Hill to the community will require future restoration of the service road to maintain access and continued use of the site, **Figure 6-3, Erosion Hazards**.

Land Subsidence

Land subsidence is the gradual, local settling or sinking of the earth's surface with little or no horizontal motion. Although a seismic event can trigger subsidence, it can also occur as a result of gas, oil, or water extraction, hydrocompaction, or peat oxidation. The southern portion of the Planning Area has been undergoing gradual land subsidence, with up to four feet of subsidence over a 40-year period. Although subsidence is not a significant hazard damage to wells, foundations, and underground utilities may occur.

As reported in the Open Space and Conservation Element at the time the land sale promotion activities began in 1958, an estimated 70-foot depression had occurred under the area that is now the center of the community as a result of agricultural pumping for the irrigation of alfalfa. Upon the cessation of this pumping, the depression began to fill in, and in 1961 about 50 feet of the depression had recovered, leaving a 20-foot depression in and around the developed community. By 1990, however, the depression had returned to about 50 feet as a result of pumping for domestic water.

The 1972 Kreiger and Stewart Study concluded that the recoverable water in Zone 2 of the California City Subunit is about 2.1 million acre-feet. The 1991 Saint-Amand Study concurred with that estimate. In addition to water utilization for domestic purposes, the Saint-Amand Study concludes that approximately 10,000 acre-feet of groundwater is translocating annually to the Koehn Subunit from the Chaffee Subunit and Zone 1 of the California City Subunit from long-term agricultural pumping, which still continues. Obviously, this is water that cannot be captured by California City.

Flood Hazards

The area adjacent to a drainage channel is a floodplain. A floodplain is an area that is inundated during a flood event and is often physically discernable as a broad flat area created by prior floods. Typically, the term floodplain refers to an area that has the potential to be inundated by a 100-year flood, which is a flood that has a one percent chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard by which communities regulate development within a floodplain through the National Flood Insurance Program (NFIP), (Kern County, California, Multi-Hazard Mitigation Plan, 2006).

Flood damage to property is often the result of the improper use of lands within the floodplain. When a flood occurs, certain types of land uses located within the flood-prone areas may be damaged. In addition, development in flood hazard areas can increase the natural flood heights and velocities, resulting in damage to upstream, downstream, and adjacent lands.

The General Plan Planning Area is located on the western edge of the Mojave Desert in eastern Kern County. In the Mojave Desert, the natural drainage channels are poorly defined due to previous flooding, erosion, and

sedimentation by wind-blown soils. The desert has flood problems where intermittent streams shift across the gently sloping alluvial plains. In addition, roadways and railroads often divert flows and may increase flooding problems. The Planning Area is bisected by seasonal drainages, the largest of which is Cache Creek, which flows in an eastern then northern direction through the Planning Area, to the south and east of the central core area of the City. The drainage of Cache Creek upstream of the General Plan Planning Area consists of approximately 163.4 square miles. Other drainage channels include: Tierra del Sol Creek, which drains approximately 2.7 square miles within the City; and Yerba Rusche Creek and its tributary, Great Circle Creek, which drains approximately 5.0 square miles in the western portion of the developed area of the City. Yerba Rusche Creek flows into Cache Creek north of the General Plan Planning Area. The locations of these drainages are shown in Figure 5-6 Flood Hazard Areas. Peak discharge-drainage area relationships for Cache Creek. Tierra del Sol Creek, Yerba Rusche Creek, and Great Circle Creek are shown in **Table 6-2**.

TABLE 6-2
CALIFORNIA CITY
SUMMARY OF FLOOD DISCHARGES
FOR DRAINAGES IN GENERAL PLAN PLANNING AREA

FLOOD SOURCE AND DRAINAGE AREAS		PEAK DISCHARGE (Cubic Feet Per Second)			
FLOODING SOURCE AND LOCATION	**DRAINAGE AREA (SQUARE MILES)**	**10-Year Flood**	**50-Year Flood**	**100-Year Flood**	**500-Year Flood**
Cache Creek at Downstream Limit of Study	163.40	1,900	5,300	7,800	16,400
Tierra del Sol Creek at Confluence with Cache Creek	2.69	450	1,700	2,800	9,290
Yerba Rusche Creek at Mendiburu Road	5.02	780	2,350	3,600	8,200
Great Circle Creek at Confluence with Yerba Rusche Creek	3.66	560	1,970	3,000	8,200

Source: FEMA, Flood Insurance Study, City of California City, California, Kern County, July 20, 1981.

There are no federal, state, county, or local flood control projects in the Planning Area. Most of the existing flood control facilities within the City have been built where there is existing development in the western portion of the City. Protection from small magnitude flooding in some of the streets and along Tierra del Sol and Yerba Rusche Creeks is provided by trapezoidal channels which are typically effective for low flows, but are generally inadequate to handle 10-year flows. Overbank flooding and flow over roadways occurs during high volume rainfalls, such as those that occurred during the winter of 1977-78 and during March 1991 and February 1992. The City has not experienced a 100-year flood, (FEMA, Flood Insurance Study, City of California City, California, Kern County, Community Number 060440, July 20, 1981).

Figure 5-6, Flood Hazard Areas, provides the Federal Emergency Management Agency (FEMA) flood zone designations for the General Plan Planning Area. The City has an ordinance restricting building within the 100-year floodplain, as designated in Figure 5-6.

Fire Hazard

Potentially, both structure and wildland fires could threaten life and property within the General Plan Planning Area. Structural fires commonly result from manmade causes and can threaten adjacent residential and commercial structures. Structural fire hazards are primarily associated with residential and commercial buildings. These urban fires can start for a wide variety of reasons, including electrical shorts, carelessness, and arson. In general, structural fire hazards are greatest in buildings which are old or not built consistent with the requirements of the Uniform Building Code (UBC).

Major wildland fires are uncommon within the Planning Area due to the vegetation type, the sparseness of the vegetation, and the lack of available ground fuel. Therefore, the potential for a wildland fire can sustain combustion in areas with sparse vegetation or limited opened fuel.

Over Flight Hazards

There are 12 airports within 25 nautical miles of the Central Core Area of the City. **Figure 6-4, Airports and Airspace Environment**, provides the existing systems of enroute airways, and airports that have the potential to affect the General Plan Planning Area. Three of the airports, California City Municipal Airport, Mojave Airport, and Tehachapi Municipal Airport, and publicly-owned. Seven of the airports are privately-owned and two of the airports, Edwards Air Force Base and Edwards Air Force AUX North Base, are military facilities. Due to the proximity of Edwards Air Force Base to the Planning Area, the majority of the air traffic is military-related, (California City Municipal Airport Master Plan Update, Final Report, DMJM Aviation, June 2005).

The airports and over flight activities that have the greatest potential to result in safety considerations with the Planning Area are the California City Municipal Airport, the Mojave Airport, Edwards Air Force Base, and other military over flight activities.

Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan, adopted by the Kern County Board of Supervisors in 2004, establishes procedures and criterial by which the County and affected incorporated cities a can address compatibility issues when making planning decisions regarding airports and the surrounding land uses. The primary compatibility concerns include aircraft noise, safety with respect to both people and property on the ground and in the aircraft, protection of airspace, and other general concerns related to aircraft over flights.

State Aeronautics law requires all airport-vicinity land use designations to be consistent with the defined airport land use compatibility criteria to the extent that the affected areas are not already extensively developed. The Airport Land Use Compatibility Plan outlines compatibility criteria that will be applied to development proposals in the vicinity of airports located in Kern County.

For each airport in Kern County, the Plan maps the following five zones related to noise and safety levels:

Zone A	-	Building Restriction Lines/Runway Protection Zone
Zone B1	-	Approach/Departure Zone

Zone B2	-	Extended Approach/Departure Zone
Zone C	-	Common Traffic Pattern Zone
Zone D	-	Other Airport Environs Zone

Zones A, B1, and B2 limit residential development densities and do not allow development of schools, hospitals, or day care centers. Industrial and commercial development within these zones is limited to lower intensity employee/customer uses, such as warehousing, instead of shopping malls or hotel/motels. (Kern County Airport Land Use Compatibility Plan, March 2004)

California City Municipal Airport

California City Municipal Airport consists of 222 acres located within Planning Sub-area 1 of the General Plan Planning Area approximately four miles northwest of the central core area of the City. The California City Municipal Airport is owned and operated by the City. A master plan was prepared for the airport in 1994 and recently updated in 2005. The 2005 document titled California City Municipal Airport Master Plan Update was used as the primary source of the information summarized below.

The airport is contained in the National Plan of Integrated Airport System (NPIAS) and is classified as a General Aviation airport, which is an airport that serves a community that does not receive scheduled commercial air service. In addition, the airport is classified as a Community-Recreation Airport in the California Aviation System Plan (CASP). A Community Airport is defined as one that provides access to other regions and states; is located near small communities; serves, but is not limited to, recreation flying, training, and local emergencies; accommodates predominately single engine aircraft under 12,500 pounds; and provides basic or limited services for pilots or aircraft. The Recreation subcategory designates the prevalent service provided at the airport and is defined as the use of an airport by pilots not engaged in corporate, business, or formal instruction and includes recreational and tourist destination access.

The California City Municipal Airport has airfield facilities that consist of a runway and taxiway system, runway approach areas, and associated appurtenances such as airfield lighting and visual and navigational aids. The runway system includes one runway for powered aircraft (designated 6/24) and two runways for glider operations (designated Runway 6 and Runway 24). Runway 6/24 is an asphalt runway that is 6,027 feet long and 75 feet wide. The glider runways are 2,000 feet and 1,600 feet long, respectively, and 150 feet wide. Both of the glider runways are constructed of dirt, with the exception of a 1,000 feet by 30-foot wide area of Runway 6 that is paved. Glider Runway 6 is only available for landings from the west and Runway 24 for landings from the east. The facilities which support the various activities for the airport consist of aircraft parking aprons, hangars, fuel facilities, auto parking, and an administrative office building.

There are runway safety areas, runway object free areas, and approach surfaces and runway protection zones that address safety related to the operation of an airport and the land uses within the vicinity of an airport.

The runway safety areas (RSA) consist of a rectangular area, centered around a runway, that is cleared, drained, graded, and usually turfed. This area should be capable of accommodating an aircraft that veers off the runway or fire fighting equipment or emergency response vehicles. The existing RSA for runway 6/24 is an area 150 feet wide centered on the runway centerline and 300 feet beyond each runway end. The existing RSA for the glider runways are 120 feet wide centered on the runway centerline and 240 feet beyond each runway end. These standards will change based on the types of aircraft that use the airport in the future.

The airport has a runway object free area (ROFA) associated with each runway. This is a two dimensional ground area surrounding the runway with the intention of providing adequate wing-tip clearance and is required to be clear of parked aircraft, agricultural operations, and objects. The existing ROFA for runway 6/24 is 250 feet on each side of the runway centerline, 300 feet beyond the end of the runway, and 65.5 feet on either side of the taxiways. The existing ROFA for the glider runways are 125 feet on each side of the runway centerline and 240 feet beyond each runway end.

The approach surface and runway protection zone (formerly called clear zone) are important in ensuring the safe operating of aircraft and defining appropriate land uses in the areas surrounding an airport. The approach surface and extending outward to distances up to 10 miles depending on runway use (i.e., instrument or visual approaches). The width and slope of the approach surface are also dependent on runway use. The approach surface governs the height of objects on or near the airport. Objects should not penetrate or extend above the approach surface. If they do, they are classified as obstructions and must be either marked or removed. The runway protection zone is defined as an area at ground level that provides for the unobstructed passage of landing aircraft through the above airspace and is used to enhance the protection of people and property on the ground. The runway protection zone begins at the end of the primary surface and has a size which varies with the designated use of the runway.

Federal Aviation Regulations Part 77 (FAR Part 77) indicates that the approach surface for a runway should be kept free of obstructions to permit the unrestricted flight of aircraft in the vicinity of an airport. As the type of instrument approach to a runway becomes more precise, the approach surface increases in size and the required approach slope becomes more restrictive. The runway protection zone is the most critical safety area under the approach path of an aircraft and should be kept free of all obstructions. No structures should be permitted and the congregation of people should not be allowed within the runway protection zone. It is recommended that the land within the runway protection zone be controlled by the owner of an airport so that the required limitations related to land use can be implemented.

The approach and runway protection zone dimensions are dependent on the type of approach being made to a runway. The runway protection zone for Runway 6 extends slightly beyond the airport property and a portion of the runway protection zone for Runway 24 extends beyond the airport property. The glider runways are one-way runways and are only used for landings. Glider Runway 6 has a runway protection zone on the western-most runway end and the Glider Runway 24 has a runway protection zone on the eastern-most runway end. The glider protection zones are located primarily on airport property. The construction of any structures within the runway protection zones for the California City Municipal Airport would a safety hazards as it may create glare or misleading lights, result in obstructions, or provide for the assembly of people within an area that may experience a crash landing.

Development proposals in the vicinity of the California City Municipal Airport will be reviewed by the City for consistency with the Kern County Airport Land Use Compatibility Plan as discussed above. In addition, the City will enforce airport safety, height, and obstruction clearance criterial set forth in FAR Part 77.

Mojave Airport

The Mojave Airport is located approximately four miles to the west of the General Plan Planning area in the community of Mojave in unincorporated Kern County. The airport is owned and operated by the East Kern Airport District. The Mojave Airport, which was formerly a military base, is currently the largest general aviation airport in Kern County. (Kern County Airport Land Use Compatibility Plan, March 2004). The Mojave Airport consists of approximately 3,000 acres located within the Mojave Specific Plan area (the portion of the Specific plan which is west of State Route 58 and not in the General Plan Planning Area).

The Mojave Airport serves as a Civilian Flight Test Center, the location of the National Test Pilot School, and as a base for modification of major military jets and civilian aircraft. The airport has "cutting edge" aviation, high-tech manufacturing, and light industrial companies. Uses at the airport range from general aviation, short-term and long-term storage of aircrafts, maintenance and modification services, and experimental rocket, space, and aircraft development and testing, (Mojave Specific Plan Final EIR, October 2003).

Consistent with FAR Part 77, an Airspace Protection Plan has been proposed for Mojave Airport and provides plan view information for runway approach areas. The primary function of the plan is to provide a basis for height zoning in the areas surrounding the airport which may conflict with the use of the runways and adjacent airspace. The plan defines the primary, approach, transitional, horizontal, and conical surfaces, (Mojave Specific Plan Final EIR, October 2003).

Development proposals in the vicinity of the Mojave Airport will be reviewed by the County for consistency with the Kern County Airport Land Use Compatibility Plan as discussed above. This would include proposed development within the General Plan Planning Area which is within any of the compatibility zones defined in the Kern County Airport Land Use Compatibility Plan. In addition, the County will enforce airport safety, height, and observation clearance criteria set forth in FAR Part 77.

Edwards Air Force Base

Edward Air Force Base is located approximately six miles to the east of the General Plan Planning Area, Edwards Air Force Base is the location of the Air Force Flight Test Center (AFFTC), which supports the mission of the Air Force Material Command by: conducting and supporting tests of aerospace vehicles, flight evaluation and recovery of research vehicles, and operation of the U.S. Air Force Pilot School; developing, operating, and staffing the Edwards Flight Test Range (EFTR) and the Utah Test and Training Range (UTTR); and supporting and participating in test and evaluation programs for the Department of Defense (DoD) and other government agencies, contractors, and foreign governments. The area which comprises Edwards Air Force Base consists of 470 square miles, approximately 331.5 square miles is in Kern County, Los Angeles County (72.5 square miles), and San Bernardino County (66 square miles). The 470 square miles are under the total jurisdiction of the federal government. The State, Counties and Cities have no jurisdiction within this area, (Edwards Air Force Base Joint Land Use Study, 1994).

There are flight corridor areas that are utilized by Edwards air Force Base which are essential to the continuation of its program. Due to the speed of the high performance aircraft that use these flight corridors, they extend far beyond the base boundaries and can result in potential noise and safety concerns that could affect property within the jurisdictions in which the corridors are located. Edwards Air Force Base has indicated that the approval of urban density residential developments in corridor areas would create potential land use conflicts between the residents in these developments and the over flight activities, (Edwards Air Force Base Joint Land use Study, 1994).

The General Plan Planning Area is within three flight corridors: Black Mountain Supersonic Corridor, the High Altitude Supersonic Corridor and CORDS Road Test Area. **Figure 6-5, Flight Test Corridors and Spin Area Boundaries**, indicates the location of the corridor in reference to the General Plan Planning Area. The Black Mountain Supersonic Corridor is used by aircraft flying at supersonic speeds. From the east the aircraft have a minimum altitude of 10,000 feet above ground level as they approach the General Plan Planning Area. Most of the sonic booms heard within the Planning Area are from airplanes being tested within this corridor, (California City General Plan).

The CORDS Road Test Area is used as a High Altitude Supersonic Corridor. Similar to the Black Mountain Supersonic Corridor aircraft using the CORDS Road Test Area fly at supersonic speeds and could result in sonic booms heard within the General Plan Planning Area. The CORDS Road is an east/west oriented graded road running from just north of the Mojave Airport to Coyote Lake near Barstow. It lies generally along the 35◦ 05' north latitude line and normal use extends 5 miles either side of the road. The road is used as a visual ground alignment reference for radar tests involving multiple target aircraft flying against test aircraft, (Communication: Edwards Air Force Base Encroachment Prevention, August 27, 2008).

Edwards Air Force Base has five spin areas; four of which are within the boundaries of the Base. The fifth spin area, referred to as the North Spin Area, is located southeast of the City's boundaries as shown in Figure 6-3, Flight Test Corridors and Spin Area Boundaries. The recent City of California City Annexation/Detachments/Sphere of Influence Amendment (Reorganization No. 2), February 25, 2003, removed the North Spin Area from the City's boundaries. The spin area is airspace in which aircraft are placed out of control and test pilots then attempt to regain control without losing the aircraft.

In addition, Edwards Air Force Base has established a High Altitude Supersonic Corridor which runs in an east-northwestern direction. The minimum altitude for aircraft within this corridor is 30,000 feet above ground level.

Edwards Air Force Base has indicated that the land area under the flight test corridors or spin area are at a much higher level of risk then those where routine flight operation take place. This is particularly the case for land where residential or other uses which could put a larger number of people at risk at any time could occur. In response to this, in 1994, the City processed and approved a General Plan Amendment (No. 94-01), a Zone Change Application (No. 152), and a Negative Declaration relating to the Edwards Air Force Base Joint Land Use Study and it integration into the California City General Plan. This action is reflected in the current General Plan and Zoning Map.

In January 2007, the City working in conjunction with Edwards Air Force Base prepared an avigation notification that is distributed with the application for a building permit within the City. The notification defines the use of the airspace within the AFFTC at Edwards Air Force Base and the resulting potential effects of this use. New residential subdivisions may require an Avigation Easement be recorded with the Kern County Clerk's Office.

Other Military Over Flight

Since the flying missions at the military aviation installations within the region fly beyond their boundaries, the Department of Defense (DoD) and the Federal Aviation Administration created an area of restricted airspace in order to minimize flight hazards to non-military aircraft by military aircraft. Access to this airspace is greatly limited to civilian aircraft and can be accessed only after obtaining prior approval. This area is known as the Joint Services Restricted R-2508 Complex. **Figure 6-6, Joint Services Restricted R-2508 Complex.**

R-2508 encompasses 20,000 square miles of electronically surveilled ranges permitting unrestricted flight testing from near ground level to near space at various locations. Within the R-2508 Complex, there are other designated restricted airspaces known as R-2505, R-2506, and R-2515 which are the immediate and adjacent airspaces north extending past China Lake Naval Air Weapons Center and ending before Bishop, California, east extending past Inyokern Naval Ordnance Test Station and ending at the eastern boundary of Fort Irwin Military Reservation, south extending slightly past Edwards Air Force Base and west ending

between Tehachapi and Bakersfield in Kern County, California, (Source: California Governor's Office of Planning and Research, August 2006).

The Department of Defense Office of Economic Adjustment (OEA) is funding the preparation of two Joint Land Use Studies (JLUSs) in California. A JLUS is a collaborative planning effort between active military installations, surrounding counties and cities, and other affected agencies. Given the large areas covered by these studies and the number of jurisdictions and agencies involved, the California JLUS program is being managed by the Governor's Office of Planning and Research (OPR). One of the two geographic study areas included in the JLUS program is the R-2508 Complex. As shown in Figure 6-4, Joint Services Restricted R-2508 Complex addresses the General Plan Planning Area and the surrounding region and the land beneath the Joint Service R-2508 Complex and associated military airspace.

The JLUS program has three primary objectives: 1) Convene community and military installation representatives to study the issues in an open forum, taking into consideration both community and military viewpoints and needs; 2) Encourage cooperative land use planning between military installations and the surrounding communities so that future community growth and development are compatible with the training and operational missions of the installation and at the same time seek ways to reduce operational impacts in adjacent lands; and 3) Provide a set of tools, activities, and procedures that local jurisdictions, agencies and the military can select and use to implement the recommendations developed during the JLUS process, (State of California Governor's Office of Planning and Research, August 23, 2006).

Other Human-Induced Hazards

Many areas within the General Plan Planning Area, including the Central Core Area in Planning Sub-area 1, Sub-area 3 and Sub-area 4 were utilized during World War II as a bombing practice range by the military. The "practice" bombs that were utilized were smaller than a normal mortar shell and only a small percentage of them contained explosives. According to the California City Fire Department approximately 3 to 4 of these practice bombs are found each year by residents who are completing landscaping tasks around their homes. Following the discovery of a bomb, U.S. Army authorities at Fort Irwin are contacted and a bomb disposal unit is dispatched to properly dispose of the potential hazard.

In addition, portions of the Planning Area were utilized by the military for the training of ground troops. As a result, there are scattered bullet shells that have been discovered within the City. In 1983, a 500-pound bomb lying on the surface of the ground was discovered in the southeastern portion of the City. Another large bomb was uncovered during the construction of they Hyundai Proving Grounds in mid-2004. Other bombs of a similar size may exist in the large expanses of vacant land within the confines of the General Plan Planning Area. The Army Corp of Engineers is currently scanning, identifying and recovering these hazards. The City to adopt ordnance ordinance, State to notify property owners of defined risk areas, building permits to include information.

Public Safety

Fire Protection

Fire protection services in the City's incorporated limits are provided by the California City Fire Department (Fire Department). The Fire Department has one station located in the Central Core Area of the City in General Plan Planning Sub-area 1. The fire station, located at 20890 Hacienda Boulevard immediately south of California City Boulevard, is manned by three full-time fire fighters on a 24-hour basis includes a captain,

engineer, and fire fighter. The Fire Department is designed to be normally staffed by nine firefighters, staffing augmented by part time fire fighters utilized on as needed basis, and Fire Chief. As of August 2008, the Fire Department's existing equipment consists of a wildland patrol unit, one wildland/interface engine, one water tender, and two full-sized fire engines which are housed at the fire station. In addition to fire suppression, the Fire Department provides services that include: Paramedic Advanced Life Support; fire prevention; public education; fire hydrant maintenance; hazardous materials response; nuisance abatement; flood response; and aircraft crash and arson investigation.

Public protection classifications for fire departments are designated by the Insurance Services Office (ISO). The ISO considers three primary factors in their rating system: fire department location, personnel, and equipment (50 percent); water supply and fire flow capacity (40 percent); and communications capabilities (10 percent). Ratings are based on a scale of 1 to 10, with 1 being the best possible protection. The California City Fire Department maintains an ISO rating of 4 within the City.

The California City Fire Department has mutual aid agreements with the Kern County Fire Department, the East Kern Airport District Fire Department, and the Bureau of Land Management.

The response time to the Central Core Area of the City is within three to five minutes. In the northeastern portion of the City, the maximum response time is sixteen minutes. As development occurs further from the Central Core Area the response times will increase due to the distances from the fire station to portions of the incorporated areas of the City. Sprinkler systems are required in new construction with an ETA of eight minutes or more.

Police Protection

Police protection services within the City's corporate limits are provided by the California City Police Department (Police Department). The Police Department has one station located in the Central Core Area in Planning Sub-area 1. The police station, located on Hacienda Boulevard immediately north of California City Boulevard, is designed to be normally staffed by fourteen sworn officers, supervisory officers, investigative staff, and the Police Chief. The staffing ratio is designed to provide 1.5 sworn officers per 1,000 population. As of August 2008, the Police Department had seventeen vehicles.

The response time to the Central Core Area of the City is three to five minutes. In the northeastern portion of the City, the response time is ten to twelve minutes. As development occurs further from the Central Core Area, response times will increase due to the distances from the police station to portions of the incorporated areas of the City.

Law enforcement in the surrounding unincorporated area is the responsibility of the Kern County Sheriff's Department. Coroner's services are provided through the County by the Sheriff's Department and the court system and jails are operated and maintained by Kern County.

Emergency Disaster Response Plan

An Emergency Operations Plan was developed and adopted by the City in September 1999. The Plan describes in detail the lines of authority and responsibilities of City officials and outlines emergency response procedures, affected organizations, and describes evacuation routes. If an event is declared a community wide emergency, the City Manager is designated as the Emergency Services Director and the City's Fire Chief is second in command.

6.4 SAFETY ISSUES

- The General Plan Planning Area has major seasonal drainages that have adjacent areas that are identified as being within the 100-year floodplain on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). The flooding potential is a safety hazard that needs to be addressed as new development is proposed within and adjacent to identified flood hazard areas.

- Geologic and seismic hazards should be mapped and considered as development proposals are processed within the General Plan Planning Sub-areas.

- Fire hazards due to existing conditions or planned development should be mapped and considered as development proposals are processed within the General Plan Planning Area.

- Military activity areas which occur within the General Plan Planning Area boundaries should be identified and land uses considered to ensure the safety of residents, while at the same time allowing the missions of the military to continue. Reviewing and considering the recommendations of the Joint Land Use Study planning program should occur as part of the General Plan Update process.

- The Airport Land Use Compatibility Plan should be reviewed and provisions incorporated in the General Plan Update process.

- Severe weather conditions.

- Many areas within the General Plan Planning Area were previously utilized by the military for training purposes during World War II. Unexploded ordnance could be present in these areas. The Army Corp of Engineer is currently scanning,

- Development in outlying areas of the General Plan Planning Area will severely impact the ability of the City's public safety and emergency responders to provide adequate services. New facilities and personnel requirements need to be identified and planned for in any development proposal outside the current urban core. Multi-use stations should be considered when planning for these facilities outside the City's Central Area in Planning Sub-area 1.

- The adopted Emergency Disaster Response Plan should be reviewed related to the General Plan Planning Area defined in the update process.

6.5 GEOLOGIC AND SEISMIC HAZARDS GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following provides the goals, policies, and implementation measures related to geologic and seismic hazards.

Goals

- Protect the health, safety, and welfare of the community from hazards related to seismic activity.

- Minimize serious physical damage form geologic and seismic hazards to structures used for human occupancy and to critical facilities and structures where large numbers of people congregate.

- Insure the continuity of vital services, functions, and facilities after a seismic event.

Policies

- Development shall be prohibited in areas where measures to correct identified geologic or seismic hazard are not feasible.

- The personal safety of the people must take precedence over all other tracts.

- Structures designated for command control of emergency/disaster services shall be designed to withstand a "maximum probable seismic event" and to remain operational after a seismic event.

- Structures utilized for emergency services, schools and future hospitals shall be designed to protect human life to the highest degree possible during a "maximum probable seismic event."

- Update building regulations and City Municipal Code requirements to prevent the community from being adversely affected by significant seismic disturbances.

- Minimize the potential damage to structures and loss of life that could result from earthquakes.

- Safety measures required by the Uniform Building Code for Seismic Zone 4 for construction of new buildings are hereby incorporated by reference.

- Encourage residential property owners to implement seismic safety improvements in older buildings, such as anchoring buildings to foundations, bolting water heaters to walls, and performing other preventative measures.

- Encourage participation in State-sponsored earthquake preparedness programs.

Implementation Measures

S-1. The City shall require that all new development be subject to a preliminary geotechnical report to identify potentially hazardous geologic and soils conditions including the potential for seismic hazards. If the preliminary geologic report indicates that geologic or soils conditions could be unstable, a geotechnical investigation shall be prepared indicating the suitability of any proposed or additional development on the site and any corrective action needed to prevent structural defects or ground failure. The geotechnical investigation shall analyze: seismic hazards; geologic hazards; depth to groundwater; soil conditions (texture, consistency, structure, permeability, shrink-swell potential, strength); and the percentage of slopes and the potential for landslides.

S-2. The City shall require geotechnical engineering studies for development proposals on properties in seismically hazardous areas (as identified on seismic hazard atlas or Alquist-Priolo maps) to consider

the design and intensity of the proposed use in relation to the potential seismic risk. This shall include the potential for the project to be subject to fault rupture, ground failure including liquefaction or subsidence or earthquake-induced landslides.

S-3. The City shall continue to participate in State-sponsored earthquake preparedness programs. These programs shall be offered to the residents and business owners in the community.

S-4. The City shall implement a program to work with property owners to implement seismic safety improvements in older residential and commercial buildings. These measures may include anchoring buildings to foundations, bolting water heaters to walls, securing oversized furniture, and other preventative measures.

6.6 FLOOD HAZARDS GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following provides the goals, policies, and implementation measures related to flood hazards.

Goals

- Minimize the potential for personal injuries and property damage and economical loss caused by inundation in flood hazard areas.
- Provide and maintain flood control facilities to protect the safety, health, and general welfare of the community.

Policies

- Define potential flood hazards within the General Plan Planning Area in order to locate development away from such hazards or identify potential strategies to preserve life and protect property.
- Ensure that residential, commercial, industrial, and other land development is adequately protected from the hazards which occur from flooding and storm water runoff.
- Encourage open space uses consistent with the character of the floodplain and discourage land uses which are inconsistent with floodplain hazards.
- Protect drainage channels and floodplains located within the General Plan Planning Area from encroachment by development with the use of drainage easements.
- Maintain open areas needed to retain stormwater and prevent flooding in developed areas.
- Plan and build drainage facilities following the applicable standards. Develop a master drainage plan for the General Plan Planning Sub-areas that will support future development.

Implementation Measures

S-5. The City shall require that all new development proposals within flood hazard areas zoned A, A1 - A30, A99, B, and C on the Federal Emergency Management Agency (FEMA)Flood Insurance Rate Maps to implement the following:

a) New development, proposals located within flood hazard zones A, B, and C shall conform to the City's Flood Hazard Protection Code.

b) The City shall require flood studies as part of discretionary permit application and site plan review for new development proposals within flood hazard areas identified as A, B, and C on the FEMA Flood Insurance Rate Maps and as required by the City's Public Works Department.

6.7 HUMAN-INDUCED HAZARDS GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following provides the goals, policies, and implementation measures related to human-induced hazards including fire hazards, aircraft over flight hazards, and other hazards.

Goals

- Protect residents, businesses, and structures from human-induced hazards related to ground transportation, aircraft over flight, hazardous materials, and other human activities.

Policies

- Require all generators and processors of hazardous waste develop long-term waste management programs in compliance with all applicable federal, state, county, and local requirements.

- Ensure that hazardous materials used by commercial and industrial land uses are properly transported, handled, and used, and that information on their handling, transport, and use is available to the California City Fire Department and other safety agencies in accordance with the Fire Code.

- Require that new development proposals be consistent with the Kern County Airport Land Use Compatibility Plan in order to eliminate hazards due to land use conflicts with the California City Municipal Airport, the Mojave Airport, Edwards Air Force Base, and other military over flight activities.

- Reduce the risk of potential spills and exposures to hazards and hazardous materials due to ground transportation by roadway and railway systems.

- Continue to educate residents about household hazardous waste including what is classified as household hazardous waste and disposal options at the appropriate facilities.

- Coordinate with the State to identify and monitor hazardous sites located within and/or adjacent to the General Plan Planning Area.

Implementation Measures

S-6. The City shall implement a program to educate the community regarding the safe use and disposal of household hazardous waste including advertisement of the County Recycling Hotline for information on household hazardous waste collections.

S-7. The City shall require commercial and industrial businesses to meet the procedures for the proper transport, use, storage, and disposal of hazardous waste as required by the Kern County Waste Management Department, the California City Fire Department, and Kern County Department of Environmental Health Services. These procedures shall include, but are not limited to, the following:

a) Submittal of a business plan for small quanity waste generators to the Kern County Department of Environmental health Services and the California City Fire Department.

b) Submittal of a source reduction plan for large quantity generators that addresses the potential of treating waste on site and the proper transportation and disposal of waste off site. These plans are reviewed by the Kern County Department of Environmental Health services and the California City Fire Department.

c) Evalution of funding sources for waste management and disposal programs.

d) Coordination with the State Department of Health Services.

S-8. The City shall require that all mining activities in the General Plan Planning Area implement the following measures:

a) Ensure that mining operations within the General Plan Planning Area comply with all applicable State law requirements.

b) Consult with the Lahontan Regional Water Quality Control Board and comply with the current water quality requirements.

S-9. The City shall require that transporters of hazardous waste travel on designated Commercial Hazardous Waste Shipping Routes.

S-10. The City shall minimize potential risk to residents from natural gas or other gas exposure by recommending available locations for proposed above-ground transfer and/or monitoring stations. The City shall recommend the location of these types of facilities stations within the Heavy Industrial land use designation as shown on General Plan Land Use Plan and consistent with the Airport Land use Compatibility Plan.

S-11 The City shall encourage all new development proposals to incorporate Community Policing Through Environmental Design (CPTED Site Definition Source) design techniques and standards that increase safety.

S-12. The City shall require that new development proposals be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated into the conditions of the project approval to address compatibility with the California City Municipal Airport, the Mojave Airport, and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

S-13. In conjunction with Kern County and the military, the City will develop an area of interest designation for particular operation areas (such as CORDS Road, BMSSC, North Spin area, PIRA buffer area). The area of interests designation would be considered for use in the General Plan and/or Specific Plan documents, as well as other planning documents (ALUCP or Zoning Code) to identify areas of military operations that need a site-specific review for compatibility. A menu of compatibility tools will be developed by Kern County, the military, and the City to provide options to address impacts such as noise, safety hazards, and vibration. The goal of the tools will be to encourage creative solutions for property owners in assessing land use of their property where military operations occur to promote mutual sustainability and encourage dialogue. The tools will provide a range of options that include potential actions both by the Department of Defense (DoD) and local government that would minimize impacts to private property rights while sustaining the military mission.

S-14. The City shall develop a "transfer of development rights" program to protect areas of critical importance to maintaining public safety and mission sustainability, (Joint Land Use Study, May 2008).

S-15. The City shall encourage subdivision regulations to allow for clustering of units to minimize areas affected by military operations.

S-16. Working with the military, the State will ensure information on elevation limits (floors and ceilings) of Special Use Airspace (SUA) is easily available to the local jurisdictions, land management agencies, and other affected stakeholders.

S-17. In conjunction with the Army Corps of Engineers, the City shall develop improved mapping of Unexploded Ordnance (UXO) areas that may exist off installation property and provide communication outreach to affected stakeholders.

S-18. The military in conjunction with the City shall establish procedures for identifying types of proposed projects that involve a source of frequency emissions (including WiFi) within the R-2508 Complex. The City, potentially affected stakeholders, and the Frequency Management Office of the appropriate installation will be contacted for review of their projects to avoid potential frequency conflicts. The Department of Defense (DoD) will be established as the single Point of Contact.

S-19. The City in conjunction with the military should consider establishing provisions for real estate disclosure and deed restrictions within the JLUS Areas of Interest and UXO defined zones.

S-20. The City shall reexamine the need for density limitations in flight corridors in consultation with the military.

S-21. The City in conjunction with the military shall consider developing General Plan policies or other appropriate implementation methods that are designed to reduce or eliminate frequency spectrum conflict issues that are associated with new development proposals.

S-22. The City in conjunction with the military shall work with California Department of Real Estate, local real estate representatives, and military representatives to develop and implement adequate language for inclusion within disclosure notices pertaining to noise and safety considerations associated with military missions, where appropriate.

6.8 PUBLIC SAFETY GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following provides the goals, policies, and implementation measures related to public safety and emergency response services.

Goals

- Provide and implement effective emergency services that will protect the health, safety, and welfare of residents and workers within the community.
- Protect the health, safety and welfare of residents, businesses, and property from fire danger.
- Provide for the continuity of the City government in the event of a community-wide, regional, or national emergency.
- Provide a basis for direction and control of emergency operations.
- Repair and restore essential systems and services.
- Provide for the protection, use, and distribution of remaining resources.
- Coordinate operations with the emergency organizations of other jurisdictions.

Policies

- Ensure that new development does not create a burden on adequate levels of emergency response services, including fire protection services and law enforcement services.
- Work with the Fire Department and Police Department to ensure sufficient services can adequately protect and serve the community.
- Ensure that new development proposal shall provide street widths and clearance areas are consistent with the City's requirements and, therefore, adequate to accommodate fire protection and emergency response vehicles.
- Continue to enforce the Health, Fire, and Building standards for all new development proposed and rehabilitation of existing structures.
- Continue to monitor water supply for fire-flow to insure adequacy of fire protection services.
- Review all new development proposals for fire safety considerations.
- Require the installation of heat and/or smoke detection early warning and fire suppression systems.
- Continue to adopt and enforce the latest national building, plumbing, mechanical, and fire prevention codes.

- As new development occurs, additional fire stations shall be built to reduce fire protection and emergency response times to events.

- Continue to maintain a disaster emergency services plan which coordinates California City disaster services with those of the Kern County Emergency Services Plan.

- Continue to administer the Mojave Desert Community Response Plan through the County Office of Emergency Services.

Implementation Measures

S-23. The City shall require that new development proposals demonstrate the availability of fire, police, emergency response, and solid waste disposal services during the environmental review and discretionary approval process.

S-24. The City shall continue to provide fire department training programs.

S-25. The following measures shall be implemented to ensure adequate fire and police protection services in the incorporated areas of the City:

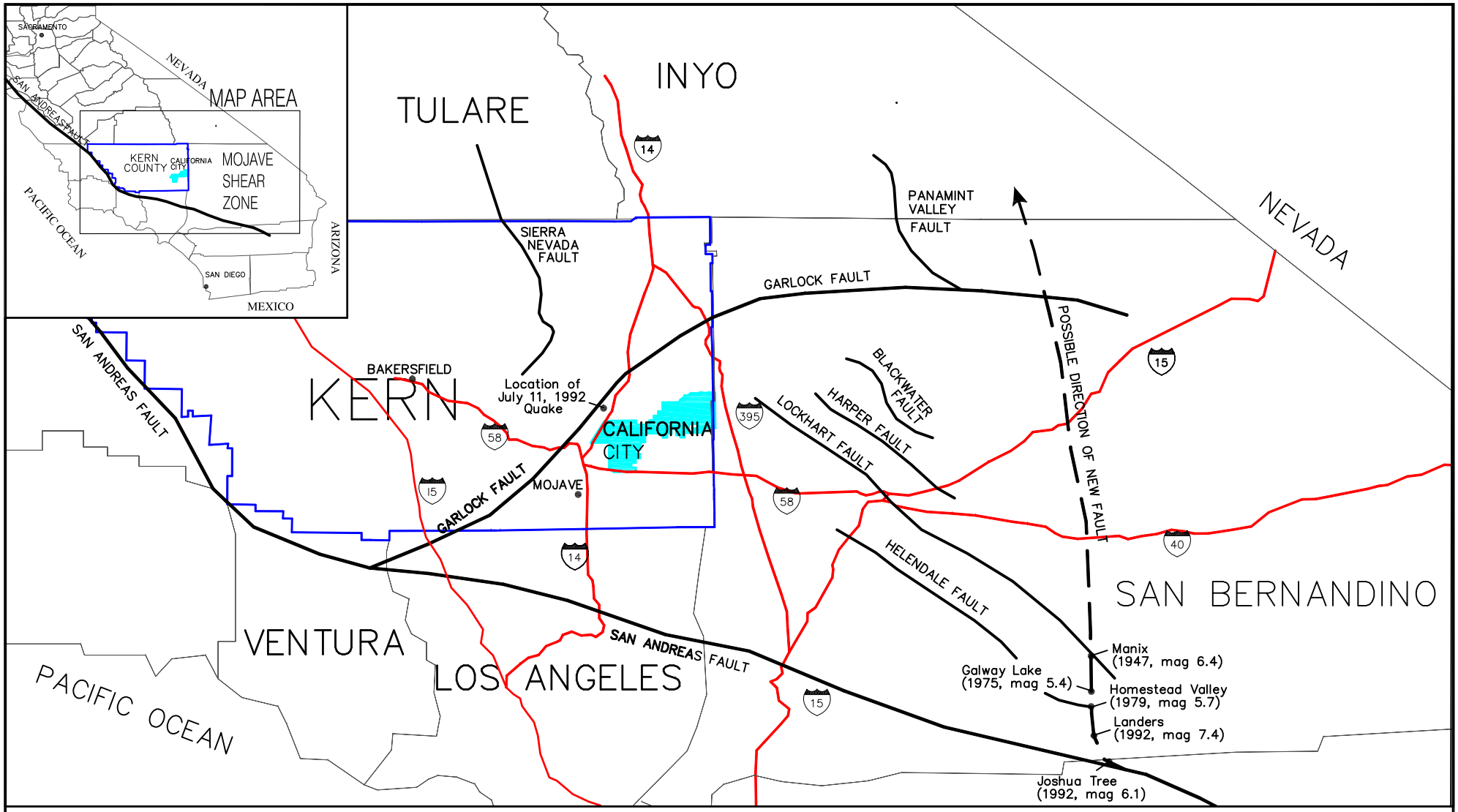
a) All new development proposals shall be reviewed by the California City Fire Department and the California City Police Department to ensure the continuation of adequate levels of service.

b) If additional Fire Department or Police Department station sites are determined to be required, sites shall be identified and mechanisms to obtain these sites shall be defined. These shall include, but not be limited to, the dedication of land for such purposes or payment of proportional share of fees as a condition of development.

c) The City will continue to work with local organizations and the County Sheriff's Department and Fire Department to continue administration of the Mojave Desert Community Response Plan.

S-26. The City shall periodically update the adopted California City Emergency Operations Plan. The plan shall describe in detail the lines of authority and the responsibilities of the City officials, the emergency response procedures, the affected organizations, and evacuation routes.

S-27. The City shall review all new development proposals for fire safety considerations. This shall include the economic impacts on the City's ability to provide adequate levels of service. Items such as the incremental increase in staffing and requirements for equipment shall be analyzed and appropriate project level mitigation measures shall be applied. Measures may include specialized fire protection consideration to be incorporated into the design of the project and the contribution of funding for both staffing and equipment needs.



LEGEND

FREEWAYS/HIGHWAYS

KERN COUNTY

CALIFORNIA CITY

N W E S

FIGURE 6-1

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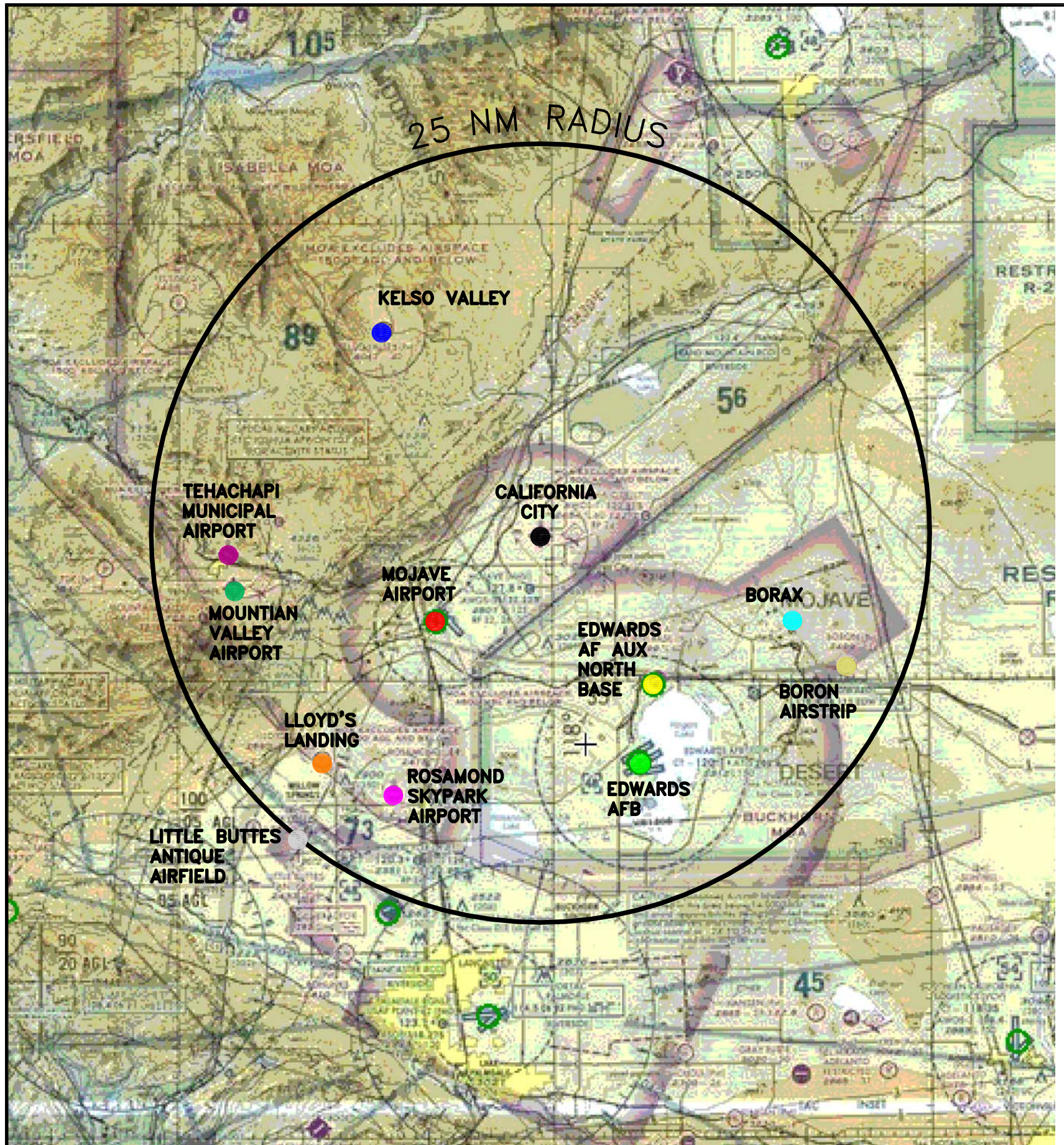
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
EARTHQUAKE FAULTS
GENERAL PLAN
FIGURE 6-1

SHEET 1 OF 1 SHEETS



AIRPORTS IN 25 NAUTICAL MILES RADIUS OF THE CITY OF CALIFORNIA CITY MUNICIPAL AIRPORT

AIRPORTS	NM FROM CAL.CITY	RUNWAY LENGTH x WIDTH	RUNWAY SURFACE	ARC	OWNERSHIP	BASED AIRCRAFT	HANGERS	FUEL	MAINTENANCE	CONTROL TOWER
CALIFORNIA CITY MUNICIPAL *		6–24 (6,027'x75')	ASPHALT	B–II	PUBLIC	77[b]	49[c]	100LL/ 80/ JET A	MINOR	NO
MOJAVE	9	04–22 (4,743'x50') 08–26 (7,050'x100') 12–30 (9,502'x200')	ASPHALT ASPHALT ASPHALT	C–IV	PUBLIC	200	75	100LL/ JET A	MAJOR	YES
EDWARDS AF AUX NORTH BASE	12	06–24 (5,998'x150')	ASPHALT	[a]	MILITARY	[a]	[a]	NONE	NONE	NO
EDWARDS AFB	17	04–22 (14,995'x300') 06–24 (5,000'x300')	CON CON	[a]	MILITARY	[a]	[a]	100/B+	NONE	YES
BORAX	17	06–24 (3,400'x40')	ASPHALT	[a]	PRIVATE	0	0	NONE	NONE	NO
KELSO VALLEY	17	04–22 (2,600'x100') 16–34 (3,000'x100')	DIRT DIRT	[a]	PRIVATE	[a]	[a]	100LL/ 80	NONE	NO
ROSEMOND SKYPARK AIRPORT *	20	07–25 (3,600'x50')	ASPHALT	B–I	PRIVATE	70	40	100LL	NONE	NO
LLOYD'S LANDING	21	06–24 (2,300'x90') 11–29 (1,370'x60')	DIRT DIRT	[a]	PRIVATE	1	[a]	NONE	NONE	NO
MOUNTAIN VALLEY AIRPORT *	21	09L–27R (5,190'x60') 09R–27L (5,420'x60')	TURF GRAVEL	B–I	PRIVATE	80	14	NONE	MAJOR	NO
TEHACHAPI MUNICIPAL AIRPORT	21	11–29 (4,048'x75')	ASPHALT	B–I	PUBLIC	67	54	100LL	MAJOR	NO
BORON AIRSTRIP	22	07–25 (2,290'x50') 14–32 (1,900'x45') 17–35 (2,400'x40')	DIRT DIRT DIRT	[a]	PRIVATE	1	[a]	NONE	NONE	NO
LITTLE BUTTES ANTIQUE AIRFIELD	25	06–24 (2,900')	TURF	[a]	PRIVATE	9	[a]	NONE	NONE	NO

Source: DMJM Analysis of FAA Form 5010–1 and 2008 Los Angles Aeronautical chart.
[a] Data not available.
[b] Including gliders.
[c] Including off–airport facilities.
Note: * Airports that have glider activities present.

N
W E
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FIGURE 6–2
S:\DWG\04427\FOR RONNA\FIGURE 6–2.DWG

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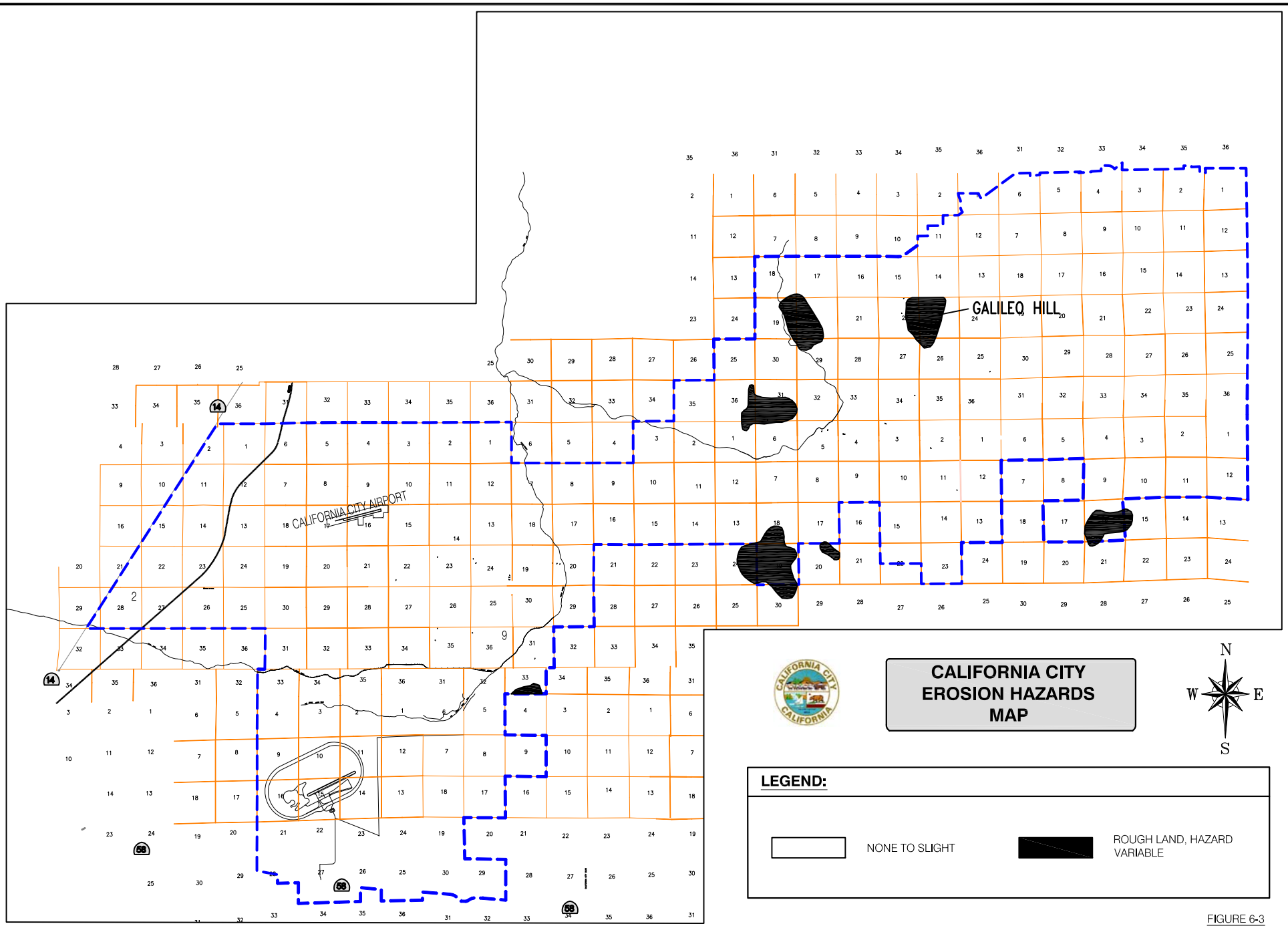
KERN COUNTY, CALIFORNIA
GENERAL PLAN
AIRSPACE ENVIRONMENT AND ADJACENT AIRPORTS

SHEET 1 OF 1 SHEETS



CALIFORNIA CITY EROSION HAZARDS MAP

LEGEND:

NONE TO SLIGHT

ROUGH LAND, HAZARD VARIABLE

FIGURE 6-3

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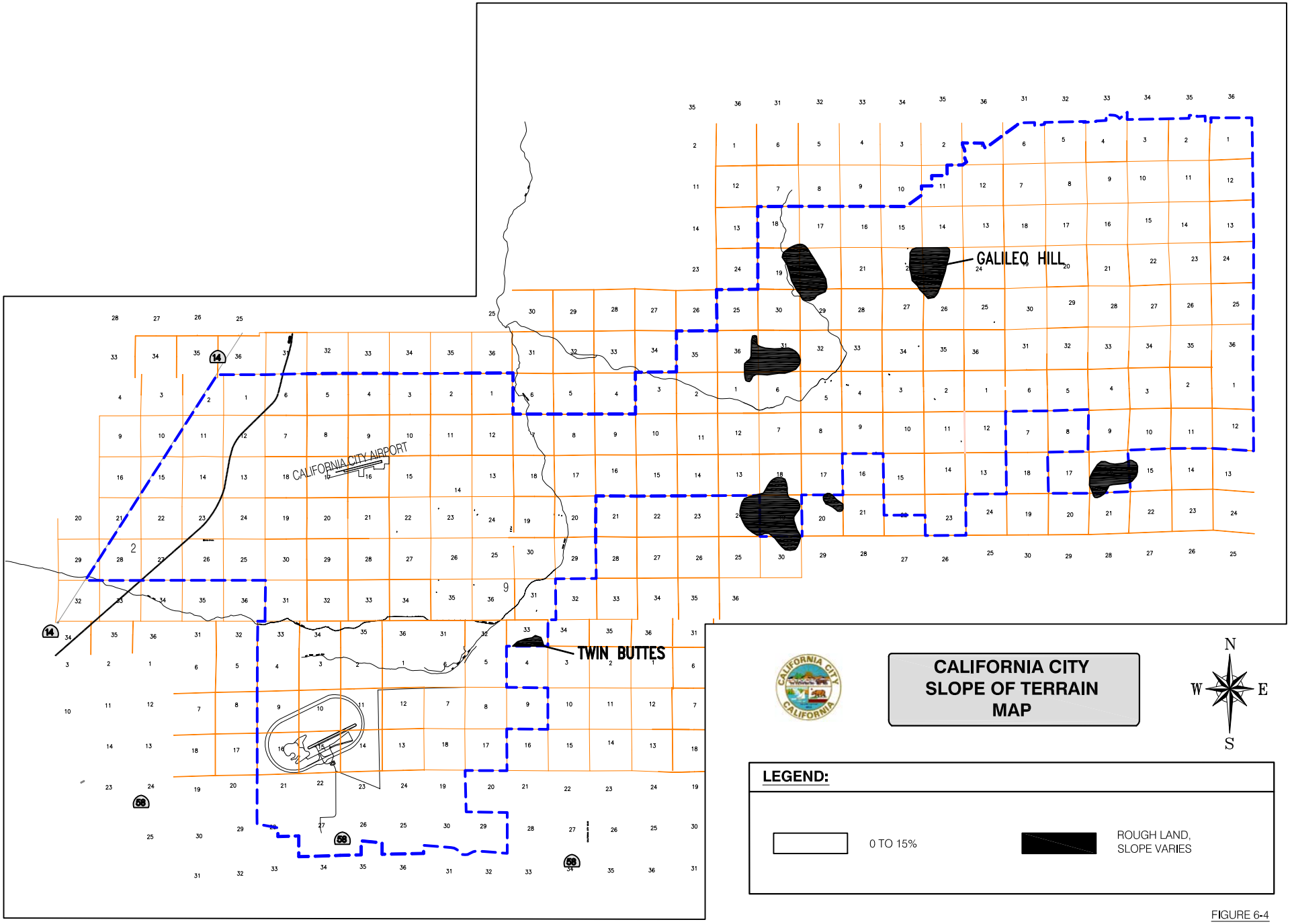
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
FIGURE 6-3
EROSION HAZARDS

SHEET 1 OF 1 SHEETS



CALIFORNIA CITY SLOPE OF TERRAIN MAP

LEGEND:

	0 TO 15%
	ROUGH LAND, SLOPE VARIES

FIGURE 6-4

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
FIGURE 6-4
SLOPE OF TERRAIN

SHEET 1 OF 1 SHEETS

CITY OF CALIFORNIA CITY FLIGHT TEST CORRIDOR AND SPIN AREA

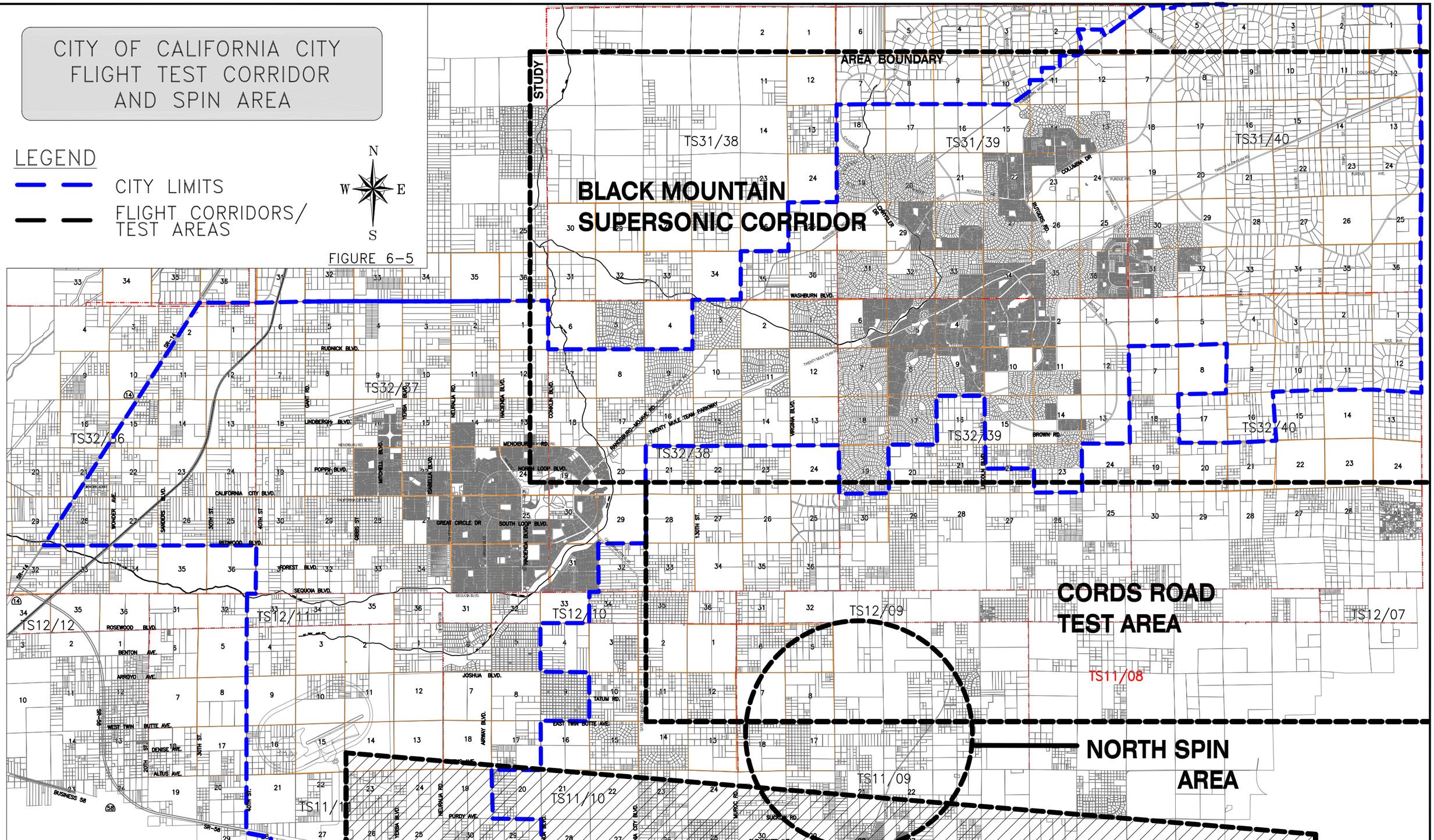
LEGEND

CITY LIMITS

FLIGHT CORRIDORS/ TEST AREAS

N W E S

FIGURE 6-5



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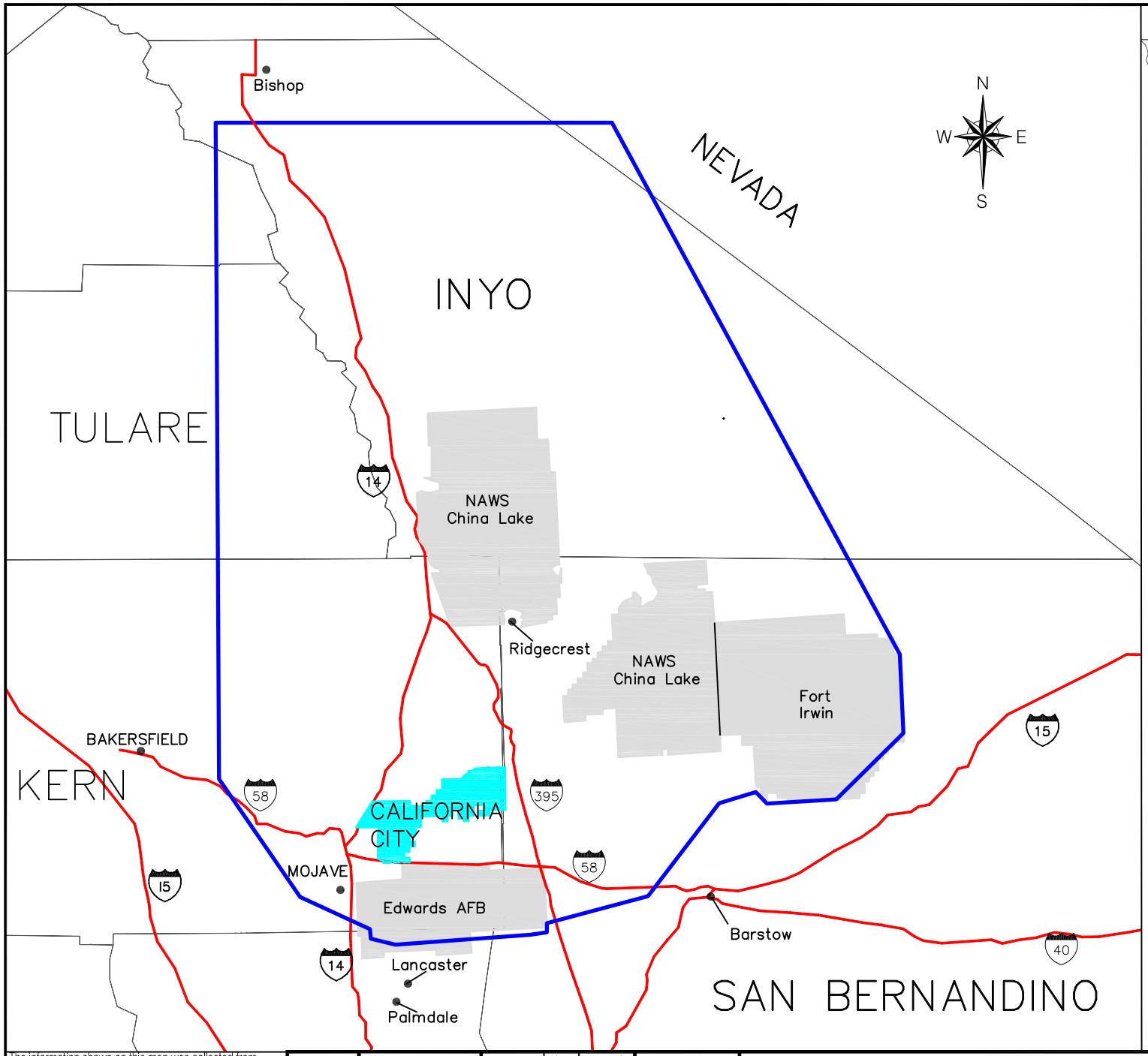
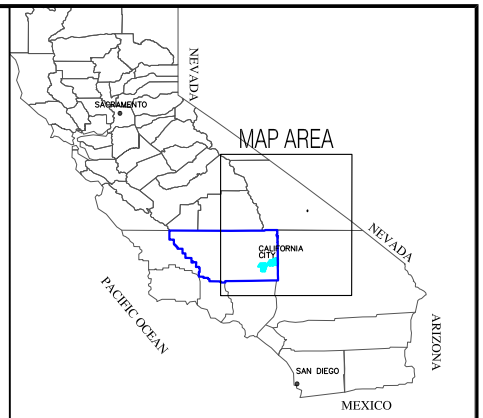
CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
GENERAL PLAN
FLIGHT TEST CORRIDOR & SPIN AREA
FIGURE 6-5

SHEET 1 OF 1 SHEETS

S:\DWG\04427\FOR RONNA\FIGURE 6-5.dwg, Cal City, Cal City





CITY OF CALIFORNIA CITY JOINT SERVICES RESTRICTED R-2508 COMPLEX

LEGEND

- FREEWAYS/HIGHWAYS
- R-2508 SPECIAL USE AIRSPACE (SAU)
- CALIFORNIA CITY
- MILITARY BASES/TEST FACILITIES

FIGURE 6-6

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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
JOINT SERVICES RESTRICTED
R-2508 COMPLEX
FIGURE 6-6

SHEET 1 OF 1 SHEETS

CHAPTER 7 NOISE

Overall Goal: Provide a noise environment that protects residents and workers from the long-term effects of excessive noise exposure while allowing for the successful development of businesses, transportation facilities, and aviation facilities within and surrounding California City.

7.1 DESCRIPTION OF THE LAND USE ELEMENT

The Noise Element identifies and appraises noise problems within the General Plan Planning Area. The Noise Element addresses these effects of noise through goals, policies, and implementation measures. The goals provide guidelines that respond to the identified noise issues, while the policies and implementation measures define strategies to reduce excessive noise levels and avoid land use conflicts in the Planning Area in order to limit community exposure to significant noise sources. These provide standards for the regulation of excessive noise that will be considered in the planning process in order to provide a safe living and working environment.

7.2 STATUTORY REQUIREMENTS

State of California Planning and Zoning Law requires that a noise element be prepared as part of the general plan as follows:

> Government Code Section 65302(f): A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantity, to the extent practicable, as determined by the legislative body, current and projected noise level for all of the following sources:
>
> (1) Highways and freeways
>
> (2) Primary arterials and major local streets
>
> (3) Passenger and freight on-line railroad operations and rapid transit systems.
>
> (4) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft over flights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
>
> (5) Local industrial plants, including, but not limited to, railroad classification yards.
>
> (6) Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.
>
> Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraph (1) to (6), inclusive.

> The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any.

The content of this Noise Element is consistent with the requirements of Government Code Section (65302(f) and the Guidelines for the Preparation and Content of Noise Elements of the General Plan published by the California Office of Noise Control. Reflective of the nature of the existing and planned development, transportation facilities, and aviation facilities within and adjacent to the General Plan Planning Area, the following major noise sources were considered in the preparation of this Noise Element:

- Highways and primary arterials
- Railroad operations
- Aircraft and airport operations
- Local industrial facilities
- Other stationary sources

The issues addressed in the Noise Element are integrated into the goals, policies, implementation measures, and plans, including the Land Use Plan, Circulation Plan, and Open Space and Conservation Plan, contained in other elements of the General Plan.

This Noise Element provides definition of terms used within the following discussion:

Definitions of Terms

Ambient Noise: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

A-Weighted Sound Level: All sound levels referred to in this policy document are in A-weighted decibels. A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

Community Noise Equivalent Level (CNEL): The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

Day/Night Average Sound Level (L_{dn}): The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

dB (Decibel): The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.

dBA (A-weighted decibel): The A-weighted decibel scale discriminates against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (zero dBA). The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level.

Intrusive Noise: That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and total of informational content as well as the prevailing noise level.

L_{50}: The A-weighted sound level that is exceeded 50% of the sample time. Alternatively, the A-weighted sound level that is exceeded 30 minutes in a 60-minute period (similarly, L_{10}, L_{25}, etc.). These values are typically used to demonstrate compliance with noise restrictions included in the California City Municipal Code (CCMC), Title 5, Article 4, Noise and Vibration.

L_{eq} (Equivalent Engery Level): The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods. The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis while L_{eq} represents the equivalent energy noise exposure for a shorter time period, typically one hour.

Noise Contours: Lines drawn around a noise source indicating equal levels of noise exposures. CNEL and L_{dn} are the metrics used in those document to describe annoyance due to noise and to establish land use planning criterial for noise.

New Development: Projects requiring land use or building permits, but excluding remodeling or additions to existing structures.

Noise-Sensitive Land Use: Residential land uses, transient lodging, schools, libraries, churches, hospitals and nursing homes.

Outdoor Activity Areas: Patios, decks, balconies, outdoor eating areas, swimming pool areas, yards of dwellings and other areas which have been designated for outdoor activities and recreation.

Stationary Noise Source: Any fixed or mobile source not preempted from local control by existing federal or state regulations. Examples of such sources include agricultural, industrial and commercial facilities and vehicle movements on private property.

Transportation Noise Source: Traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by existing federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulating the location and design of adjacent land uses.

Vibration: Another community annoyance related to noise is vibration. As with noise, vibration can be describe by both its amplitude and frequency. Amplitude may be characterized by displacement, velocity, and/or acceleration. Typically, particle velocity (measure in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Vibration can be felt outdoors, but the perceived intensity of vibration impacts are much greater indoors, due to the shaking of the structure. Some of the most common sources of vibration come from trains and/or transit vehicles, construction equipment, airplanes, and large vehicles. Several land uses are especially sensitive to vibration, and therefore have a lower vibration threshold. These uses include, but are not limited to, concert halls, hospitals, libraries, vibration-sensitive research operations, residential areas, schools and offices.

7.3 REGULATIONS AND STANDARDS

Regulation by Other Agencies

It should be recognized that the City does not have the authority to regulate all sources of noise within or adjacent to the incorporated areas of the City and various other agencies may supersede the City's authority. A discussion of these agencies and their roles and respective noise standards in response to regulating noise is provided below.

Based on discussions with City staff, the requirements of the Government Code and field studies conducted during the preparation of the Noise Element, it was determined that potentially significant sources of community noise within the City of California City are traffic on State Route 14 and local roads, operations on the Union Pacific Railroad line, aircraft operations from Edwards Air Force Base, and aircraft operations from the California City Municipal Airport. The locations of the potentially significant noise sources are shown on **Figure 7-1, Significant Noise Sources and Noise Monitoring Sites California City**.

Noise levels in California City are generally low, with ambient sound produced mainly by automobiles, aircraft, and occasionally by construction activities. Growth within the community may produce a concern for noise along major roadways and near the airport. Caltrans generates noise contours for developed areas along State Highways, and the City assesses noise effects in the Airport Master Plan and Community Land Use Plan for the airport area.

Federal Highway Administration

Major transportation routes traverse the boundaries of the General Plan Planning Area. These routes are subject to federal funding and, as such, are under purview of the Federal Highway Administration (FHWA) which as its own noise standards based on L_{eq} and L_{10} values. The FHWA design noise levels are included in **Table 7-1, Federal Highway Administration Design Noise Levels**.

TABLE 7-1
FEDERAL HIGHWAY ADMINISTRATION DESIGN NOISE LEVELS

Activity Category	Design Noise Levels[1] L_{eq} (dBA)	L_{10} (dBA)	Description of Activity Category
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above.
D	--	--	Undeveloped lands
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Federal Highway Administration.

[1]Either L_{eq} or L_{10} (but not both) design noise levels may be used to analyze a project.

Federal Railroad Administration

The Environmental Protection Agency (EPA) is in charge of the regulation of railroad noise under the Noise Control Act. No federal regulations specify absolute levels of acceptable noise that apply directly to railroad noise and compatible land uses along rail lines. While these regulations remain in full force, the EPA Office of Noise Abatement and Control was closed in 1982, leaving the enforcement of EPA regulations to the Federal Railroad Administration (FRA). **Table 7-2, Summary of Environmental Protection Agency/Federal Railroad Administration Railroad Noise Standards**, summarizes the EPA railroad noise standards that set operating noise standards for railroad equipment and noise limit standards for new equipment.

TABLE 7-2
SUMMARY OF ENVIRONMENTAL PROTECTION AGENCY/FEDERAL RAILROAD ADMINISTRATION RAILROAD NOISE STANDARDS

Noise Sources	Operating Conditions	Noise Metric [1, 2]	Measured Distance (feet)	Standard (dBA)
Non-Switcher Locomotives built on or before 12/31/79	Stationary Idle Stationary Non-Idle Moving	L_{max} (Slow) L_{max} (Slow) L_{max} (Fast)	100 100 100	73 93 95
Switcher Locomotives plus Non-Switcher Locomotives built after 12/31/79	Stationary Idle Stationary Non-Idle Moving	L_{max} (Slow) L_{max} (Slow) L_{max} (Fast)	100 100 100	70 87 90
Rail Cars	Speed $\leq$ 45 mph Speed $\geq$ 45 mph Coupling	L_{max} (Fast) L_{max} (Fast) Adj. Avg. Max.	100 100 50	88 93 92

Source: United States Environmental Protection Agency Railroad Noise Emission Standard (40 Code of Federal Regulations Part 201)

[1] Slow fast exponential-time-weighting is used.

[2] Note that these values are in terms of the $L_{max,}$ and can be considerably greater than the L_{eq} typically used in the measurement of obtrusive noise.

California Department of Health Services

The California Department of Health Services (DHS) Office of Noise Control studied the correlation of noise levels and their effects on various land uses. As a result, the DHS established four categories for judging the severity of noise intrusion on specified land uses.

Table 7-3, Land Use Compatibility for Community Noise Exposure, provides a land use compatibility chart for community noise prepared by the California Office of Noise Control. It identifies:

- Normally Acceptable**:** Specified land use is satisfactory, based upon the assumption that any building 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. 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 needs noise insulation features included in the design.

- Clearly Unacceptable**:** New construction or development should generally not be undertaken.

TABLE 7-3
LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE
L_{dn} or CNEL, dB

Land Uses	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential Low Density: Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential - Multifamily	50-65	60-70	70-75	75-85
Transient Lodging - Motels, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditorium, Concert Halls, Amphitheaters	-----	50-70	-----	65-85
Sports Arena, Outdoor Spectator Sports	-----	50-75	-----	70-85
Playgrounds, Neighborhood Parks	50-70	67-75	-----	77-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	70-80	80-85	-----
Office Buildings, Business Commercial and Professional	50-70	67-77	75-85	-----
Industrial, Manufacturing, Utilities, Agricultural	50-75	70-80	75-85	-----

LEGEND:

NORMALLY ACCEPTABLE:
Specified land use is satisfactory, based upon the assumption that any building 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. 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 needs noise insulation features included in the design.

CLEARLY UNACCEPTABLE:
New construction or development should generally not be undertaken.

Source: California Department of Health Services (DHS) Office of Noise Control.

Kern County and Affected Incorporated Local Jurisdictions

The Kern County Airport Land Use Compatibility Plan was prepared to establish procedures and criteria by which the County and the affected incorporated cities can address compatibility issues when making planning decisions regarding airports and the land uses surrounding them. The compatibility criteria specifically addresses noise, safety, air space protection, and over flight.

For areas affected by the California City Municipal Airport and Mojave Airport, Airport Influence Areas, noise compatibility standards of the Kern County Airport Land Use Compatibility Plan are applied to determine the suitability of various land use in proximity to these airports. These are based on noise contours that are provided in the Plan for these two airports. In addition, the noise compatibility standards of the Kern County Airport Land Use Compatibility Plan for over flight activities from Edwards Air Force Base are applied to determine the compatibility of land uses related to noise. However, the noise contours for Edwards Air Force Base are provided in Air Installation Compatibility Use Zones (AICUZ) study for the Base. Both of these documents are discussed in greater detail below.

Regulation by California City

The City uses the Community Noise Equivalent Level (CNEL) to quantify community noise levels and standards based on the State of California interior and exterior noise standards. The CNEL is an average of noise levels over a 24-hour period and is typically used to address transportation noise such as vehicle traffic, railways, and aircraft over flight. **Table 7-4, California City Interior and Exterior Noise Standards Community Noise Equivalent Level**, provides the City's noise standards for the existing and planned land uses within the General Plan Planning Area.

TABLE 7-4
CALIFORNIA CITY
INTERIOR AND EXTERIOR NOISE STANDARDS
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)

Land Use Categories		**Noise Standards (CNEL)**	
Categories	**Land Use**	**Interior[1]**	**Exterior[2]**
Residential	Single-Family	45[3] 55[4]	65
	Multiple-Family		
	Mobile Home	--	65[5]
Commercial/Industrial	Hotel, motel, transient lodging	45	65[6]
	Commercial, retail, bank, restaurant	55	--
	Office building, professional office, research & development	50	--
	Amphitheater, concert hall, auditorium, meeting hall	45	--
	Gymnasium (Multipurpose)	50	--
	Health clubs	55	--
	Manufacturing, warehousing, wholesale, utilities	65	--
	Movie theater	45	--
Institutional	Hospital, school classroom	45	65
	Church, library	45	--
Open Space	Parks	--	65

Footnotes:
1 Interior environmental excludes bathroom, toilets, closets, and corridors.
2 Outdoor environment limited to private yard of single-family; multi-family residences private patio or balcony which is accessed by a means of exit from inside the unit; mobile home park; hospitals patio; park picnic area; school playground; and hotel and motel recreation area.
3 Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1205 of UBC.
4 Noise level requirement with open windows, if they are used to meet natural ventilation requirements.
5 Exterior noise level shall be such that interior noise level will not exceed 45 dBA CNEL.
6 Except those areas affected by aircraft noise.

Source: State of California

For noise not related to transportation, but as a result of stationary noise sources (e.g., industrial uses), the City applies a criteria based on the statistical distribution of noise over time. **Table 7-5, California City Stationary Noise Standards Maximum Allowable Noise Exposure**, provides these standards.

TABLE 7-5
CALIFORNIA CITY
STATIONARY NOISE STANDARDS
MAXIMUM ALLOWABLE NOISE EXPOSURE[1]

Measurement	Daytime (7 A.M. to 10 P.M.)	Nighttime (10 P.M. to 7 A.M.)
Hourly L_{eq1} dB	55	50
Maximum $Level_1$ dB	75	70

[1] As determined at the property line of the receiving land use. When determined the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

Source: Brown-Buntin Associates, Inc.

7.4 OVERVIEW OF EXISTING CONDITIONS

Noise Measurement

Noise is generally defined as unwanted sound. Noise can result in speech interference and disrupt activities at home, work, and school, and can affect sleep patterns and recreation pursuits. The long-term effects of excessive noise exposure can be both physical and psychological.

Sound levels are expressed on a logarithmic scale of "decibels" (abbreviated as dB), in which a change of ten units on the decibel scale reflects a ten-fold increase in sound energy. A ten-fold increase in sound energy roughly translates to a doubling of perceived loudness.

In evaluating human response to noise, acoustical analysis compensate for the response of people to varying frequency or pitch components of sound. The human ear is most sensitive to sounds in the middle frequency range used for human speech and is less sensitive to lower and higher-pitched sounds. The "A" weighted scale is used to account for this sensitivity. Therefore most community noise standards are expressed in decibels on the "A"-weighted scale, abbreviated dB(A). Zero on the decibel scale is set roughly at the threshold of human hearing. The noise levels of common sounds in the environment include: office background noise at about 50 dB(A); human speech at 10 feet at about 60 to 70 dB(A); cars driving by at 50 feet at 65 to 70 dB(A); trucks driving by at 50 feet at 75 to 80 dB(A); and aircraft over flights directly overhead a mile from the runway at about 95 to 100 dB(A).

Refer to Definitions of Terms beginning on page 7-2 of this Element.

Methods Used to Develop Noise Exposure Information

According to the Government Code and ONC Guidelines, noise exposure contours should be developed in terms of the Day-Night Average Level (L_{dn}) or Community Noise Equivalent Level (CNEL) for transportation-related noise sources. Both of these descriptors represent the weighted energy noise level for a 24-hour day after inclusion of a 10dB penalty for noise levels occurring at night between the houses of 10:00 p.m. and 7:00 a.m. The CNEL descriptor also includes a penalty of about 4.8 dB for noise levels occurring during the evening hours 7:00 p.m. and 10:00 p.m. The CNEL descriptor was developed for the quantification of aircraft noise, and its use is required when preparing noise exposure maps for airports within the State of California. The CNEL and L_{dn} descriptors are generally considered to be equivalent to each other for most community noise environments within plus or minus 1.0 dB. The L_{dn} descriptor has been used in this Noise Element to quantify noise from the above-described major noise sources identified by the City for study.

Analytical noise modeling techniques were used to develop generalized L_{dn} contours for major roadways within the City for existing and future conditions. Analytical noise modeling techniques generally make use of source-specific data, including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Analytical methods have been developed for many environmental noise sources, including roadways, railroad line operations, railroad yard operations, industrial plants and aircraft/airport operations. Such methods will produce reliable results as long as data inputs and assumptions are valid for the sources being studied.

The noise exposure information developed during the preparation of the Noise Element does not include all conceivable sources of industrial, commercial or agricultural noise within the City, but rather focuses on the existing sources of noise which have been identified by the City as being significant. As the policies of this Noise Element are applied in the future, it is likely that other potentially significant sources will be identified.

Existing Noise Sources

Existing noise problems within the City are not significant. Potentially significant noise levels within the General Plan Planning Area are generated by vehicle traffic on the state highways and arterial roads within the developed portions of the City, trains on the Union Pacific Railroad line, aircraft operations and over flight from the California City Municipal Airport, aircraft over flight from the Mojave Airport, and aircraft over flight from Edwards Air Force Base. In addition, there are some industrial land uses that generate noise during operations. The following discusses the major noise sources within the General Plan Planning Area.

Highways and Streets

The General Plan Planning Area is generally bounded by State Highway 58 intermittently along its southern boundary and State Highway 14 along its western boundary. In addition, there are existing roads which generally run north-south and east-west along section lines within the Planning Area. Refer to the Circulation Element for a detailed discussion of the existing conditions related to highway and street system and the Circulation Plan for the City at buildout, including the planned highway and street system.

The sources of vehicular traffic noise are automobiles, buses, trucks, and motorcycles. Noise from these sources are generated by engines, exhaust systems, transmissions, tires, and air movement. The noise levels are relatively constant on major roads where traffic is more frequent and intermittent on neighborhood streets or in the less developed areas of the Planning Area.

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop L_{dn} contours for State Highway 14 and local roads. The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise predication. The Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicles volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within plus or minus 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

For all roadways being studied, existing (1991 or 1992) and future (2012 and 2028) annual average daily traffic (AADT) volumes, the day/night traffic distribution, speeds and percentages of trucks were obtained from Caltrans or from the City.

Distances from the center of the roadways to the 60 and 65 dB L_{dn} contours along with input data used during the traffic noise modeling process are shown on **Table 7-6, City of California City Distance to L_{dn} Contours and Traffic Data.**

TABLE 7-6

CITY OF CALIFORNIA CITY

DISTANCE TO L_{dn} CONTOURS AND TRAFFIC DATA

								Distance to L_{dn} Contours (Feet)[1]					
	AADT							1990		2012		2028	
Roadway	1991/ 1992	2012	2028	D%/ N%[2]	% MT[3]	% HT[4]	Speed (MPH)	65 dB	60 dB	65 dB	60 dB	65 dB	60 dB
SR 14:													
N. of California City Blvd.	5600	12,270	12,270	86/14	4	14	55	115	248	194	418	194	418
S. of California City Blvd.	8200	17,967	17,967	86/14	4	14	55	148	320	250	539	250	539
California City Blvd.:													
SR 14 to Randsburg-Mojave	5000	25,000	25,000	86/14	2	2	50	55	119	162	349	162	349
Randsburg Mojave to SR 58	3500	22,000	22,000	86/14	2	2	50	44	94	149	321	149	321
North Loop Blvd.:													
California City Blvd. to Hacienda	3300	11,050	11,050	92/8	2	2	45	30	64	67	144	67	144
Hacienda to Randsburg-Mojave	2200	8750	8750	92/8	2	2	45	23	49	57	123	57	123
Redwood Blvd.:													
Neuralia to California City Blvd.	1000	3500	3500	87/13	2	2	45	16	34	36	78	36	78
Neuralia Road:													
California City Blvd. to Poppy	1160	4900	4900	91/9	2	2	45	15	33	40	86	40	86
Redwood to California City Blvd.	2000	7800	7800	91/9	2	2	45	22	48	55	118	55	118
South Loop Blvd.:													
California City Blvd. to Hacienda	2500	8600	8600	86/14	2	2	45	30	64	68	146	68	146
Hacienda to California City Blvd.	900	6100	6100	86/14	2	2	45	15	32	54	116	54	116
Hacienda Blvd.:													
N. Loop to S. Loop	900	5800	5800	96/4	2	2	45	11	23	37	80	37	80
S. Loop to Redwood	625	2000	2000	96/4	2	2	45	8	18	18	39	18	39
Randsburg-Mojave Road:													
California City Blvd. to N. Loop	2500	10,200	10,200	91/9	2	2	45	26	55	65	141	65	141
N. Loop to Mendiburu Road	600	3100	3100	91/9	2	2	45	10	21	60	64	60	64

LEGEND: [1]Distances are from center of roadway, [2]Day/Night traffic split (day is defined as 7am-10pm and night as 10pm-7am), [3]Medium Trucks, [4]Heavy Trucks. Sources: Caltrans and City of California City.

Railroad Operations

The railroad travels in a north-south direction through the northwestern portion of the General Plan Planning Area. There is no railroad terminal or facility that serves the Planning Area. The railroad operations typically consist of freight trains. Currently, the rail line has an at grade crossing with California City Boulevard.

Railroad noise is the result of the mechanical processes of the engine, the interaction of the wheels with the track, and the use of the whistle at the roadway crossing. The amount of noise generated is dependent upon the speed of the train and the number of cars. The number of freight trains depends on economic demand. The global recession and economic downturn has impacted the railroad industry. However, the railroad industry is rich in history that is as expansive as the Mojave Desert that it travels through.

In the 1900's Southern Pacific Railroad acquired the unfinished Carson and Colorado Railroad. Southern Pacific extended this acquired line to connect with their main line at Mojave. Most of the line is abandoned, however, the portion from Mojave to Route 14's terminus near Inyokern is still active and used for connections to the Naval Air Weapons Station China Lake and Trona Railway.

In 1996, the Union Pacific Railroad (UPRR) acquired Southern Pacific Railroad in a transaction envisioned nearly a century earlier. The UPRR was incorporated on July 1, 1862 in the wake of the Pacific Railroad Act of 1862. Under the guidance of its dominant stockholder Dr. Thomas Clark Durant, the namesake of the city of Durant, Iowa, the first rails were laid in Omaha, Nebraska. They were part of the railroads that came together at Promontory Summit, Utah, in 1869 as the first transcontinental railroad in North America.

Subsequently, UPRR took over three Mormon-built roads: the Utah Central Rail Road extending south from Ogden, Utah, to Salt Lake City, the Utah Southern Railroad extending south from Salt Lake City into the Utah Valley, and the Utah Northern Railroad extending north from Ogden into Idaho; and it built or absorbed local lines that gave it access to Denver and to Portland, Oregon, and the Pacific Northwest. It acquired the Kansas Pacific (originally called the Union Pacific, Eastern Division, though in essence a separate railroad). It also owned narrow gauge trackage into the heart of the Colorado Rockies and a standard gauge line south from Denver across New Mexico into Texas (both parts of the UP, Denver and Gulf Railway).

UPRR was entangled in the Credit Mobilier scandal of 1872. Its early troubles led to bankruptcy during the 1870s, the result of which was reorganization of the UPRR as the Union Pacific Railway on January 24, 1880, with its dominant stockholder being Jay Gould. The new company also declared bankruptcy, in 1893, but emerged on July 1, 1897, reverting to the original name, Union Pacific Railroad. Such minor changes in corporate titles were a common result of reorganization after bankruptcy among American railroads. This period saw the UP sell off some of its holdings; the Union Pacific Railway, Central Branch became the Central Branch of the Missouri Pacific Railroad and the Southern Branch was acquired by the newly-incorporated Missouri Kansas Texas Railroad in 1870. However, the UPRR soon recovered, and was strong enough to take control of Southern Pacific Railroad (SP) in 1901 and then was ordered in 1913 by the U.S. Supreme Court to surrender control of the same. Amid the economic scandals that rock wall street today, the global economic recession, this country’s automotive giants filing for bankruptcy, countless businesses closing, extremely high unemployment, high fuel prices, high food prices, and the effects of global warming, it seems the events of the 1872 scandal shows us how history repeats itself.

Today UPRR is the largest and oldest operating Class I railroad network with approximately 32,012 route miles, of which UPRR owns 26,171 miles and operates on the remainder pursuant to trackage rights or leases. UPRR serves the western two-thirds of the country and maintains coordinated schedules with other rail carriers to move freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada and Mexico. Export and import traffic moves through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. This railroad network linking Pacific Coast and Gulf Coast ports with the Midwest and eastern United States, as of December 31, 2008, UPRR reported a fleet of 8,448 locomotives (4,834 owned locomotives and 3,614 leased locomotives), and a total 90,005 freight cars (46,131 owned freight cars and 43,874 leased freight cars).

UPRR freight traffic consists of bulk, manifest, and premium business. Bulk traffic is primarily coal, grain, rock, or soda ash in unit trains – trains transporting a single commodity from one source to one destination. Manifest traffic is individual carload or less than train-load business, including commodities such as lumber, steel, paper, and food. The transportation of finished vehicles and intermodal containers is part of their premium business. In 2008, UPRR generated freight revenues totaling $17.1 billion from the following six commodity groups:

- Agricultural: Whole grains, foods, beverages.
- Automotive: Finished vehicles and parts.
- Chemicals: Liquid and dry chemicals, plastics, liquid petroleum products, plastic resins, soda ash.
- Energy: Coal and coke to utilities, industrial facilities.
- Industrial Products: Lumber, steel, rock, cement, roofing materials, paper, consumer goods including appliances, furniture, nonferrous metals and industrial minerals, safe transportation for government entities, and waste companies.
- Intermodal: International, domestic and premium shipments, imported or exported container traffic.

UPRR freight revenues grew 11% year-over-year to $17.1 billion. UPRR achieved record revenue levels in five of their six commodity groups, driven by better pricing and fuel cost recovery. Since 2004, UPRR has repriced approximately 82% of their business. Overall, volume decreased 5% in 2008 due to the weakening economy, driving lower demand in several market sectors, particularly the automotive, domestic housing and construction markets.

However, according to the Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ending December 31, 2008, UP Corporation reports some grim economic risk factors:

- General economic conditions - Either or both of prolonged and server adverse domestic and global economic conditions or disruptions of either or both of the financial and credit markets, including the availability of short and long-term debt financing, may affect the producers and consumers of the commodities UPRR carries and may have a material adverse effect on our results of operation, financial condition, and liquidity.

- Significant Governmental Regulations - UPRR is subject to governmental regulation by a significant number of federal, state and local authorities covering a variety of health, safety, labor environmental, economic and other matters. Failure to comply will with applicable laws and regulations have a material adverse effect on UPRR. As part of the Rail Safety Improvement Act of 2008, railroad carriers must implement positive train control (a collision avoidance technology that can override locomotive controls and stop a train before an accident) before the end of 2015, which could have a material adverse effect on our results of operation, financial condition, and liquidity. Increased regulation of the rail industry likely would restrict their ability to determine prices for certain rail services, affect their ability to control traffic volume, and reduce capital spending on the rail network, facilities and equipment, resulting in a material adverse effect on their results of operation, financial condition, and liquidity.

- Federal law require railroads, including UPRR to transport hazardous materials regardless of risk or potential exposure of loss. Any rail accident or other incident or accident on their network, at their facilities or at the facilities of their customers involving the release of hazardous materials, including toxic inhalation hazard (or TIH) materials such as chlorine compounds, could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation, which could have a material adverse effect on their results of operations, financial condition, and liquidity.

- UPRR may be affected by climate change and market or regulatory responses to climate change. Climate change, including the impact of global warming, could have a material adverse effect on their results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of greenhouse gasses, including diesel exhaust, could significantly increase their operating costs. Restrictions on emissions could also affect their customers that (a) use commodities that they carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities they carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers, and food producers, and auto-makers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy or emissions reductions could materially affect the markets for the commodities they carry, which in turn could have a material adverse effect on their results of operations, financial condition and liquidity.

- Severe weather could result in significant business interruptions and expenditures, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures and significant precipitation may cause business interruptions.

- Availability of qualified personnel, strikes, or work stoppages, could adversely affect operations.

- UPRR Competition form other railroads and other transportation providers. UP's chief railroad competitor is Burlington Northern Santa Fe (BNSF) Railway, which covers much of the same territory. UPRR has also been able to reach agreements with competing railroads, mostly BNSF, that allow the railroad to operate its own trains with its own crews on hundreds of miles of competing railroads' main tracks.

- Rising or elevated fuel costs and whether they are able to mitigate these costs with fuel surcharges could materially and adversely affect their business.

- UPRR is dependent on certain key suppliers of locomotives and rail.

- UPRR may be affected by acts of terrorism, war, or risk of war. The rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. UPRR maintains and has maintained, since the days of Butch Cassidy and the Sundance Kid, a police force, consisting of more than 220 commissioned and highly trained officers known as Special Agents.

  Some locomotives (historically passenger locomotives and some recent units have been repainted from 2000 on) have white-outlined blue "wings" on the nose. More recently, some units have been repainted with a large billowing Stars and Stripes with the corporate motto "Building America" on the side, where the "Union Pacific" lettering is normally positioned. This scheme is also known as Wings, Flags and Flares. The first version of this scheme was used in on UP's streamlined trains in the 1940's.

The Trona Railway (reporting mark TRC) is a 30.5 miles shortline railroad owned by Searles Valley Minerals. The TRC interchanges with the Union Pacific Railroad (former Southern Pacific Transportation Company) at Searles, California. The railroad has had various owners including Searles Valley Minerals (present), IMC Chemicals, North American Chemical and Kerr-McGee Chemical. The TRC began operation in the Mojave Desert March 12, 1913 to present. The TRC handles 18,000 cars annually (1996 estimates). The commodities hauled include:

- Sulfuric acid
- Soda ash
- Potash
- Salt cake
- Borax
- Coal Minerals
- Material for the U.S. Navy China Lake Facility

Passenger train service was offered on the TRC but was discontinued in 1937.

Aircraft Over Flight

There are 12 airports within 25 nautical miles of the Centra Core Area of the City, **Figure 6-2, Airports and Airspace Environment**. Three of the airports, California City Municipal Airport, Mojave Airport, and Tehachapi Municipal Airport, are publicly-owned. Seven of the airports are privately-owned and two of the airports, Edwards Air Force Base and Edwards Air Force AUX North Base, are military facilities. Due to the proximity of Edwards Air Force Base to the Planning Area, the majority of the air traffic is military-related, (California City Municipal Airport Master Plan Update, Final Report, DMJM Aviation, June 2005.)

The airports and over flight activities that have the greatest potential to result in noise considerations within the Planning Area are the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base. Refer to the Safety Element for a detailed discussion of these airports and their associated over flight activities. Aircraft noise federally affects areas within the vicinity during take offs and landings, areas located along flight corridors, and, in the case of military over flight, areas where special testing, low altitude, or supersonic speed activities occur, Figure 6-5, Flight Test Corridor and Spin Area.

In January 2007, the City working in conjunction with Edwards Air Force Base prepared an avigation notification that is distributed with the application for a building permit within the City. The notification defines the use of the airspace within the AFFTC at Edwards Air Force Base and the resulting potential effects of this use including noise and vibration, see page 5-24 of the Open Space and Conservation Element.

The primary concern that residents of the City have with respect to aircraft being tested at Edwards Air Force Base are the sonic booms and vibration that occurs due to low altitude over flight. According to Edwards Air Force Base officials, sonic booms in the area of California City average about five per day, but the number is dependent upon the testing schedule of the facility. There are days when no sonic booms occur, and others when as many as 15 may be heard.

Besides their startling effect on humans, sonic booms can produce physical damage to structures and their contents. Most damage, however, is confined to broken windows, cracked or falling stucco, and broken glassware, dishes, or similar items. The Avigation Easement addresses the issues by warning anyone pulling a building permit within the City of California City that these hazards are likely to occur.

Aircraft testing will remain a critical part of Edwards Air Force Base's mission and compatibility with the City and future development will require close coordination.

Industrial Facilities and Other Major Stationary Noise Sources

The future noise levels for industrial land uses will be addressed on a case-by-case basis during the discretionary permit and environment review process. This will include the comparison of stationary source generated noise with the City's stationary source noise standards provided in Table 7-5.

Community Noise Survey

A community noise survey was conducted in the City during October and November 1992 to document background noise levels in area where noise-sensitive land uses are located. Short-term monitoring was conducted once during the daytime (7:00 a.m. - 10:00 p.m.) And once during the nighttime (10:00 p.m. - 7:00 a.m.) So that estimates of the L_{dn} could be prepared. Two long-term sites were established to record the variation of noise levels through a full 24-hour period. The data collected during the survey included L_{eq} and observed minimum and maximum noise levels. Noise monitoring sites, measured noise levels and estimated L_{dn} values at each site are listed in **Table 7-7**. Monitoring site locations are shown in **Figure 7-1, Significant Noise Sources Noise Monitoring Sites**.

Results of the community noise survey indicated that existing background noise levels in many areas of the City that contained noise-sensitive land uses are relatively quiet when the wind is not blowing. Sites 1-3 were measured during windy conditions. Resulting noise levels consequently were quite high. To preserve quiet conditions, noise level standards and policies have been adopted to prevent degradation of the existing noise environment as much as possible.

TABLE 7-7
CALIFORNIA CITY
SUMMARY OF COMMUNITY NOISE SURVEY DATA

		Level, dBA				
Site #	**Location**	**L_D**	**L_N**	**L_{max} (Source)**	**L_{min} (Source)**	**L_{dn}**
1	Hacienda & Heather	53	45	65 (wind)	40 (wind)	52-56*
2	Ulrich School	53	49	63 (wind)	45 (wind)	54-58*
3	Tamarack & First	55	48	63 (wind)	45 (wind)	54-58*
A**	7109 Catalpa	45	39	87 (unknown)	23 (unknown)	51**
B**	10717 Aspen	46	38	87 (unknown)	19 (unknown)	51**

L_D = L_{eq} for one 15-minute sample obtained between 7:00 a.m. and 10:00 p.m. except for Sites A and B where 24-hour monitoring was conducted.
L_N = L_{eq} for one 15-minute sample obtained between 10:00 p.m. and 7:00 a.m. except for Sites A and B where 24-hour monitoring was conducted.
* L_{dn} estimated from L_D and L_N
** 24-hour monitoring site.

Source: Brown-Buntin Associates, Inc.

Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 7-8 on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.

TABLE 7-8

MAXIMUM ALLOWABLE NOISE EXPOSURE-STATIONARY NOISE SOURCES[1]

	Daytime (7 a.m. to 10 p.m.)	**Nighttime (10 p.m. to 7 a.m.)**
Hourly L_{eq}, dB	55	50
Maximum level, dB	75	70

[1]As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

7.5 NOISE ISSUES

1. An increase in development will increase noise on highways and roadways within and adjacent to the General Plan Planning Area. Standards should be reviewed to determine if existing provisions are adequate to protect existing and future noise-sensitive land uses.

2. Areas in the western portion of the General Plan Planning Area are subject to noise as a result of trains on the Union Pacific Railroad line. The noise levels in these area should be defined to allow for the determination of the appropriate land uses.

3. Industrial and commercial land uses have the potential to result in noise impact to adjacent noise-sensitive land uses.

4. The ongoing use and expansion of activities at the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base may impact future development within the City. The consideration and land uses designated to reduce any conflicts.

5. Areas within the General Planning Area are subjected to noise and vibration as a result of military over flight and testing activities. These areas should be identified so the appropriate land uses can be identified and appropriate development standards can be incorporated into project designs to reduce the potential impact on future noise-sensitive land uses.

7.6 GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following presents the goals, policies, and implementation measures related to noise.

Goals

- To protect residents and workers in the City form the harmful and annoying effects of exposure to excessive noise.

- To protect the economic base of the City by preventing incompatible noise-sensitive land uses from encroaching upon existing or planned noise-producing land uses.

- To preserve the tranquility of residential areas by preventing noise-producing land uses from encroaching upon existing or planned noise-sensitive uses.

- To educate the residents and business owners in the City concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

Policies

- New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future noise levels from transportation noise sources which, after application of appropriate noise reduction measures, exceed the City's noise standards of 65 dBA CNEL in outdoor activity areas and 45 dBA CNEL in interior spaces as defined in the Noise Element.

- Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so that the resulting noise levels at noise-sensitive land uses, after application of appropriate noise reduction measures, do not exceed the City's noise standards of 65 dBA CNEL within the outdoor activity areas and 45 dBA CNEL within the interior spaces as defined in the Noise Element.

- New development of noise-sensitive land uses shall not be permitted where the noise level from existing stationary noise sources exceeds the noise level standards defined in the Noise Element.

- Noise created by existing stationary noise sources which under go modifications or proposed stationary noise sources that may increase noise levels shall be mitigated so as not to exceed the noise level standards for noise-sensitive land uses as defined in the Noise Element. This policy does not apply to noise levels associated with agricultural operations.

- Require proposed residential development to comply with Title 24 Standards of the State Health and Safety Code . These standards establish maximum interior noise levels, requiring that sufficient insulation be provided to reduce interior ambient noise levels to 45 dBA CNEL.

- Require proposed industrial land uses located adjacent to residential land uses or other noise-sensitive land uses to minimize potential noise levels and its associated health hazards. Buffer zones shall be required when necessary to maintain noise standards. Landscaping, picnic areas, parking, commercial, light industrial, heavy industrial, or other more compatible uses may be incorporated within the identified buffer zones.

- Required proposed commercial land uses located adjacent to residential land uses or other noise-sensitive land uses to minimize potential noise levels and its associated health hazards. Buffer zones, building design, hours of operation, or other measures shall be required to maintain noise standards.

- Development proposals shall be reviewed for consistency with the California City Airport Land Use Compatibility Plan to reduce the potential for noise conflicts associated with the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base.

Implementation Measures

N-1. The City shall review public and private development proposals to determine conformance with the policies of the Noise Element.

N-2. For development proposals not subject to a discretionary approval or environmental review, an acoustical analysis shall be required as a part of the site plan review process. The requirements for the content of an acoustical analysis are provided in Exhibit 1 to the Noise Element.

N-3. For development proposals subject to a discretionary approval (General Plan Amendment, Zone Change, or subdivision) and environmental review, an acoustical analysis shall be required as a part of the environmental review process. The requirements for the content of an acoustical analysis are provided in Exhibit 2 to the Noise Element.

N-4. The City shall develop and employ procedures to ensure that noise mitigation measures required as a result of an acoustical analysis are implement in the development review and building permit processes.

N-5. The City shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

N-6. The City shall enforce the State Noise Insulation Standards (California Cide of Regulations, Title 254) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels, and motels.

N-7. The City shall request the California Highway Patrol, the County Sheriff's office, and the California City Police Department to actively enforce the California Vehicle Code sections relating to allowable vehicles on the public right-of-way, adequate vehicle mufflers and modified exhaust systems.

N-8. The City shall periodically review and update the Noise Element to ensure that noise exposure information and specific policies and implementation measures are consistent with changing conditions within the City and with noise control regulations or policies enacted after the adoption of the Noise Element.

N-9. The City shall require noise attenuation measures (such as setbacks, clustering, berming, and sound walls) as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures shall include, but not be limited to the following:

a) Commercial and residential development where noise levels exceed adopted standards in the Noise Element.

b) Residential and other noise-sensitive land uses with direct exposure to roadway generated noise and/or railroad noise.

c) Between residential and other noise-sensitive land uses and commercial or industrial land uses.

N-10. All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the California City Municipal Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

N-11. The City shall require that development proposals implement noise attenuation measures as conditions of project approval prior to or as a part of construction to reduce the impact of vehicle-related noise on development in areas adjacent to roadways. Such noise attenuation measures shall include, but not be limited to the following:

a) New development proposals shall provide sound walls as recommended by requred acoustic analysis.

b) New development proposals shall provide landscaping or other project design meausres to address potentially significant aesthetics impacts associated with noise barriers.

c) New development proposals shall incorporate noise reduction considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive land uses.

N-12. The City shall request, as appropriate, that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond the City's jurisdiction.

N-13. The City shall conduct a study of truck travel and OHV travel through the General Plan Planning Area and define truck routes and OHV routes for adoption by the City.

N-14. The City shall restrict the hours of activity per Title 5, Article 4, Noise and Vibration, Section 5-1.407 of the CCMC:

" (d) Noise sources associated with or vibration created by construction, repair or remodeling of real property or during authorized seismic surveys under the following conditions:

(1) The activities occur between the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year of between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year.

(2) The activities do not take place on Sundays or Federal holidays".

N-15. The City adopted a Community Noise Control Code to address noise complaints and to provide local industry with performance standards for future development and equipment modifications. The Code is consistent with the "Model 1977 with modifications made to reflect local concerns and conditions. The Code shall be periodically reviewed and updated.

EXHIBIT 1

REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

An acoustical analysis prepared pursuant to the Noise Element shall:

A. Be the financial responsibility of the applicant.

B. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.

C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. Where actual field measurements cannot be conducted, all sources of information used for calculation purposes shall be fully described. Then the use being studied is a commercial or industrial use, all noise sources related to the operation, service and maintenance of the facility shall be considered, including heating and cooling equipment, parking lot and landscape maintenance, refuse collection and truck loading/unloading activities.

D. Estimate existing and projected (20 years) noise levels and compare those levels to the adopted policies of the Noise Element. Projected future noise levels shall take into account noise from planned streets, highways and road connections.

E. Recommend appropriate mitigation to achieve compliance with the adopted policies of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses.

F. Estimate noise exposure after the prescribed mitigation measures have been implemented.

G. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

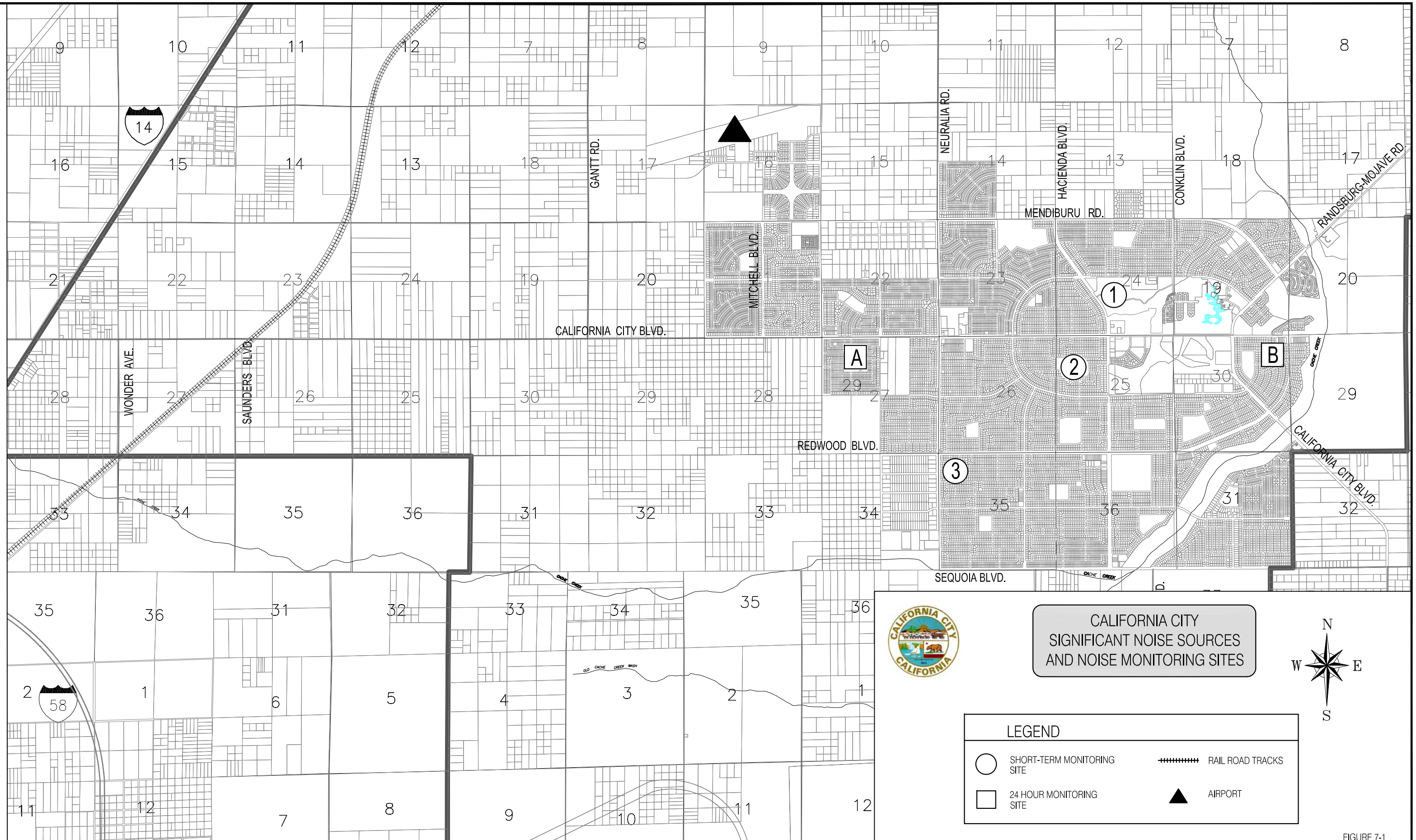

FIGURE 7-1

The information shown on this map was collected from several sources. Therefore, the accuracy of this information is not warranted in any way. The City of California City & Helt Engineering, Inc. assume no liability for any claims arising from the use of this map.

JOB NO.	DATE: 06/23/09 SCALE: NTS DRAWN BY: DSO CK'D BY: RG DATE CK'D: 06/23/09	REVISIONS	CK'D BY	DATE CK'D
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CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
SIGNIFICANT NOISE SOURCES AND NOISE MONITORING SITES
FIGURE 7-1

SHEET 1 OF 1 SHEETS

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APPENDIX 1

California Environmental Quality Act (CEQA) Section 15152. Tiering.

- **California Environmental Quality Act (CEQA) Section 15152. "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.**

- **Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plan, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environment review.**

- **Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration. However, the level of detail contained in a first tier EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed.**

- **Where a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof (e.g., an area plan or community plan), the development of detailed, site specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand.**

- **Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:**

    - **Were not examined as significant effects on the environment in the prior EIR; or**

    - **Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.**

- **Tiering under this section shall be limited to situations where the project is consistent with the general plan and zoning of the city or county in which the project is located,**

except that a project requiring a rezone to achieve or maintain conformity with a general plan may be subject to tiering.

- **A later EIR shall be required when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR. A negative declaration shall be required when the provisions of Section 15070 are met.**

- **Where a lead agency determines that a cumulative effect has been adequately addressed in the prior EIR, that effect is not treated as significant for purposes of the later EIR or negative declaration, and need not be discussed in detail.**

- **When assessing whether there is a new significant cumulative effect, the lead agency shall consider whether the incremental effects of the project would be considerable when viewed in the context of past, present, and probable future projects. At this point, the question is not whether there is a significant cumulative impact, but whether the effects of the project are cumulatively considerable.**

- **Significant environmental effects have been "adequately addressed" if the lead agency determines that:**

  - **they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report; or**

  - **they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval fo the later project.**

- **When tiering is used, the later EIRs or negative declarations shall refer to the prior EIR and state where a copy of the prior EIR may be examined. The later EIR or negative declaration should state that the lead agency is using the tiering concept and it is being tiered with the earlier EIR.**

  - **There are various types of EIRs that may be used in a tiering situation. These include, but are not limited to, the following:**

    - **General plan EIR**

    - **Staged EIR**

    - **Program EIR**

    - **Master EIR**

    - **Multiple-family residential development/residential and commercial or retail mixed use development**

    - **Redevelopment project**

    - **Projects consistent with community plan, general plan, or zoning.**

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APPENDIX 2

CEQA Section 15070. Decision to Prepare a Negative Declaration or Mitigated Negative Declaration.

A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- **Initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or**

- **The initial study identified potentially significant effects, but:**

  - **Revisions in the project plans or proposals made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and**

  - **There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.**

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APPENDIX 3

CEQA Section 15002. General Concepts.

- **Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.**

- **Identify ways that environmental damage can be avoided or significantly reduced.**

- **Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.**

- **Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.**

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APPENDIX 4

Public Resources Code
Section 21000.
State agencies shall regulate to prevent environmental damage.

The Legislature further finds and declares that it is the policy of the state to:

- **The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.**

- **It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.**

- **There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.**

- **The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.**

- **Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.**

- **The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.**

- **It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.**

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APPENDIX 5

CEQA Section 15006. Reducing Delay and Paperwork.

Public agencies should reduce delay and paperwork by:

- **Integrating the CEQA process into early planning.**
- **Ensuring the swift and fair resolution of lead agency disputes.**
- **Identifying the projects which fit within categorical exemptions and are therefore exempt from CEQA processing.**
- **Using initial studies to identify significant environmental issues and to narrow the scope of EIR's.**
- **Using a negative declaration when a project not otherwise exempt will not have a significant effect on the environment.**
- **Using a previously prepared EIR when it adequately addresses the proposed project.**
- **Consulting with state and local responsible agencies before and during preparation of an environmental impact report so that the document will meet the needs of all the agencies which will use it.**
- **Urging applicants, either before or after the filing of an application, to revise projects to eliminate possible significant effects on the environment, thereby enabling the project to qualify for a negative declaration rather than an environmental impact report.**
- **Integrating CEQA requirements with other environmental review and consulting requirements.**
- **Eliminating duplication with federal procedures by providing for joint preparation of environmental documents preparation of environmental documents with federal agencies and by adopting completed federal NEPA documents.**
- **Emphasizing consultation before an environmental impact report is prepared, rather than submitting adversary comments on a completed document.**
- **Combining environmental documents with other documents such as general plans.**
- **Eliminating repetitive discussions of the same issues by using environmental impact reports on programs, policies, or plans and tiering from reports of broad scope to those of narrower scope.**

- **Reducing the length of environmental impact reports by means such as setting appropriate page limits.**

- **Preparing analytic rather than encyclopedic environmental impact reports.**

- **Mentioning only briefly issues other than significant ones in EIR's.**

- **Writing environmental impact reports in plain language.**

- **Following a clear format for environmental impact reports.**

- **Emphasizing the portions of the environmental impact report that are useful to decision-makers and the public and reducing emphasis on background material.**

- **Using incorporation by reference.**

- **Making comments on environmental impact reports as specific as possible.**

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APPENDIX 6

CEQA Section 15150. Incorporation by Reference.

- **a)** **An EIR or negative declaration may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR or negative declaration.**

- **b)** **Where part of another document is incorporated by reference, such other document shall be made available to the public for inspection at a public place or public building. The EIR or negative declaration shall state where the incorporated documents will be available for inspection. At a minimum, the incorporated documents shall be made available to the public in an office of the lead agency in the county where the project would be carried out or in one or more public buildings such as county offices or public libraries if the lead agency does not have an office in the county.**

- **c)** **Where an EIR or negative declaration uses incorporation by reference, the incorporated part of the referenced document shall be briefly summarized where possible or briefly described if the data or information cannot be summarized. The relationship between the incorporated part of the referenced document and the EIR shall be described.**

- **d)** **Where an agency incorporates information from an EIR that has previously been reviewed through the state review system, the state identification number of the incorporated document should be included in the summary or designation described in subdivision c).**

- **e)** **Examples of materials that may be incorporated by reference include but are not limited to:**

  - **1)** **A description of the environmental setting from another EIR.**

  - **2)** **A description of the air pollution problems prepared by an air pollution control agency concerning a process involved in the project.**

  - **3)** **A description of the city or county general plan that applies to the location of the project.**

- **f)** **Incorporation by reference is most appropriate for including long, descriptive, or technical materials that provide general background but do not contribute directly to the analysis of the problem at hand.**

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APPENDIX 7

City of California City EIR's Incorporated by Reference per CEQA Section 15150. Incorporation by Reference.

There are no new elements being proposed, or changes to the existing jurisdictional boundaries and coterminous sphere of influence, and no changes to the general plan or zoning designations.

- **The 2028 City of California City Redevelopment Plan and Project Area, *incorporated by reference,* approved July 5, 1988 valid through 2028, by California City Ordinance No. 38-401. The Project EIR (*SCH# 87110918*), on file in the *City of California City, City Hall, Planning Department, 21000 Hacienda Boulevard, California City, California, 93505-2293,*County of Kern, State of California.**

  Brief Summary:

  Project Description for RDA Plan and Project Area: The Project is intended to eliminate blighting conditions in the Project Area by providing new or expanded public improvements and facilities (street improvements, water, electric & gas distribution systems, storm drain improvements and public facilities). Blighting conditions are also anticipated to be alleviated by encouraging and assisting in the expansion of existing commercial and industrial uses which will strengthen the economic viability of the community.

  Initially, the California City Redevelopment Agency was considering a Project Area of 81,500 acres that encompassed both the central core and the northeastern portion of California City. The EIR reviewed potential impacts on land use, circulation, housing, population, public services and utilities. The City of California City is located in the southeastern portion of Kern County approximately 60 miles southeast of downtown Bakersfield.

  State agencies responding offered mitigation measures that were implemented:

  - **Department of Water Resources recommended a comprehensive program to use reclaimed water for irrigation purposes in order to free fresh water supplies. *Response: The City constructed a Waste Water Treatment Facility and uses reclaimed water to water the City parks and golf course.***

  - **State of California Department of Fish and Game recommended development of a comprehensive biological mitigation plan for the redevelopment project area. *Response: The City reduced the number of acres by 59,500 acres, eliminating the Second Community from the Plan. Biota studies are required on all projects except for single family residential home, duplex and tri-plex.***

  - **California City Fire Department: recommended construction of a second fire station for the Second Community as it develops. *Response: The City's Development Review***

Committee (DRC) reviews all projects except single family residential homes, duplexes and triplexes to address potential impacts on land use, circulation, housing, population, public services and utilities.

- **The Villages Specific Plan Supplemental Environmental Impact Report (SEIR),** ***(Also referred to as 317 Project, SEIR is incorporated by reference, (SCH #92072089)*** **approved February 16, 1993. An SEIR was required to update the EIR filed as part of the 2028 City of California City Redevelopment Plan and Project Area (*SCH# 87110918*), both the SEIR and EIR are on file in the *City of California City, City Hall, Planning Department, 21000 Hacienda Boulevard, California City, California, 93505-2293,*County of Kern, State of California.**

  (Important note: Recent research has discovered the SEIR document may have been recorded inaccurately with the State Clearinghouse as SCH 8711918, this is due to a typographical error. Records on file in the California City Planning Department indicate these documents are one in the same.)

<u>Brief Summary</u>:

The Villages Specific Plan is 500 acres located in the central core of the City with access to infrastructure for recreational, residential and regional commercial development. Bound on the north by North Loop Boulevard, on the east by Randsburg-Mojave Road/California City Boulevard, on the south by South Loop Boulevard and on the west by Hacienda Boulevard. The City of California City is located in the southeastern portion of Kern County approximately 60 miles southeast of downtown Bakersfield.

- **The Villages Specific Plan Amendments,** ***incorporated by reference, Negative Declaration (SCH #92072089), approved. November 19, 1996.***

<u>Brief Summary</u>:

The 1996 Villages Specific Plan Amendments Project Description:

- **1. The Weissman Group proposes to construct a 160-unit hotel on parcel 6B of the Villages Specific Plan. The hotel would be built in two phases with 80 hotel units constructed in each phases.**

- **2. A Specific Plan amendment to change the land use designation of Specific Plan parcel 1E (10.2 acres) from Driving Range & Golf Club to Hotel & Office.**

- **3. A Specific Plan amendment to change the land use designation of Specific Plan parcel 6B (9.5 acres) from Hotel & Office to Driving Range & Golf Club.**

- **4. A Specific Plan amendment to change the land use designation of the Multi-family/Townhouse area (2.9 acres) east of parcel 3A to Commercial.**

- **5. A Specific Plan amendment to change the land use designation of Specific Plan parcel 4B from Multi-family/Townhouse to Community Medical Center. The size of Parcel 4B would be increased in size from 6.4 acres to 10.0 acres by reducing the size of adjacent parcel 6A (Commercial) from 10.0 acres to 6.4 acres.**

- **The California City Redevelopment Plan and Project Area has been amended three times since being approved on July 5, 1988.**

  - **The First Amendment to the California City Redevelopment Plan was adopted on December 20, 1994 by Ordinance No. 94-504 to establish or modify existing limits on the repayment of project debt on loans, advances, and indebtedness, and for plan effectiveness, as mandated by Section 33333.6 of the Health and Safety Code(AB 1290).**

  - **The Second Amendment to the California City Redevelopment Plan was adopted on October 29, 2002 by Ordinance No. 02-602 to add certain territories to the California City Redevelopment Project Area.**

  - **The Third Amendment to the California City Redevelopment Plan was adopted on July 17, 2003 by Negative Declaration: Initial Study Third Amendment to the Amended Redevelopment Plan for the California City Redevelopment Project Area *(SCH # 2003061080)* by Ordinance No. 03-607 to add tax increment provision applicable to the Second Amendment Area.**

  - **The Final Environmental Impact Report (Final EIR), *(SCH# 2002041025)* Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project, Volume III, *incorporated by reference*, approved October 4, 2002. This report incorporates Clarifications and Revisions to the Draft EIR, Comment Letters on the Draft EIR, and Responses to Comments dated October 4, 2002 which has been completed in compliance with the California Environmental Quality Act (CEQA), the state CEQA Guidelines.**

    The Final EIR (which consists of Volume I: Draft EIR dated July 17, 2002; Volume II: Technical Appendices to the Draft EIR dated July 17, 2002; Environmental Findings of Fact and Statement of Overriding Considerations Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 4, 2002; Mitigation Monitoring Program for the Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project dated October 4, 2002; Environmental Assessment/Habitat Conservation for Issuance of an Endangered Species Section 10(A)1(B) Permit/2081 Permit for the Incidental Take of the Desert Tortoise and Mohave Ground Squirrel dated July 3, 2002; Initial Study: Annexation, Detachment, Sphere of Influence Amendment, Redevelopment Area Expansion, General Plan Update (Including the Housing Element), and Automotive Test Course Project dated April 4, 2002; and all applicable federal, state and local statutes and regulations that govern the management of environmental resources; and that the City has received, reviewed, and considered the information contained in the Final EIR, all hearings, and submissions of testimony from officials representing agencies, organizations and private individuals with a particular vested interest in the project, are on file in the *City of California City, City Hall, Planning Department, 21000 Hacienda Boulevard, California City, California, 93505-2293,* County of Kern, State of California.

<u>Brief Summary</u>:

The City evaluated all environmental issues recommended by CEQA and the State CEQA Guidelines and the Initial Study determined that the project was not likely to result in significant impacts to four environmental issues: Agricultural Resources, Mineral Resources, Population and Housing, and Recreation.

The EIR determined that the project is not expected to result in significant impacts to two additional environmental issues: Noise and Public Services. There are, therefore, no mitigation measures necessary for Noise and Public Services.

The project is located within and adjacent to the existing corporate boundary of the City of California City in the southeastern portion of Kern County, approximately 60 miles southeast of downtown Bakersfield. The project is composed of four components (approximate acres and square miles are reported to the nearest whole acres or square miles):

- **Redevelopment Area Expansion: 15,634-acre (approximately 24 square miles), Redevelopment Area Expansion (13 square miles of the Redevelopment Area Expansion are located within the existing City boundaries and the remaining approximately 12 square miles are located within a portion of the area proposed for annexation).**

- **Detachment: 18,440-acre (29 square miles) Detachment Area**

- **Annexation: 18,778-acre (29 square miles) Annexation Area**

- **Automotive Test Course Facility: 4,340 acres (7 square miles) Automotive Test Course Facility.**

The amending of the California City Redevelopment Plan and Project Area in 2002 and 2003 provides the existing Jurisdictional Boundaries and Coterminous Sphere of Influence for California City. The EIR determined that development of the project would not result in significant impacts to any environmental issues that cannot be reduced to below the threshold for significance with the incorporation of mitigation measures through the Mitigation Monitoring Program for the Redevelopment Area Expansion, Detachment, Annexation and Automotive Test Course Project, Initial Study: Annexation, Detachment, Sphere of Influence Amendment, Redevelopment Area Expansion, General Plan Update (Including the Housing Element), and Automotive Test Course Project, dated April 4, 2002.

Incorporated by reference, (EIR SCH #1992062069, is also written as EIR SCH #92062069, is the 2012 California City General Plan, a Negative Declaration, was approved by City Council on December 3, 2002 and the Negative Declaration was filed. for the 2002 Housing Element Update.

The original document, known as, the 2012 City of California City General Plan, a nineteen year planning document approved from 1993 through 2012. The approval dates coincides with the 2028 Redevelopment Agency Plan Project Area EIR, is also incorporated by reference, approved August 17, 1993, by California City Resolution No. 8931513.

Both documents are on file at City of California City, City Hall, Planning Department, 21000 Hacienda Boulevard, California City, California, 93505-2293, County of Kern, California. The City of California City is located in the southeastern portion of Kern County approximately 60 miles southeast of downtown Bakersfield.

Project Description: The Housing Element Update of the California City General Plan satisfies Government Code 65588[a][b], local government must periodically review and evaluate its Housing Element for the following: 1) The appropriateness of the housing goals, objectives and policies in contributing to the attainment of the state housing goal;

2) The effectiveness of the Housing Element programs in attaining the locality's goals and objectives; and 3) The progress being made toward implementing the Housing Element.

Project Location: The Housing Element Update of the City of California City affects the entire 203.44 square miles that represents the official City limits of California City, County of Kern, California.

Brief Summary:

The 2012 California City General Plan met the requirements of CEQA and a Final Environmental Impact Report was prepared, certified and considered by decision makers prior to taking action on a project. The Final EIR provides the lead agency an opportunity to respond to comments received on the Draft EIR and to incorporate any changes or additions necessary to clarify and/or supplement the information contained in the document.

The Executive Summary of the Final EIR addressed public comments and the possible Environmental Impacts associated with the adoption and implementation of the California City General Plan update for the incorporated City of California City, in Kern County, California. The City of California City is located in the southeastern portion of Kern County approximately 60 miles southeast of downtown Bakersfield. The California City Planning Area encompasses approximately 203 square miles of land surrounded by high desert open space.

The project prepared the General Plan for the City of California City, consisting of the Land Use, Circulation, Conservation, Open Space, Safety, Noise and Housing Elements.

As prescribed by law, the California City Housing Element was reviewed by environmental initial study and adopted by negative declaration on December 3, 2002 by the City Council. The revisions made to the housing element were nonsubstantive changes, therefore an amendment to the environmental negative declaration was not required. The basic revisions were necessary to expand the analysis of the City's special needs and expand the land inventory analysis.

Additionally, the revisions maximizes the City's ability to participate in competitive funding available to assist in addressing housing and community development needs.

Certification of the City's Housing Element occurred on February 24, 2004 by the City's Planning Commission as required by the Department of Housing and Community Development Division of Housing Policy Development in accordance with State housing element law.

State agencies responding offered mitigation measures that were implemented:

- **Mojave Unified School District recommended additional school facilities to house the anticipated student growth based upon the General Plan population projections.** ***Response: The City has constructed a new high school to serve grades 9-12 and an elementary school to serve grades 4-6.***

- **Kern County LAFCO commented the General Plan document has a sphere of influence boundary map which did not accurately reflect the current boundary.** ***Response: The latest updated map of the sphere of influence boundary has been obtained***

and corrections have been made accordingly. The corrected map was incorporated into the final General Plan document.

- **The Airport Master Plan,** ***incorporated by reference, The Airport Environmental Impact Report, April 1977, (SCH #76112293) planning years 1975-1995, updated December 1994 planning years 1995-2015, updated June 2005 planning years 2005-2025. Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

Brief Summary

The 2005-2025 Airport Master Plan encompasses a 222-acre publicly owned facility, owned and operated by the City of California City. The airport is in the southeastern portion of Kern County, approximately 85 miles northeast of Los Angeles and 51 miles east of Bakersfield. California City is bordered by unincorporated areas of the County to the north, south, east, and west. California City is approximately 18 miles northwest of Edwards Air Force Base and is approximately 11 miles northeast of Mojave. A master plan was last prepared for the airport in 1994. In order to determine the potential of the airport and specific opportunities for improving facilities, the City sponsored an airport master plan update through a planning grant from the FAA Airport Improvement Program (AIP). The recommended development shall be presented in three planning phases: short term (2005-2010); intermediate term (2011-2015) and long term (2016-2025). The recommended development satisfies aviation demand, community development, and other transportation modes.

- **The Airport Land Use Compatibility Plan,** ***incorporated by reference, The Kern County Airport Land Use Compatibility Plan, June 1994, City of California City's Negative Declaration filed February 1999 (SCH #98122031). Documents are on file in the California City Planning Dept., 21000 Hacienda Blvd., California City.***

Brief Summary

The City of California and its municipal airport participates in the Kern County Airport Land Use Compatibility Plan, as a result of the California State Legislature amending in 1994 the Aeronautics Law, State Aeronautics Act, Airport Land Use Commission, Public Utilities Code (Chapter 4, Article 3.5 (Appendix B). This statute is expressed as "...to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards and to prevent the creation of new noise and safety problems. It is the purpose of this article to protect public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent these areas are not already devoted to incompatible uses."

The City of California City adopted by Negative Declaration the Airport Land Use Compatibility Plan as an amendment to the Municipal Code and incorporates various components of the plan into existing elements of the General Plan. The location of the California City Municipal Airport as described in the Negative Declaration as Township 32 South, Range 37 East, MDB&M, a portion of Sections 16 and 17, within the boundaries of the City of California City, County of Kern, California.

CALIFORNIA CITY GENERAL PLAN UPDATE
2009-2028

JANUARY 2009

A P P E N D I X 8

Initial Study, Negative Declaration, 2009-2028 General Plan Update

INITIAL STUDY AND
ENVIRONMENTAL CHECKLIST FORM

1. **Project Title: California City General Plan Update 2028**

2. **Lead Agency Name and Address: City of California City, 21000 Hacienda Boulevard, California City, California 93505-2293**

3. **Contact Person and Phone Number: Linda Lunsford, City Manager/Planning Director**

4. **Project Location: California City is located approximately 60 miles to the southeast of the Metropolitan Bakersfield area, approximately 35 miles north of Lancaster, and approximately 65 miles northwest of Victorville. The City is approximately four miles to the north of Edwards Air Force Base and four miles to the east of Mojave and the Mojave Airport. The City's General Plan planning area is comprised of the City's existing corporate limits and its coterminous sphere of influence, totaling 130,200 acres (203.4375 square miles), in the County of Kern, California.**

5. **Project Sponsor's Name and Address: City of California City, 21000 Hacienda Boulevard, California City, California.**

6. **General Plan Designation: See the California City General Plan Update 2028, there are no changes to general plan designations.**

7. **Zoning: See the California City General Plan Update 2028, there are no changes in the zoning designations**

8. **Description of the Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary)**

   This project updates the California City General Plan and the mandatory elements through 2009-2028 to include: Land Use, Circulation, Open Space and Conservation (combined), Noise, and Safety. The Housing Element (is provided under separate cover and is updated every five years through 2009- 2013.

   The City of California City General Plan Update 2009-2028 is not changing the City's Jurisdictional Boundaries or Coterminous Sphere of Influence, the plan does not add any new elements and does not change any general plan designations or zoning designations and is consistent with the general plan.

   The City's major accomplishments: The Villages Specific Plan, Annexation/Detachment, Airport Master Plan, Airport Land Use Compatibility Plan, and Housing Element Update (2004). Site specific accomplishments: CCA Prison, California City High School, and Hacienda Elementary School. The California City General Plan Update 2028 provides future goals, policies and implementation measures. The California City General Plan Update 2028 coincides with the 2028 RDA Plan and Project Area.

   The City of California City is using the Tiering Process for the California City General Plan Update 2028. Environmental Impact Reports (EIR's) incorporated by reference are briefly described and the State Clearinghouse Numbers (SCH #) are provided in the text of the document. The EIR's incorporated by reference are located for public inspection at the California City Planning Department, 21000 Hacienda Boulevard, California City, California.

9. **Surrounding Land uses and Setting: (Briefly describe the project's surroundings)**

   The City is surrounded by undeveloped desert, including a 25,000-acre Desert Tortoise Preserve administered by the U.S. Bureau of Land Management located along a portion outside the City's northeastern border. The City is bounded by an unincorporated area of Kern County to the north, east, south, and west. The City of California City has 50,199 lots, it is by land area the third largest City in California and the thirty-fourth largest City in the United States.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement). Distribution of this document is appropriate to the following agencies:

LIST OF AGENCIES

AGENCY	QTY TO BE MAILED
STATE CLEARINGHOUSE 1400 TENTH STREET SACRAMENTO CA 95812-3044	15
COUNTY CLERK COUNTY OF KERN 1115 TRUXTUN AVE - FIRST FLOOR BAKERSFIELD CA 93301-4639	2
KERN COUNCIL OF GOVERNMENTS ATTN MARILYN BEARDSLEE 1401 19TH ST STE 300 BAKERSFIELD CA 93301	1
ALAN BAILEY VERIZON TELEPHONE CO 520 SO CHINA LAKE BLVD RIDGECREST CA 93555	1
MARK GOWIN SOUTHERN CALIFORNIA EDISON 510 SO CHINA LAKE BLVD RIDGECREST CA 93555	1
HENRY BRIGGES THE GAS COMPANY TECHNICAL SERVICES DEPARTMENT 9400 OAKDALE AVE CHATSWORTH CA 91313-2300	1
HANK RIGOL PLANS & POLICIES DIVISION EDWARDS AIR FORCE BASE 100 E SPARKS DR EDWARDS AFB CA 93524	1
JUDY HOHMAN US FISH & WILDLIFE SERVICE 2093 PORTOLA RD STE B VENTURA CA 93003	1
ANNETTE TENNABOE DEPT OF FISH & GAME 1234 EAST SHAW FRESNO CA 93710	1
CAL-TRANS DISTRICT 9 CEQA COORDINATOR 500 SO MAIN ST BISHOP CA 93514	1

JERRY HELT 1
HELT ENGINEERING
2930 UNION AVE
BAKERSFIELD CA 93305

LAFCO 1
2700 M STREET
BAKERSFIELD CA 93301

KERN CO AIR POLLUTION CD 1
2700 M STREET STE 302
BAKERSFIELD CA 93301

LINDA ADAMS 1
CALIFORNIA REGIONAL QUALITY CB
LAHONTAN REGION - VICTORVILLE OFFICE
14440 CIVIC DR STE 200
VICTORVILLE CA 92392

DAVE SINGLETON 1
NATIVE AMERICAN HERITAGE COM
915 CAPITOL MALL ROOM 364
SACRAMENTO CA 95814

LARRY PHELPS 1
DISTRICT SUPERINTENDENT
MOJAVE UNIFIED SCHOOL DISTRICT
3500 DOUGLAS AVE
MOJAVE CA 93301

CALIFORNIA CITY PUBLIC LIBRARY 1
9507 CALIFORNIA CITY BLVD
CALIFORNIA CITY CA 93505

DEPARTMENT OF HOUSING 1
AND COMMUNITY DEVELOPMENT
1800 THIRD STREET STE 430
SACRAMENTO CA 95811

KERN VALLEY INDIAN COMMUNITY 1
RON WERMUTH, CHAIRPERSON
P.O. BOX 168
KERNVILLE CA 93238

TEHACHAPI INDIAN TRIBE 1
CHARLIE COOK
32835 SANTIAGO ROAD
ACTION, CA 93510

DELIA DOMINGUEZ 1 (Rep. Yowlumne & Kianemuk Tribes)
981 NORTH VIRGINIA
COVINA, CA 91722

EUGENE ALBITRE 1 (Rep. Diegueno Tribe)
3401 ASLIN STREET
BAKERSFIELD, CA 93312

DR ROBERT YOHE, COORDINATOR 1
CALIFORNIA STATE UNIVERSITY BAKERSFIELD
9001 STOCKDALE HIGH
BAKERSFIELD CA 93311

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The environmental factors checked below (■) would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Hazards & Hazardous Materials		Public Services
	Agriculture Resources		Hydrology/Water Quality		Recreation
	Air Quality		Land Use/Planning		Transportation/Traffic
	Biological Resources		Mineral Resources		Utilities/Service Systems
	Cultural Resources		Noise		Mandatory Findings of Significance
	Geology/Soils		Population/Housing		

DETERMINATION: (To be completed by the Lead Agency). On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	X
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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Signature **Date**

Linda Lunsford **City Manager/Planning Director**

Printed Name **Title**

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in its explanation following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e. g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e. g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation incorporated, or less than significant. "Potentially Significant Impact' is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (D). In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address the site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify: (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant.

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista? **No. The City's General Plan Vision Statement is to create a visually attractive community. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. **No. The City's General Plan Land Use Element's Overall Goal is to preserve open space and natural resources. The City's Open Space and Conservation Element provides for conservation of sensitive biological resources, historical and cultural resources. All projects are reviewed on a case-by-case basis within the City.**			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings? **No. All projects are reviewed on a case-by-case basis within the City. The City's General Plan Land Use Element has the broadest scope of any element in the General Plan and adequately regulates how land is to be utilized.**			X	
.				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? **No. The City's General Plan Land Use Element's Design/Image Polices promote Dark Sky principles. The Land Use Element and the Open Space and Conservation Element Policies, address lighting restrictions, light and glare consideration related to military activities. All projects are reviewed on a case-by-case basis within the City.**				X
2. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? **No. The City's General Plan Land Use Element defines how land will be developed, preserved, and/or protected. All projects are reviewed on a case-by-case basis within the City.**				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? **No. The City's General Plan Land Use Element designates the proposed general distribution and general location and extent of the uses of land in the City. All projects are reviewed on a case-by-case basis within the City.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? **No. All projects are reviewed on a case-by-case basis within the City. The City's General Plan Land Use Element defines how land will be developed, preserved, and/or protected. The City's General Plan Open Space and Conservation Elements further discusses the managed production of agricultural and other resources in the City.**				X
3. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan? **No. The City's General Plan Circulation Element's Goals encourages alternative transportation to reduce congestion and improve air quality. The City's General Plan Land Use Element calls for alternative forms of transportation in the basic principles for development within future urban areas. The City's Open Space and Conservation Element Goal is to promote the improvement of air quality and the maintenance of State and federal air quality standards. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? **No. The City's General Plan Land Use Element's Goals implements growth management decisions which achieve reduced air and water pollution. All projects are reviewed on a case-by-case basis within the City.**			X	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? **No. The City's General Plan Land Use, Circulation, Safety, Open Space and Conservation Elements address air quality and the City's goals, policies, and implementation measures. The City of California City is under the jurisdiction of the KCAPCD, whose mission is to attain and maintain ambient air quality standards in eastern Kern County. All projects are reviewed on a case-by-case basis within the City.**				X
d) Expose sensitive receptors to substantial pollutant concentrations? **No. The City's General Plan Land Use Element defines how land will be developed, preserved, and/or protected. All projects are reviewed on a case-by-case basis within the City.**				X
e) Create objectionable odors affecting a substantial number of people? **No. All projects are reviewed on a case-by-case basis within the City. The City's General Plan Safety Element's Overall Goal is to protect the community form known risks as a result of natural and human-induced hazards.**				X
4. BIOLOGICAL RESOURCES. Would the project:				

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service? **No. The City's General Plan Land Use Element's Overall Goal is to preserve open space and natural resources. The Open Space and Conservation Element has as its Overall Goal to preserve and protect conservation resources that are unique to California City environs. A biota study is required on vacant desert land. The central core of the City, as part of the 2028 Redevelopment Agency Plan Project Area, incorporated in the EIR mitigation measures of removing land in the northeastern portion of the City (59,500 acres) to allow development to occur unimpeded in the Central Core of the City, approximately 22,000 acres. All projects are reviewed on a case-by-case basis within the City.**				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service? **No. The City's General Plan Land Use Element's Overall Goal is to preserve open space and natural resources. The Open Space and Conservation Element has as its Overall Goal to preserve and protect conservation resources that are unique to California City environs. A biota study is required on vacant desert land. The central core of the City, as part of the 2028 Redevelopment Agency Plan Project Area, incorporated in the EIR mitigation measures of removing land in the northeastern portion of the City (59,500 acres) to allow development to occur unimpeded in the central core of the City, approximately 22,000 acres. All projects are reviewed on a case-by-case basis within the City.**				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? **No. There are no federally protected wetlands in the City.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites? **No. The City's General Plan Open Space and Conservation Element recognizes that the presence of a variety of threatened and endangered species in the City, may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies. The Open Space and Conservation Element's Goals are to promote conservation of sensitive vegetation, wildlife, historical and cultural resources. The central core of the City, as part of the 2028 Redevelopment Agency Plan Project Area, incorporated in the EIR mitigation measures of removing land in the northeastern portion of the City (59,500 acres) to allow development to occur unimpeded in the central core of the City, approximately 22,000 acres. A biota study is required on vacant desert land. All projects are reviewed on a case-by-case basis within the City.**			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? **No. The City's General Plan Land Use Element in the Overall Polices discusses design characteristics which include xeriscaping using drought- tolerant plants and trees. Landscaping on industrial frontage roads and developing a plan that all parking lots are 60% shaded at maturity to alleviate heat island effect.**				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan? **No. The central core of the City, as part of the 2028 Redevelopment Agency Plan Project Area, incorporated in the EIR mitigation measures of removing land in the northeastern portion of the City (59,500 acres) to allow development to occur unimpeded in the central core of the City, approximately 22,000 acres. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City.**				X
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? **No. The Open Space and Conservation Element's Goals are to promote conservation of sensitive vegetation, wildlife, historical and cultural resources. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City. However, if historical resources are found during excavation, all work will be suspended until the area has been thoroughly examined. Such discoveries may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies.**			X	

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? **No. The Open Space and Conservation Element's Goals are to promote conservation of sensitive vegetation, wildlife, historical and cultural resources. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City. However, if historical or archaeological resources are found during excavation, all work will be suspended until the area has been thoroughly examined. Such discoveries may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies.**			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? **No. The Open Space and Conservation Element's Goals are to promote conservation of sensitive vegetation, wildlife, historical and cultural resources. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City. However, if a unique paleontological resource or site or unique geologic feature are found during excavation, all work will be suspended until the area has been thoroughly examined. Such discoveries may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies.**			X	
d) Disturb any human remains, including those interred outside of formal cemeteries? **No. The Open Space and Conservation Element's Goals are to promote conservation of sensitive vegetation, wildlife, historical and cultural resources. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City. However, if human remains are found during excavation, all work will be suspended until the area has been thoroughly examined. Such discoveries may result in delays in development as each project applicant must individually negotiate mitigation with the overseeing governmental agencies.**			X	
6. GEOLOGY AND SOILS. Would the project				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. **No. The City's General Plan Safety Element's Overall Goal is to protect the community from known risks, including geologic, seismic hazards, seismic-related ground failure and liquefaction. The Land Use, Open Space and Conservation Elements discuss the goals, policies, and implementation measures related to geologic conditions. All projects are reviewed on a case-by-case basis within the City. However, seismic ground shaking and seismic-related ground failure and liquefaction, could occur without warning in any location in the state of California.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking? **No. The City's General Plan Safety Element's Overall Goal is to protect the community from known risks, including geologic, seismic hazards, seismic-related ground failure and liquefaction. Land Use, Open Space and Conservation Elements discuss the goals, policies, and implementation measures related to geologic conditions. All projects are reviewed on a case-by-case basis within the City. However, seismic ground shaking and seismic-related ground failure and liquefaction could occur without warning in any location in the state of California.**			X	
iii) Seismic-related ground failure, including liquefaction? **No. The City's General Plan Safety Element's Overall Goal is to protect the community from known risks, including geologic, seismic hazards, seismic-related ground failure and liquefaction, landslides or subsidence. Land Use, Open Space and Conservation Elements discuss the goals, policies, and implementation measures related to geologic conditions. All projects are reviewed on a case-by-case basis within the City. However, seismic ground shaking and seismic-related ground failure and liquefaction, could occur without warning in any location in the state of California.**			X	
iv) Landslides? **No. The City's General Plan Safety Element's Overall Goal is to protect the community from known risks, including geologic, seismic hazards, seismic-related ground failure, liquefaction, landslides or land subsidence. Land Use, Open Space and Conservation Elements discuss the goals, policies, and implementation measures related to geologic conditions. All projects are reviewed on a case-by-case basis within the City. However, landslides are highly unlikely due to the terrain of the City, a strong earthquake could trigger landslides or slope failures on steeper slopes, generally in the eastern and southeastern portion of the City. Seismic ground shaking and seismic-related ground failure and liquefaction, could occur without warning in any location in the state of California.**			X	
b) Result in substantial soil erosion or the loss of topsoil? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to geologic and seismic hazards. All projects are reviewed on a case-by-case basis within the City.**				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to geologic and seismic hazards. All projects are reviewed on a case-by-case basis within the City.**			X	

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to geologic and seismic hazards. All projects are reviewed on a case-by-case basis within the City.**			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements offer goals, policies, and implementation measures relating to soils and the use of septic tanks or alternative wastewater disposal systems where sewers are not available. All projects are reviewed on a case-by-case basis within the City.**			X	
7. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements offer goals, policies, and implementation measures relating to the routine transport, use, or disposal of hazardous materials. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements offer goals, policies, and implementation measures relating to the routine transport, use, or disposal of hazardous materials. All projects are reviewed on a case-by-case basis within the City.**			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements offer goals, policies, and implementation measures relating to the routine transport, use, or disposal of hazardous materials. All projects are reviewed on a case-by-case basis within the City.**				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? **No. According to the Cortese List, there are no hazardous material sites in the City of California City.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? **No. Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation of the California City General Plan's goals, policies, and implementation measures relate to the California City Municipal Airport. The California City Municipal Airport has an adopted Airport Master Plan. As a public use airport, California City has adopted the Kern County Airport Compatibility Plan, specifically discussed in the Safety Element. All projects are reviewed on a case-by-case basis within the City.**				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? **No. There are no private airstrips within the jurisdictional boundaries of the City.**				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? **No. The California City General Plan Land Use, Circulation, Safety, Open Space and Conservation Element's goals, policies and implementation measures apply. All projects are reviewed on a case-by-case basis within the City.**				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? **No. The Land Use, Housing, Safety , Open Space and Conservation Elements addresses issues related to land use, structures and fire hazards in the goals, policies, and implementation measures. All projects are reviewed on a case-by-case basis within the City.**				X
8. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality standards or waste discharge. All projects are reviewed on a case-by-case basis within the City.**				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? **No. The General Plan Safety, Land Use, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality standards or waste discharge. All projects are reviewed on a case-by-case basis within the City.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? **No. The General Plan Safety, Land Use, Circulation, Housing, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality standards or waste discharge. All projects are reviewed on a case-by-case basis within the City.**				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality standards or waste discharge. All projects are reviewed on a case-by-case basis within the City.**				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality standards or runoff water and drainage systems. All projects are reviewed on a case-by-case basis within the City.**				X
f) Otherwise substantially degrade water quality? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses water quality . All projects are reviewed on a case-by-case basis within the City.**				X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? **No. The General Plan Safety, Housing, Land Use, Open Space and Conservation Element's goals, policies, and implementation measures addresses flood hazard information. All projects are reviewed on a case-by-case basis within the City.**				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? **No. The General Plan Safety, Land Use, Open Space and Conservation Element's goals, policies, and implementation measures addresses flood hazard information. All projects are reviewed on a case-by-case basis within the City .**				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses flood hazard information. All projects are reviewed on a case-by-case-basis within the City.**				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow? **No. The General Plan Land Use, Safety, Open Space and Conservation Element's goals, policies, and implementation measures addresses water flow. All projects are reviewed on a case-by-case basis within the City.**				X
9. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? **No. The General Plan Update 2028 does not conflict with any applicable plan, policy or regulation of an agency with jurisdiction over the project, no general plan, specific plan or zoning ordinance. The General Plan Update 2028 reviews accomplishments set in the previous update of 1993-2012 and offers future goals, policies, and implementation measures. No new elements are being added, no changes in general plan or zoning designation, no changes in the jurisdictional boundaries and coterminous sphere of influence.**				X
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan? **No. The central core of the City, as part of the 2028 Redevelopment Agency Plan Project Area, incorporated in the EIR mitigation measures of removing land in the northeastern portion of the City (59,500 acres) to allow development to occur unimpeded in the central core of the City, approximately 22,000 acres. A biota study is required on desert vacant land. All projects are reviewed on a case-by-case basis within the City.**				X
10. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to mineral resources. All projects are reviewed on a case-by-case basis within the City.**				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? **No. The City's General Plan Land Use, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to mineral resources. All projects are reviewed on a case-by-case basis within the City.**				X
11. NOISE. Would the project result in:				

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? **No. The City's General Plan Noise, Land Use, Circulation, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to noise levels. All projects are reviewed on a case-by-case basis within the City.**				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? **No. The City's General Plan Noise, Land Use, Circulation, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to noise levels. All projects are reviewed on a case-by-case basis within the City.**				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **No. The City's General Plan Noise, Land Use, Circulation, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to noise levels. All projects are reviewed on a case-by-case basis within the City.**				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? **No. The City's General Plan Noise, Land Use, Circulation, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to noise levels. All projects are reviewed on a case-by-case basis within the City.**				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? **No. The City's General Plan Noise, Land Use, Circulation, Safety, Open Space and Conservation Elements addresses goals, policies, and implementation measures related to noise levels. The California City Municipal Airport has an adopted Airport Master Plan. As a public use airport California City has adopted the Kern County's Airport Compatibility Plan. All projects are reviewed on a case-by-case basis within the City.**				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? **No. There are no private airstrips within the jurisdictional boundaries of the City.**				X
12. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
13. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Police protection? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
c) Schools? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
d) Parks? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
e) Other public facilities? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
14. RECREATION.				

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
15. TRANSPORTATION/TRAFFIC. Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? **No. The General Plan Land Use, Housing, Safety, Circulation, Noise, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e. g. farm equipment)? **No. The General Plan Land Use, Housing, Safety, Circulation, Noise, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
e) Result in inadequate emergency access? **No. The General Plan Land Use, Housing, Safety, Circulation, Noise, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Result in inadequate parking capacity? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)? **No. The General Plan Land Use, Noise, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
16. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**			X	

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
g) Comply with federal, state, and local statutes and regulations related to solid waste? **No. The General Plan Land Use, Housing, Safety, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
17. 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 restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? **No. The General Plan Land Use, Housing, Safety, Noise, Circulation, Open Space and Conservation Element's goals, policies, and implementation measures addresses land use and planning. All projects are reviewed on a case-by-case basis within the City.**				X

Quad Knopf

September 30, 2002

Jack Stewart, City Manager
Jim Schroeter, City Engineer
City of California City
21000 Hacienda Boulevard
California City, CA 93505

Gentlemen:

This final report has been prepared to assist the City in the long-range preliminary design, funding and development of the City's First-Community sewer collection system.

We are most appreciative of the assistance provided to us by the City staff during report preparation. We look forward to reviewing the report with the staff and with the City Council.

California City is a relatively new community, with unique development constraints and virtually unlimited growth potential. As a result, this project has been challenging; we hope it will be most helpful to the City.

Sincerely,

William C. Black, P.E.
Project Engineer

99309

5500 Ming Avenue • Suite 410 • Bakersfield, California 93309 • Tel (661) 835-8300 • Fax (661) 835-8311

CALIFORNIA CITY

SANITARY SEWER SYSTEM MASTER PLAN

Submitted to:

California City
Jack Stewart, City Manager

Submitted by:

Quad Knopf
5500 Ming Avenue
Suite 410
Bakersfield, CA 93309

REGISTERED PROFESSIONAL ENGINEER
WILLIAM CHARLES BLACK
EXP 12/31/04
No. 31465
Civil
STATE OF CALIFORNIA

SEPTEMBER 2002

99309

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Acknowledgements

Quad Knopf would like to acknowledge the invaluable assistance of Jack Stewart, City Manager; Jim Schroeter, P.E., City Engineer; Frank Lane, L.S.I.T., Civil Engineering Technician; Ron Wallace, Public Works Director, Roy "Hoss" Pegram, Public Works Supervisor; Terry Hicks, Finance Director and Tom Weil, Airport Manager in providing data and guidance for the preparation of this report.

EXECUTIVE SUMMARY

Of California City's total 203 square miles the "first community" area considered in this study encompasses 16.5 square miles with about 8,500 residents. Approximately 3,200 of those residents are, together with most of the town's commercial enterprises, served by the existing collection system; the rest are served by onsite wastewater treatment and disposal facilities (septic tanks, leach lines, seepage and pits).

For analysis purposes, the study area has been subdivided into three service areas - the north, central and south portions of the "first community". These study areas are, for purposes of compliance with a Memorandum of Understanding with the Lahontan Regional Water Quality Control Board, further subdivided into 75 smaller areas. Development in each such smaller area is restricted to a maximum of two residential dwelling units per acre or their wastewater-flow equivalent, served by onsite treatment and disposal facilities.

This study has produced a sewer collection system master plan which will serve the study area to buildout, and can be phased to serve interim population growth. The preliminary design of the system is sufficiently detailed that pipe sizing may be relied upon; precise pipe invert elevations must be established by detailed survey prior to construction design. Cost estimates have been prepared for system components and the total system.

The major problem facing the City is obtaining support for, and funding, the timely construction of the components of the system needed to served new development. The current regulations of the Regional Board, allowing fairly dense development with onsite waste disposal facilities, coupled with the passage of Proposition 218 in 1996 making it impossible to assess fees for "standby" services, are deterrents to a rational sewer construction program.

This report suggests several alternatives to enable timely sewer funding and construction:

- Assessment districts
- Planned sewer areas
- Local constraints through timely allocation of street construction and other municipal facilities
- A modification of Regional Board requirements to

essentially prohibit onsite wastewater facilities within the City

- Legislative action to effect such prohibition

The implementation steps essential to effectuation of these alternatives are briefly outlined in the report.

CHAPTER I

INTRODUCTION

CHAPTER I – INTRODUCTION

California City is located in eastern Kern County. (See Figure 1.) Its first development opened in 1958; the City incorporated in 1965. With an area of 203 square miles it is geographically one of California's largest cities. The current population is approximately 10,800 people including inmates in a 2,305 bed Private prison. The study area for this document is the central community ("first community"), an area of approximately 16.5 square miles which houses a population of about 8,500 in primarily single-family residences and the community's commercial core. (See Figures 2 and 3.)

Within the study area approximately 34 percent of the existing residences are connected to the City sewer system (1,100 units) and 66 percent (1,900 units) utilize onsite wastewater treatment and disposal (septic tanks and leach lines). There are approximately 1,340 "equivalent dwelling units" - residences and commercial facilities - "EDUs" - which are served by the community sewer system. (An equivalent dwelling unit, EDU, is a source of wastewater which is equal to that produced by a typical single-family residence).

The California Regional Water Quality Control Board, Lahontan Region has, in a 1989 Memorandum of Understanding with the City (see Appendix A), decreed that development in Memorandum-mapped - areas of the community shall not exceed two equivalent dwelling units per acre. The Memorandum-mapped areas in the study area are shown on Figure 4, Numbers 1 through 75.

Also shown on that Figure are "Specific Zones", areas that are at least partially sewered, denoted as Zones 1 through 9, that were not included in the Memorandum of Understanding - mapped two units per acre limitation. The 75 Memorandum-mapped areas occupy about 5,706 acres, the sewered "Specific Zones" occupy about 555 acres. Further denoted on Figure 4 are other areas not subject to the mapped two-units-per acre restriction: Cache Creek, the golf course/park and surrounding areas, the northeast industrial area and "border" areas principally north of Mendiburu Road.

Depicted on Figure 5 is the City's existing sewer system. Comparison of that system to Figure 4 clearly shows that all sewer assessment districts are not fully sewered; that much of the residential development in the park/golf course uncontrolled area is sewered; that some of the Memorandum of Understanding septic tank control area is sewered. The City's records indicate, however (see Table 1) that the Memorandum of Understanding's 5,706 acres have the potential to serve an additional 9,750 dwelling units on septic tanks.

Apart from the technical data and calculations required to preliminarily design and estimate the cost of a wastewater system to serve the study area (see Chapters II and III) it is critical to define alternative methodologies for requiring and funding a phased community sewer collection system to serve future community development. Past and projected community growth is conservatively depicted in Table 2 and on Figure 6. If such growth occurs on an unplanned geographic basis without community sewer service, an effective sewer system construction methodology must be selected and pursued. As will be discussed in Chapter IV, the 1996 passage of Proposition 218 which, among other provisions, effectively prohibited the charging of fees or assessments for later installation of sewer facilities (see Appendix B) significantly reduced the City's ability to proactively plan and fund such facilities. Chapters IV and V, however, discuss possible planning and funding alternatives and their implementation.

Table 1
Residential Units on Septic Tanks

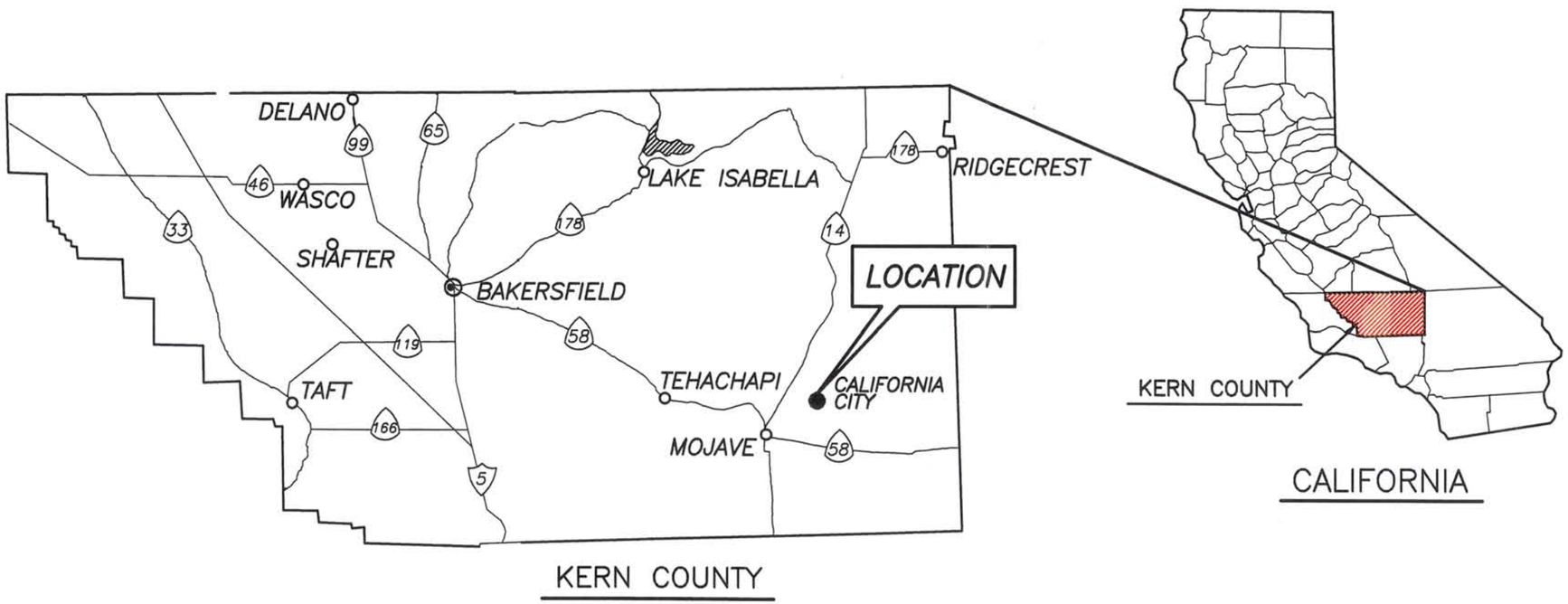
Control Area*	Area (Acres)	Maximum Equivalent Dwelling Units (EDUs)	Existing Units (EDUs)	% of Allowable
1	107.39	215	1	0.47
2	60.84	122	0	0.00
3	84.72	169	6	3.55
4	60.73	121	12	9.92
5	101.79	204	15	7.35
6	45.32	91	20	21.98
7	74.04	148	23	15.54
8	54.90	110	0	0.00
9	82.39	165	0	0.00
10	61.85	124	1	0.81
11	65.72	131	0	0.00
12	92.73	185	3	1.62
13	65.43	131	24	18.32
14	165.40	331	16	4.83
15	42.52	85	12	14.12
16	70.15	140	6	4.29
17	88.82	178	0	0.00
18	68.49	137	1	0.73
19	61.63	123	3	2.44
20	62.55	125	0	0.00
21	208.29	417	99	23.74
22	78.62	157	46	29.30
23	50.16	100	43	43.00
24	44.55	89	51	57.30
25	104.82	210	93	44.29
26	98.46	197	48	24.37
27	77.89	156	14	8.97
28	77.15	154	0	0.00
29	99.52	199	7	3.52
30	93.56	187	111	59.36
31	80.49	161	91	56.52
32	39.04	78	45	57.69
33				
34	66.46	133	26	19.55
35	119.09	238	87	36.55
36	76.06	152	3	1.97
37	94.44	189	25	13.23
38	103.67	207	1	0.48
39	88.42	177	7	3.95

*See Figure 4

Table 1
Residential Units on Septic Tanks
(Continued)

Control Area*	Area (Acres)	Maximum Equivalent Dwelling Units (EDUs)	Existing Units (EDUs)	% of Allowable
40	72.53	145	16	11.03
41	65.78	132	29	21.97
42	157.43	315	32	10.16
43	72.18	144	31	21.53
44	79.44	159	28	17.61
45	75.09	150	66	44.00
46	70.56	141	44	31.21
47	37.34	75	41	54.67
48	90.13	180	49	27.22
49	52.84	106	42	39.62
50	46.21	92	33	35.87
51	120.54	241	0	0.00
52	57.40	115	40	34.78
53	54.09	108	49	45.37
54	24.11	48	16	33.33
55	51.20	102	47	46.08
56	71.14	142	29	20.42
57	73.63	147	0	0.00
58	78.20	156	2	1.28
59	76.92	154	0	0.00
60	69.44	139	0	0.00
61	67.73	135	26	19.26
62	63.80	128	22	17.19
63	75.22	150	42	28.00
64	50.97	102	13	12.75
65	59.53	119	9	7.56
66	50.26	101	6	5.94
67	67.89	136	1	0.74
68	76.90	154	0	0.00
69	86.83	174	0	0.00
70	65.03	130	0	0.00
71	63.65	127	1	0.79
72	93.68	187	1	0.53
73	127.56	255	3	1.18
74	142.70	285	3	1.05
75	84.02	160	6	3.57
	5,706.07	11,578	1,667	

*See Figure 4



NORTH

VICINITY MAP

NOT TO SCALE

CALIFORNIA CITY

LOCATION MAP

FIGURE 1

SEPTEMBER 2002

Quad Knopf

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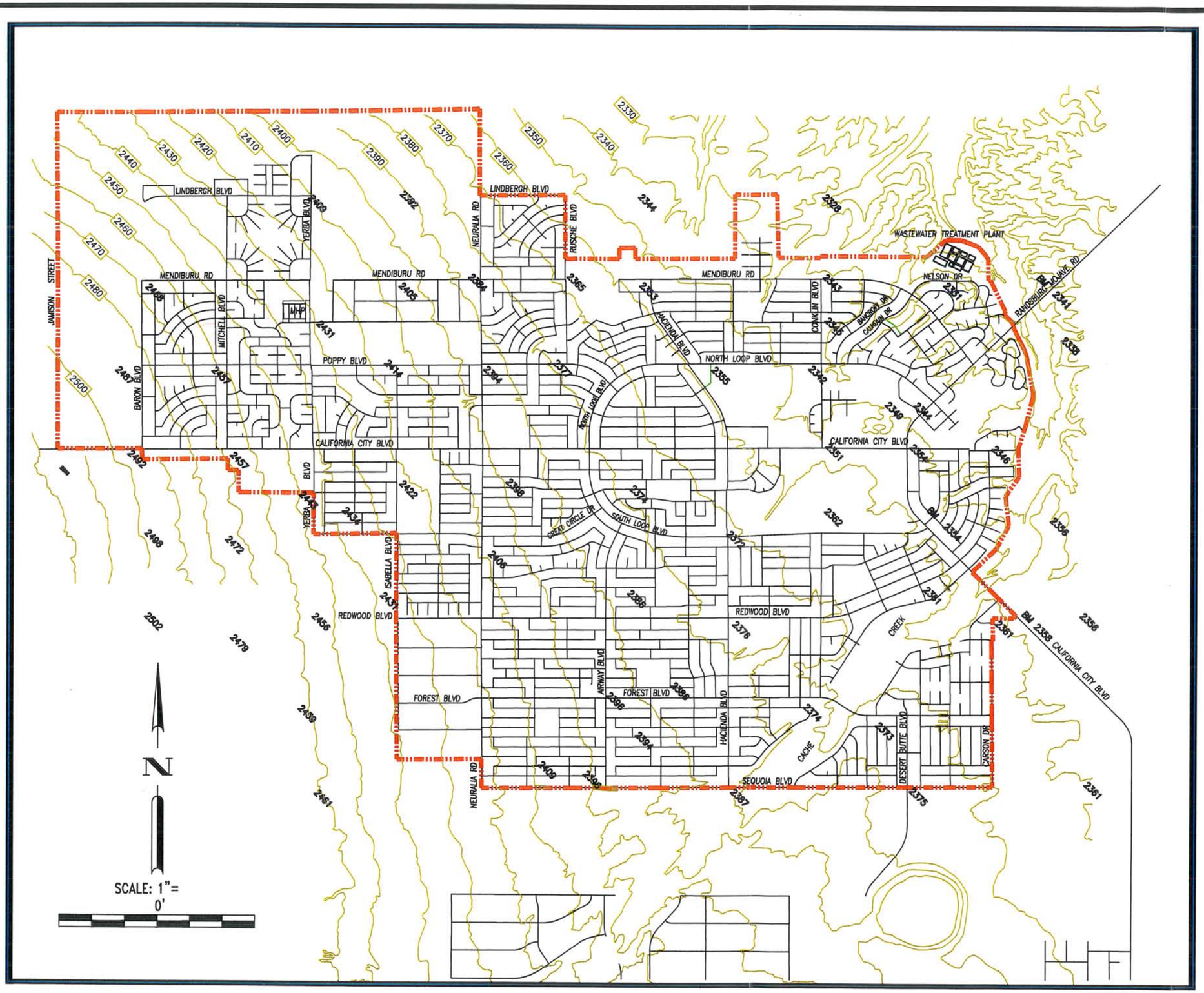

CALIFORNIA CITY

STUDY AREA

LEGEND

- STUDY AREA BOUNDARY
- CONTOUR LINE
- 2356 SPOT ELEVATION
- 2350 CONTOUR ELEVATION
- PLATTED STREETS

NOTE: SPOT ELEVATIONS AND CONTOURS WERE DEVELOPED FROM USGS MAPPING DATA.

FIGURE 2

SEPTEMBER 2002

Quad Knopf

SOURCE: USGS QUADRANGLE – 1973

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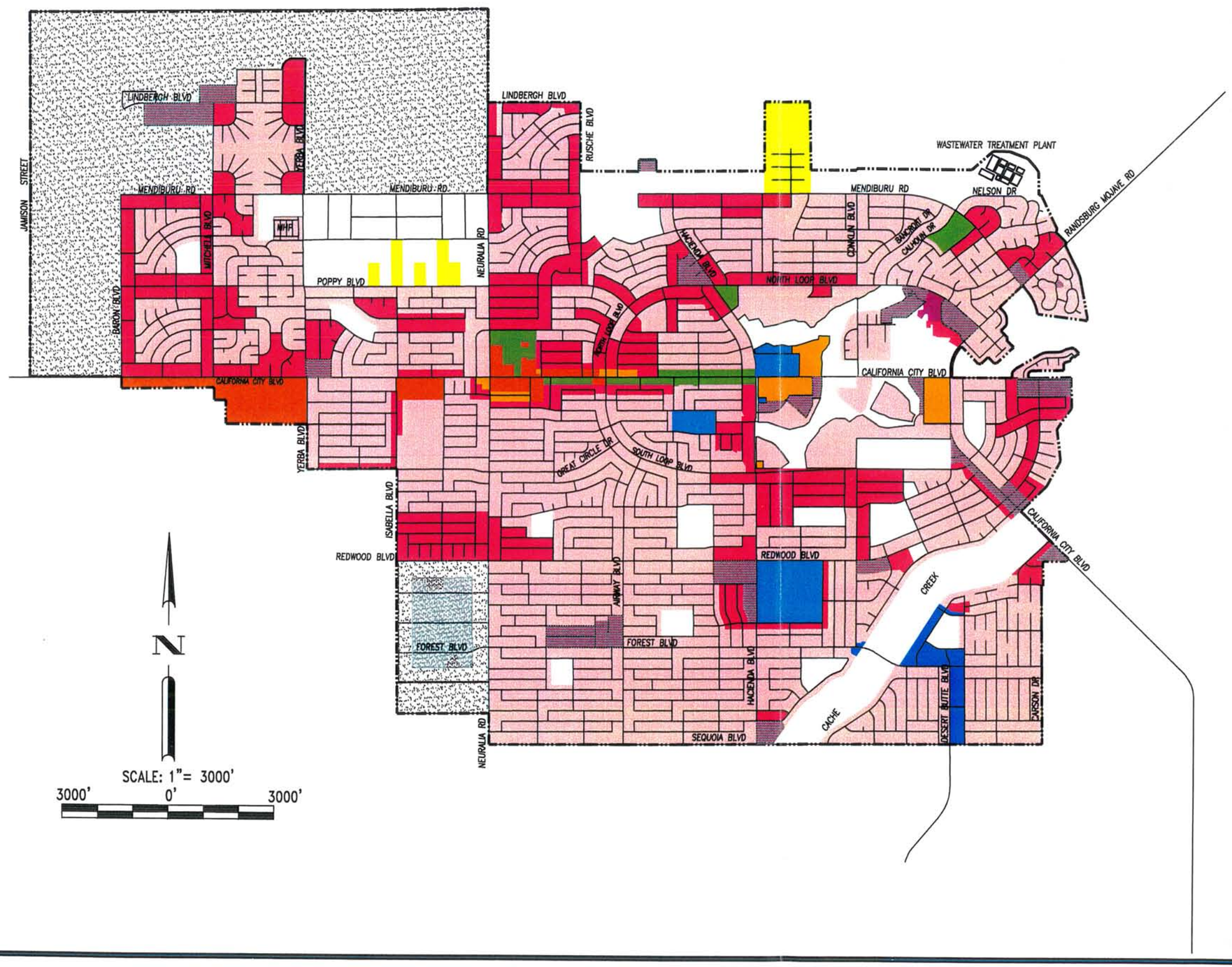

CALIFORNIA CITY

GENERAL PLAN LAND USE DESIGNATIONS (FOR CITY MASTER PLAN USE ONLY)

LEGEND

- Area Boundary
- R1 — Medium Density Residential
- R2 — Medium Low Density Residential
- R3 — Low Density Residential
- RM1/RM2 — High Density Residential
- C1 — Neighborhood Commercial
- C2 — Community Commercial
- C3 — Commercial/Office
- C4 — Service Commercial
- C5 — Regional Commercial
- G — Government (Public Facilities)
- M1 — Light Industrial & Research
- M2 — Heavy Industrial
- O/RA — Controlled Development, Public Parks & Recreation or Public Schools

FIGURE 3

SEPTEMBER 2002

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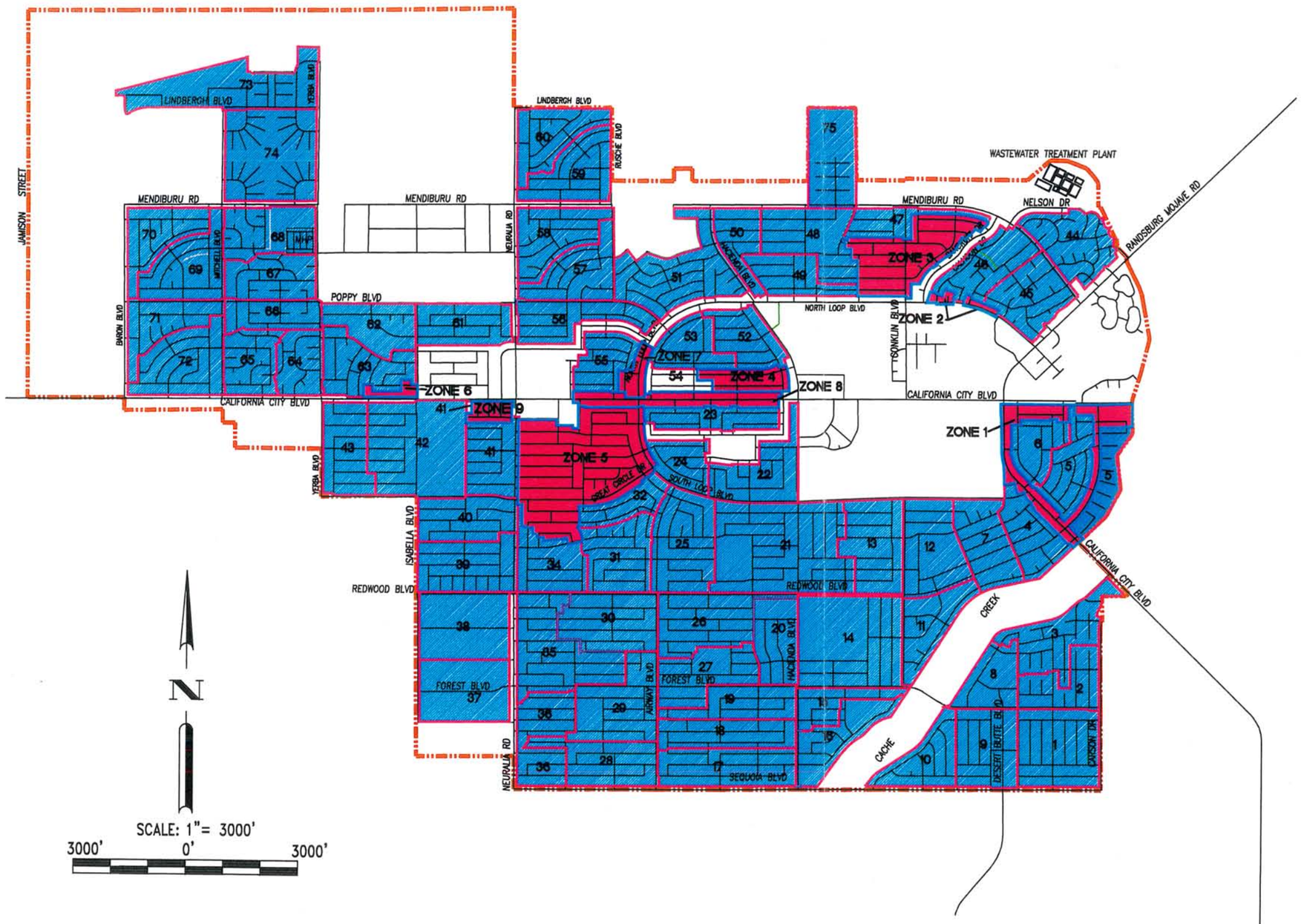

CALIFORNIA CITY

MEMORANDUM OF UNDERSTANDING LAND USE CONTROL AREAS

LEGEND

- 48 — CONTROL AREAS
- UNCONTROLLED AREAS
- SPECIFIC ZONES
- DEVELOPMENT DENSITY BOUNDARY
- ZONE 3 — PROPOSED SEWER ASSESSMENT DISTRICT ZONE
- STUDY AREA BOUNDARY

* DEVELOPMENT LIMITED TO TWO SEPTIC TANK-SERVICE DWELLING UNITS PER ACRE.

FIGURE 4

SEPTEMBER 2002

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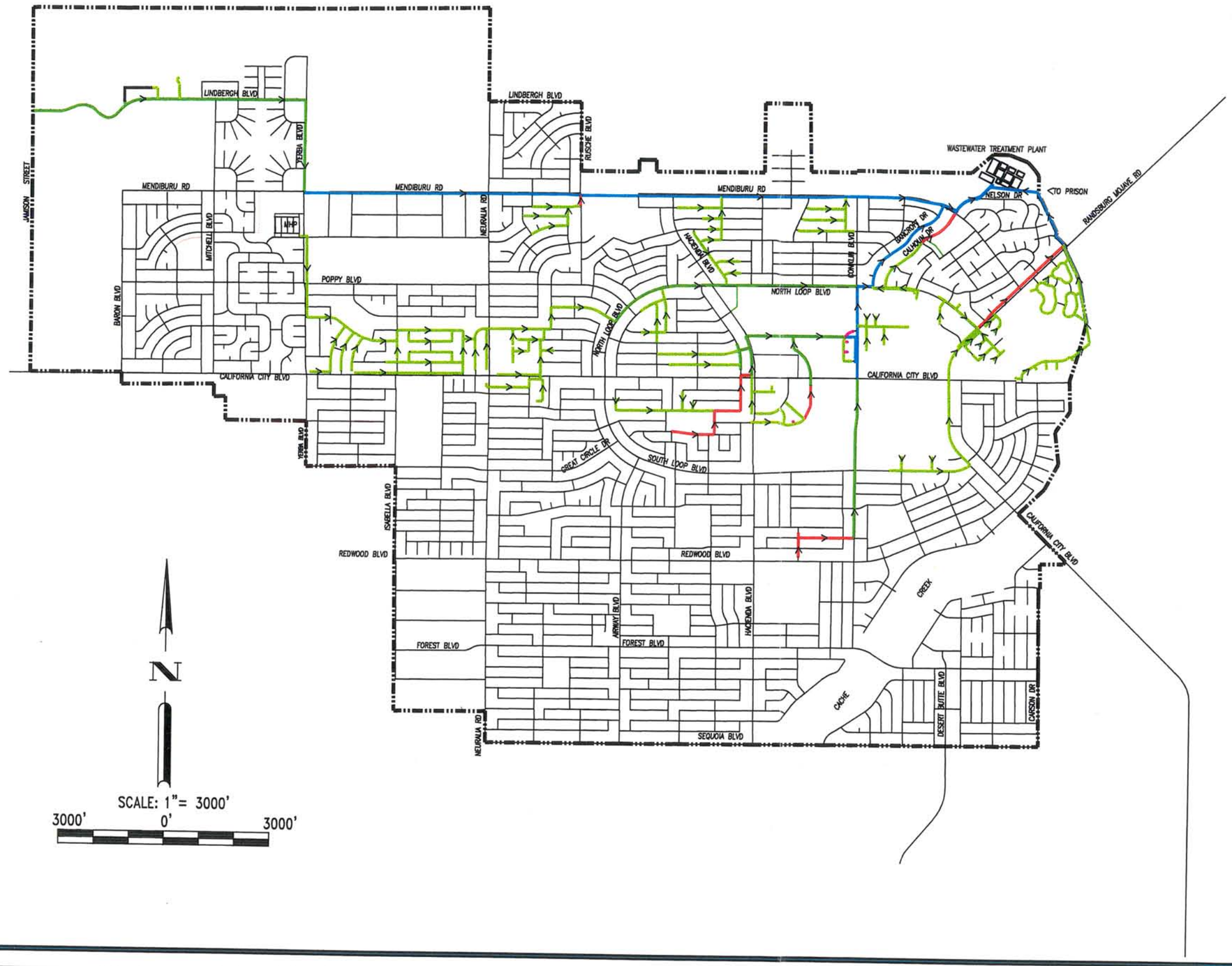

CALIFORNIA CITY

EXISTING SEWER SYSTEM

KEY

- 15"
- 12"
- 10"
- 8"
- 6"
- STUDY AREA BOUNDARY

FIGURE 5

SEPTEMBER 2002

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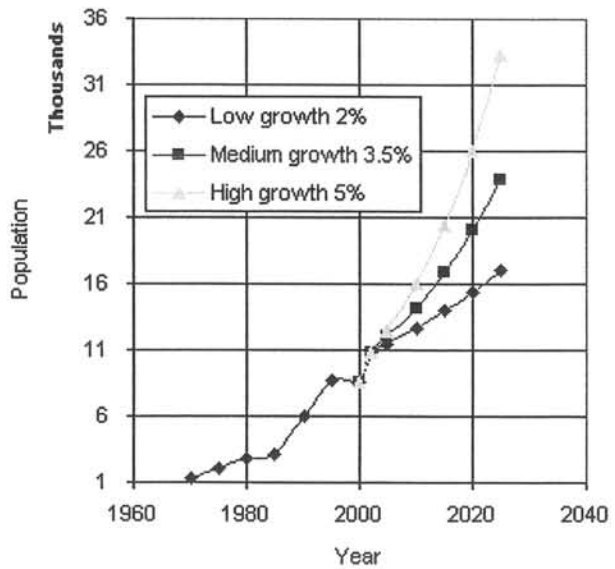
Table 2

POPULATION PROJECTIONS

Year	Population	Data Source	Projected Population: Low growth rate 2.0%	Medium growth rate 3.5%	High growth rate 5.0%
1970	1,309	a			
1975	2,091	a			
1980	2,743	a			
1985	3,096	a			
1990	5,955	a			
1995	8,668	a			
2000	8,525	a			
2002	10,818	b	10,818	10,818	10,818
2005			11,480	11,995	12,523
2010	11,846	c	12,676	14,248	15,982
2015			13,996	16,922	20,397
2020	15,016	c	15,453	20,098	26,033
2025			17,062	23,870	33,226

a. US Census 2000
b. California Dept. of Finance Official Estimates.
c. Kern COG from "Interim County Population Estimates"

Figure V-4
Historic and Projected Population



CHAPTER II

ANALYSIS

CHAPTER II – ANALYSIS

Existing System

The City's existing wastewater collection system is depicted on Figure 5 in the previous chapter. The system is composed of vitrified clay pipe (VCP) and polyvinylchloride (PVC) pipe, with concrete manholes. The existing system is in good condition, requiring no major repairs at this time. Sewage flows by gravity to the treatment plant, at which point it is pumped to enter the treatment facilities. The "backbone" components of the system are composed of 15-inch, 12-inch and 10-inch pipe at depths of 10 to 20 feet.

Design Constraints

Groundwater throughout the study area is well below any planned or practical sewer depths. Ground elevations vary from approximately 2,490 at the northwest border of the study area, and 2,450 at the southwest corner of the study area, to 2,320 at the treatment plant, sloping to the northeast at about 25 feet per mile. There are known areas of unstable soils such as sugar sands[1]. The existing "backbone" sewer system is generally at sufficient depth to permit some extensions thereof to serve unsewered areas but not in part, of sufficient size to serve development in such areas.

Design Criteria

FLOW RATES

Future, master plan, flow rates were determined using residential equivalent dwelling units (EDUs) based on land use. Flow rates from EDU's were based on the following assumptions:

Average flow rate per capita =	80 gallons per day[2]
Number of residents per dwelling unit =	3[3]
Average flow rate per EDU=	240 gallons per day

EDU's for residential land use areas were calculated by

[1] Sugar sand areas were encountered during construction of the Mendiburu sewer between Nuralia Road and Yerba Road. Loose sand was found on Landis between Isabella Blvd and Yerba Blvd.
[2] Table 2-6, Average wastewater flows from residential sources, Metcalf & Eddy, Inc. 2nd Edition, (1979). Information from the table was interpolated between, "average" home and "better" home to arrive at 80 gpcd.
[3] U.S. Census Bureau Data based on 2000 Census for the City of California City, http://factfinder.census.gov/home/en/datanotes/expsflu.htm. Based on the data, the average number of occupants per housing unit was 2.73. Three (3) was used for the model.

directly counting lots from the current land use map. For non-residential land uses, EDU's per acre were determined from assumed sewer loads per acre[4] divided by 240 gpd. The resulting EDU's per acre for each land use within the study area are:

Land Use	Description	Practical Density (EDU's per acre)
R-1	Medium Density Residential	6
R-2	Medium Low Density Residential	4
R-3	Low Density Residential	2
RM 1/2	High Density Residential	6
C1/2/3/4/5/ and G	Commercial and Government	18
M1	Light Manufacturing	3
M2	Heavy Industrial	30
O/RA	Open Space Recreational	0

PEAKING FACTORS

Sizing of sewer mains is based on the peak hourly non-pressure flow. Peak hourly flows may be calculated on any of several bases. In Lancaster, the peaking factor is set at 2.5. Lancaster also requires that trunk mains not flow more than one half using average flows. Kern County uses a peaking factor of 1.8. These formulas are simple and were developed for use on development projects. For the master plan however, to design total-city infrastructure, it is more appropriate to use a generally-accepted formula based on statistical methods to determine peaking factors. The formula, listed below, permits calculation of the flow characteristics of the entire community and of each of its service areas.

[4] Sewer loading for commercial and industrial land uses, was taken from City of Lancaster Engineering Design Guidelines, Policies and Procedures, (January 1997) and compared with Kern County Development Standards.

Q peak hourly/Q design average = $(18 + (P)^{1/2})/(4 + (P)^{1/2})$

Where P = Population in 1,000's[5]

Peak Factor Use: The peak factor is used for sizing sewer mains. The peak factor multiplied by the average flow rate provides the maximum flow the pipe should carry. Sewer pipes are sized based on peak and not average flow rates.

FLOW COEFFICIENTS

In order to provide conservative but realistic master plan pipe sizing Manning's equation using "n" flow coefficient of .013 was utilized. This flow coefficient is that normally used for vitrified clay pipe (VCP) design. Flow coefficients as low as n = .010 may be appropriate for polyvinylchloride piping; the usage of the higher coefficient in system design assures long-term competition by various pipe materials and resultant savings to the City. Manning's equation is listed below for reference:

$$V = \frac{1.486}{n} \quad r2/3 \quad s1/2$$

or

$$Q = \frac{0.463}{n} \quad d8/3 \quad s1/2$$

where
V= velocity in feet per second
n= roughness coefficient
r= hydraulic radius = area/wetted perimeter
s= slope in feet/second
Q= flow in cubic feet/second
d= diameter of pipe in feet

POPULATION PROJECTIONS

Population projections (see Table 2 and Figure 6) were utilized to determine future sewer capacity demands in the year 2020. An average growth rate of 3.5 percent was assumed.

It should, however, be recognized that growth in the study area will not occur uniformly in each service area; that, as a result of this non-uniformity, wastewater flows and pipe capacity utilization for the year 2020 horizon are only

[5] Health Education Services, A Division of Health Research, Inc., Recommended Standards for Wastewater Facilities, 1997 Edition, p 10-5. 518.439.7286. www.hes.org

theoretical. The pipe system must be sized for buildout populations in each service area and for the study area as a whole.

PIPE SLOPES

Pipe slopes utilized in the master plan design were selected to:

1. Flow at a minimum velocity of 2 feet per second with pipe flowing full or half full. This minimum flow velocity is needed to keep solids moving and is the general practice for communities in the State.

2. Assure sufficient in-street depth (twelve feet) at the upper, terminal, end of the trunk sewer for each service area

3. Wherever feasible, connect to existing trunk sewers

4. Minimize the need at buildout for pump stations

PHASING

The proposed master plan has been prepared to accommodate the following phasing.

A. Geographic

The master plan has been designed to serve three geographic areas - the northern, central and southern parts of the "first community" - so that construction timing in each area can be independently phased.

Master Plan Facilities

FACILITIES DESIGN

The master plan is designed to forecast potential construction needs for the year 2020, for buildout of the study area within the "first community", to accommodate potential industrial growth and, to a limited degree, to accommodate growth in areas bordering the study area.

Utilizing mapped data available from the City's records the total number of equivalent dwelling units currently existing in the study area was determined, and their location tributary to the existing sewer system and assumed extensions to that system tabulated. These existing equivalent dwelling units are tabulated in Table 3, Collection System Capacities, in the 'EDU' column under the Existing Demand heading. The assumed sewer service

areas (north, central, south) are depicted on Figure 7. The existing and planned trunk sewers for these service areas which constitute the basic master plan, and their sizes, are shown on Figure 8. The "node" designations (N-x, C-x, and S-x) shown on Figure 8 and on subsequent figures correspond with those in Table 3.

The peak flow figures under Existing Demand are based on the premise that all existing dwelling units (or their flow equivalent) "upstream" from the node-designated pipe lengths are connected to the sewer system, that average daily flows from each equivalent dwelling unit are 240 gallons, and that peak flows are calculated on the basis of the formula described earlier in this chapter. The "% Available Capacity" under the Existing Demand heading denotes the remaining capacity of the existing or planned trunk sewer system with only existing EDU's connected.

The second heading in Table 3, 20-Year Demand, reflects a 3.5 percent growth rate in each service area, resulting in essentially a doubling of sewer demand, and depicts the remaining capacities of the existing and planned trunk sewer system with all existing and new units connected.

The third heading in Table 3, Buildout Flow, reflects the flows and remaining capacities of existing and planned trunk sewers if all lots within the study area were occupied and connected to the sewer system. It is this phase of community development which must govern sewer sizes, depths and alignments. Table 4 documents the EDU (equivalent dwelling unit) basis for the flows summarized at buildout in Table 3.

TABLE 3
COLLECTION SYSTEM CAPACITIES

n= 0.013

Pipe Number	Pipe Dia. Inches	Length Feet	Slope Ft./Ft.	Capacity MGD	Existing Demand EDU	Existing Demand Peak Flow MGD	Existing Demand % Capacity Available	20 - Year Demand EDU	20 - Year Demand Peak Flow MGD	20 - Year Demand % Capacity Available	Build-Out Demand EDU	Build-Out Demand Peak Flow MGD	Build-Out Demand % Capacity Available
North Service Area													
0 -N1	10	2600	0.0088	1.33	2	0.002	100%	4	0.004	100%	1,131	0.922	31%
0 -N2	10	2600	0.0050	1.00	-	-	100%	-	-	100%	1,058	0.869	13%
N1 -N2	12	2600	0.0096	2.26	2	0.002	100%	4	0.004	100%	2,189	1.646	27%
0 -N3	8	2600	0.0088	0.73	28	0.029	96%	55	0.055	92%	477	0.423	42%
N2 -N4	12	2600	0.0146	2.78	4	0.004	100%	8	0.008	100%	2,677	1.959	30%
N3 -N4	8	2600	0.0108	0.81	28	0.029	96%	55	0.055	93%	565	0.494	39%
0 -N4	12	2600	0.0027	1.19	87	0.086	93%	172	0.164	86%	4,938	3.299	**-177%**
N4 -N5	15	5300	0.0053	3.03	135	0.130	96%	268	0.248	92%	7,742	4.808	**-59%**
N5 -N6	15	2600	0.0050	2.95	166	0.158	95%	329	0.300	90%	8,936	5.416	**-84%**
N6 -N7	15	6800	0.0031	2.32	248	0.231	90%	492	0.435	81%	9,658	5.776	**-149%**
N7 -N8	15	3800	0.0050	2.95	326	0.298	90%	646	0.558	81%	9,990	5.940	**-101%**
Central Service Area													
0 -C1	8	4600	0.0054	0.58	300	0.276	52%	595	0.517	11%	925	0.771	**-33%**
C1 -C2	8	2400	0.0046	0.53	669	0.576	**-9%**	1,326	1.061	**-100%**	4,119	2.830	**-434%**
C2 -C3	8	2000	0.0040	0.49	945	0.785	**-60%**	1,873	1.437	**-193%**	4,607	3.111	**-535%**
C3 -C4	12	3800	0.0055	1.71	1,633	1.275	25%	3,237	2.305	**-35%**	5,832	3.794	**-122%**
C4 -C5	12	3800	0.0037	1.40	1,738	1.346	4%	3,445	2.431	**-74%**	6,357	4.078	**-191%**
0 -C5	15	2640	0.0027	2.15	1,124	0.917	57%	2,228	1.671	22%	4,422	3.005	**-40%**
C5 -C6	15	3800	0.0047	2.87	3,663	2.562	11%	7,260	4.557	**-59%**	11,849	6.840	**-138%**
C6 -C7	15	1700	0.0129	4.75	3,989	2.754	42%	7,906	4.892	**-3%**	21,839	11.309	**-138%**
South Service Area													
0 - S1	12	2600	0.0119	2.51	-	-	100%	-	-	100%	1,710	1.328	47%
S1 - S2	15	6700	0.0066	3.38	90	0.089	97%	178	0.169	95%	3,011	2.167	36%
S2 - S6	15	4200	0.0036	2.49	314	0.288	88%	622	0.539	78%	3,419	2.416	3%
0 -S3	8	2800	0.0079	0.69	23	0.024	97%	46	0.046	93%	393	0.354	49%
S3 -S6	10	4000	0.0070	1.18	223	0.209	82%	442	0.394	67%	1,063	0.872	26%
0 -S4	15	2800	0.0068	3.44	4	0.004	100%	8	0.008	100%	2,352	1.752	49%
0 -S5	10	2800	0.0064	1.13	24	0.025	98%	48	0.048	96%	1,296	1.040	8%
S6 -S9	18	4400	0.0027	3.54	727	0.620	82%	1,441	1.142	68%	4,880	3.266	8%
S4 -S7	15	4000	0.0060	3.23	202	0.191	94%	400	0.360	89%	3,120	2.234	31%
S5 -S8	12	4000	0.0065	1.86	34	0.035	98%	67	0.067	96%	1,892	1.450	22%
S9 -S14	24	3000	0.0030	8.01	1,107	0.905	89%	2,194	1.649	79%	9,289	5.593	30%
S7 -S10	18	3900	0.0038	4.21	264	0.245	94%	523	0.460	89%	4,096	2.817	33%
S10 -S9	18	2600	0.0031	3.76	356	0.323	91%	706	0.604	84%	4,184	2.868	24%
S8 -S11	15	3900	0.0031	2.32	38	0.039	98%	75	0.074	97%	2,882	2.087	10%
S11 -S12	15	3000	0.0037	2.53	56	0.056	98%	111	0.108	96%	3,466	2.444	3%
S12 -S13	18	2500	0.0020	3.04	324	0.296	90%	642	0.554	82%	3,874	2.687	12%
S13 -S14	18	2700	0.0030	3.69	324	0.296	92%	642	0.554	85%	4,099	2.818	24%
S14 -S15	24	2700	0.0033	8.44	1,431	1.135	87%	2,836	2.058	76%	13,420	7.580	10%
S15 -S21	27	5200	0.0019	8.78	1,516	1.194	86%	3,005	2.163	75%	13,620	7.672	13%
0 -S16	12	2000	0.0020	1.03	1	0.001	100%	2	0.002	100%	455	0.405	61%
S16 -S17	12	2200	0.0018	0.98	2	0.002	100%	4	0.004	100%	861	0.723	26%
S17 -S18	12	2400	0.0021	1.05	5	0.005	99%	10	0.010	99%	1,000	0.826	21%
S18 -S19	15	2300	0.0017	1.74	5	0.005	100%	10	0.010	99%	1,227	0.991	43%
S19 -S20	15	1700	0.0018	1.75	5	0.005	100%	10	0.010	99%	1,227	0.991	43%
0 - S20	10	4000	0.0033	0.81	38	0.039	95%	75	0.074	91%	929	0.774	5%
S20 -S21	15	3900	0.0028	2.22	128	0.124	94%	254	0.236	89%	2,919	2.110	5%
S21 -S22	27	9800	0.0037	12.13	1,976	1.506	88%	3,917	2.712	78%	17,603	9.474	22%

TABLE 4
BUILD-OUT EDU BASED ON LAND USE AND LOT COUNT

North Service Area

NODE NO.	R-1		R-2		R-3		RM1/2		COM./GOVT.		MFG. (Light)		MFG. (Heavy)		O/RA		TOTAL EDU
	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	
N-1	414		-			-	237			-	160	480		-		-	1,131
N-2	343		-			-	235			-	160	480		-		-	1,058
N-3	313		-			-	164			-		-		-		-	477
N-4	424		-			-	57		41	738	351	1,053		-		-	2,272
N-5	285		-		35	70	91			-	786	2,358		-		-	2,804
N-6	817		-			-	377			-		-		-		-	1,194
N-7	330		-			160	160		4	72		-		-		-	722
N-8	332		-			-	-			-		-		-		-	332
SUBTOTALS	3,258		-	-	35	230	-	1,321	45	810	1,457	4,371	-	-	-	-	9,990

Central Service Area

NODE NO.	R-1		R-2		R-3		RM1/2		COM./GOVT.		MFG. (Light)		MFG. (Heavy)		O/RA		TOTAL EDU
	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	
C-1	498		-			-	103		18	324		-		-		-	925
C-2	56		-			-	78		170	3,060		-		-		-	3,194
C-3	148		-			-	160		10	180		-		-		-	488
C-4	474		-			-	211		30	540		-		-		-	1,225
C-5	2,022		-			-	432		139	2,493		-		-		-	4,947
C-6	290		-			-	60		40	720		-		-		-	1,070
SUBTOTALS	3,488		-	-	-	-	-	1,044	407	7,317	-	-	-	-	-	-	11,849

EDU = Equivalent Single Family Residential Dwelling Unit

TABLE 4
BUILD-OUT EDU BASED ON LAND USE AND LOT COUNT

South Service Area

NODE NO.	R-1		R-2		R-3		RM1/2		COM./GOVT.		MFG. (Light)		MFG. (Heavy)		O/RA		TOTAL EDU
	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	AREA (Acres)	EDU	
S-1	-		-		-		-		95	1,710		-		-		-	1,710
S-2	913		-		-		64		18	324		-		-		-	1,301
S-3	245		-		-		148			-		-		-		-	393
S-4	-		-		-		108		-	-	68	204	68	2,040		-	2,352
S-5	-		-		-		-			-	102	306	33	990		-	1,296
S-6	1,014		-		-		64			-		-		-		-	1,078
S-7	665		-		-		103			-		-		-		-	768
S-8	534		-		-		62			-		-		-		-	596
S-9	437		-		-		49			-		-		-		-	486
S-10	418		-		-		90		26	468		-		-		-	976
S-11	990		-		-		-			-		-		-		-	990
S-12	328		5		-		17		13	234		-		-		-	584
S-13	114		-		-		44			250		-		-		-	408
S-14	207		-		-		225			-		-		-		-	432
S-15	50		-		-		-			-		-		-		-	50
S-16	394		61		-		-			-		-		-		-	455
S-17	406		-		-		-			-		-		-		-	406
S-18	220											-		-			
S-19	220		-		-		56		5	90		-		-		-	366
S-20	509		-		-		150		15	270		-		-		-	929
S-21	342		-		-		171		25	450		-		-		-	963
S-22	707		-		-		123		13	234		-		-		-	1,064
SUBTOTALS	8,713	-	66	-	-	-	1,474		210	4,030	170	510	101	3,030	-	-	17,603
TOTALS	15,459	-	66	35	230	-	3,839		662	12,157	1,627	4,881	101	3,030	-	-	39,442

EDU = Equivalent Single Family Residential Dwelling Unit

TABLE 5
RELIEF MAIN ANALYSIS

n= 0.013

Pipe Number		Existing Pipe Dia. Inches	Proposed Parallel Main	Length	Slope Ft./Ft.	Existing Capacity MGD	Parallel Main Capacity	Existing Demand EDU	Existing Demand Peak Flow MGD	Existing Demand %Capacity Available	20 - Year Demand EDU	20 - Year Demand Peak Flow MGD	20 - Year Demand %Capacity Available	Build-Out Demand EDU	Build-Out Demand Peak Flow MGD	Build-Out Demand %Capacity Available
North Trunk Service Area																
0	-N1	10		2600	0.0088	1.33		2	0.002	100%	4	0.004	100%	1,131	0.922	31%
0	-N2	10		2600	0.0050	1.00		-	-	100%	-	-	100%	1,058	0.869	13%
N1	-N2	12		2600	0.0096	2.26		2	0.002	100%	4	0.004	100%	2,189	1.646	27%
0	-N3	8		2600	0.0088	0.73		28	0.029	96%	55	0.055	92%	477	0.423	42%
N2	-N4	12		2600	0.0146	2.78		4	0.004	100%	8	0.008	100%	2,677	1.959	30%
N3	-N4	8		2600	0.0108	0.81		28	0.029	96%	55	0.055	93%	565	0.494	39%
0	-N4	12	15	2600	0.0027	1.19	2.17	87	0.086	97%	172	0.164	95%	4,938	3.299	2%
N4	-N5	15	15	5300	0.0053	3.03	3.03	109	0.106	98%	216	0.203	97%	7,547	4.707	22%
C1	-N5	10		3900	0.0039	0.99		326	0.298	70%	646	0.558	44%	1,120	0.914	8%
N5	-N6	15	15	2600	0.0050	2.95	2.95	461	0.410	93%	914	0.762	87%	9,769	5.831	1%
C2	-N6	15		4100	0.0051	2.99		400	0.360	88%	793	0.671	78%	3,481	2.453	18%
N6	-N7	15	21	6800	0.0031	2.32	5.69	917	0.765	90%	1,818	1.401	83%	13,777	7.745	3%
N7	-N8	15	21	3800	0.0050	2.95	7.24	995	0.822	92%	1,972	1.503	85%	14,109	7.898	22%
Central Trunk Service Area																
0	-C1	8	8	4600	0.0054	0.58	0.58	300	0.276	76%	595	0.517	55%	925	0.771	34%
C1	-C2	8	15	2400	0.0046	0.53	2.83	369	0.334	90%	731	0.624	81%	3,194	2.279	32%
C2	-C3	8		2000	0.0040	0.49	-	276	0.255	48%	488	0.432	12%	488	0.432	12%
C3	-C4	12		3800	0.0055	1.71	-	964	0.800	53%	1,713	1.330	22%	1,713	1.330	22%
C4	-C5	12	8	3800	0.0037	1.40	0.47	1,069	0.877	53%	2,119	1.600	14%	2,238	1.678	10%
0	-C5	15		2640	0.0027	2.15	-	1,124	0.917	57%	2,228	1.671	22%	3,940	2.725	-27%
C5	-C6	15	15	3800	0.0047	2.87	2.87	2,994	2.156	62%	5,934	3.850	33%	7,730	4.801	16%
C6	-C7	15	21	1700	0.0129	4.75	11.65	3,320	2.356	86%	7,906	4.892	70%	21,839	11.309	31%

LEGEND

Parallel Relief Sewers

Relief Sewers to Outside Service Areas

EXCESS SEWER CAPACITY/ RELIEF SEWAGE

Two anomalies in the "% Available Capacity" figures should be explained:

1. There are sewers which display significant "excess" capacity at buildout. Such apparent excess capacity in most cases reflects the fact that the next smaller pipe size will not carry the design flow. In other cases allowance has been made for unanticipated slightly greater industrial flows (in the north service area) or for incremental flows from areas bordering the study area. It is worthy of note that the cost increment of a pipe one size larger than that which might minimally carry design flows is not significant compared to the cost of any required replacement or parallel pipes.

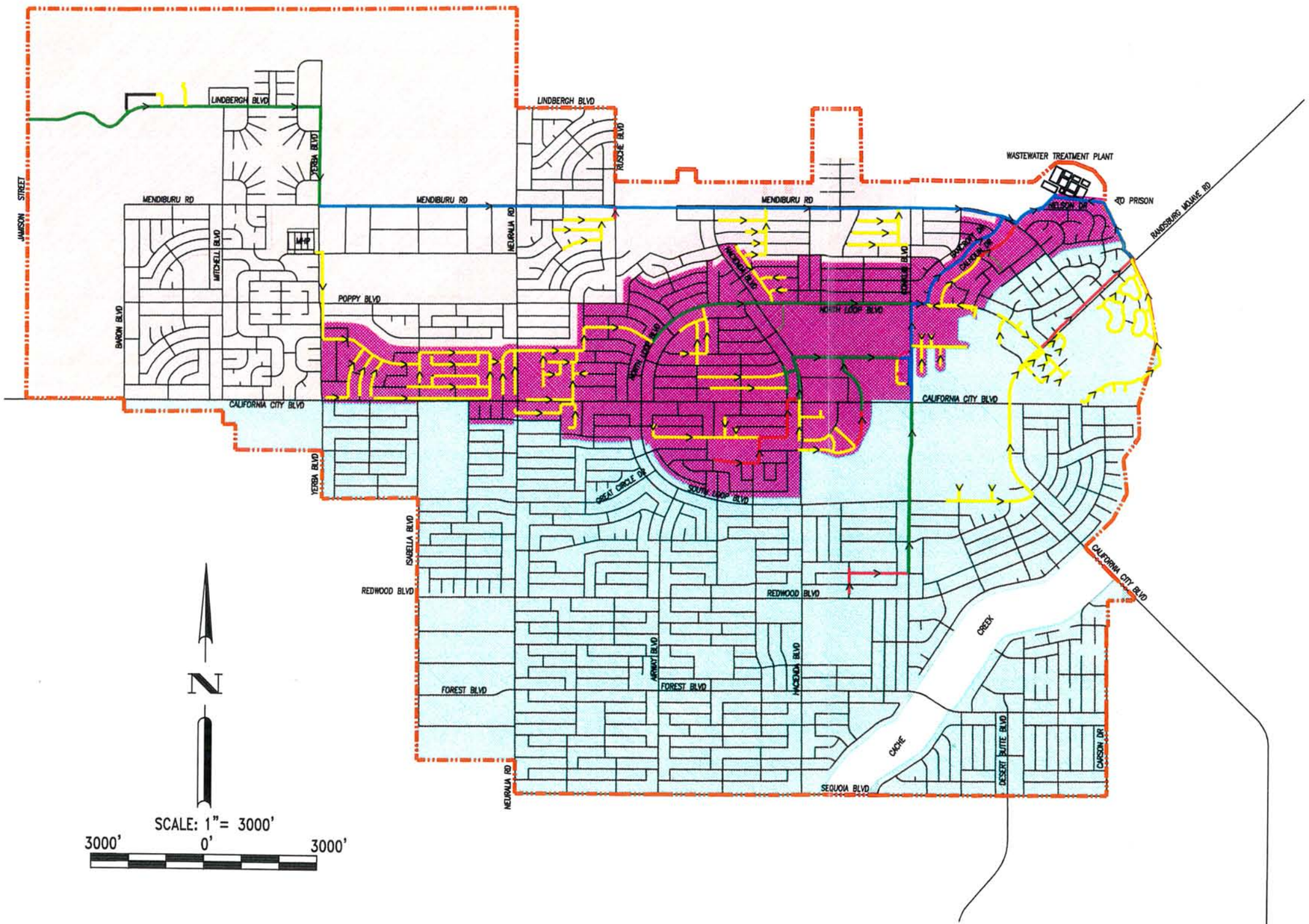
2. 20-Year Flow Demand calculations for the central service area, and buildout flow calculations for both the central and north service areas, disclose capacity deficiencies. The locations of these undersized facilities are shown on Figures 9 and 10.

Figure 11 shows the relief sewers necessary, supplemental to the master-planned trunk sewer system, to correct existing pipe-size deficiencies. The figure also shows existing sewer mains and the master plan trunk sewers.

The calculations upon which relief sewer main pipe sizes and depths were based are reflected in Table 5.

LIFT STATIONS

There are several areas in the north portion of the study area, and one small area in the southeast corner of the study area, that cannot economically be served by gravity sewerage. (See Figure 12.) Lift station costs for these areas including force main installation are covered in Chapter 4. It should be noted that the larger city-maintained lift stations are recommended for permanent master planned facilities. On an interim basis, the city may consider allowing smaller temporary lift stations until construction of the larger permanent stations are justified.



CALIFORNIA CITY

SEWER SERVICE AREAS

KEY

- 15", 12", 10", 8", 6" — EXISTING SEWERS
- NORTH TRUNK AREA
- CENTRAL TRUNK AREA
- SOUTH TRUNK AREA
- STUDY AREA BOUNDARY

FIGURE 7

SEPTEMBER 2002

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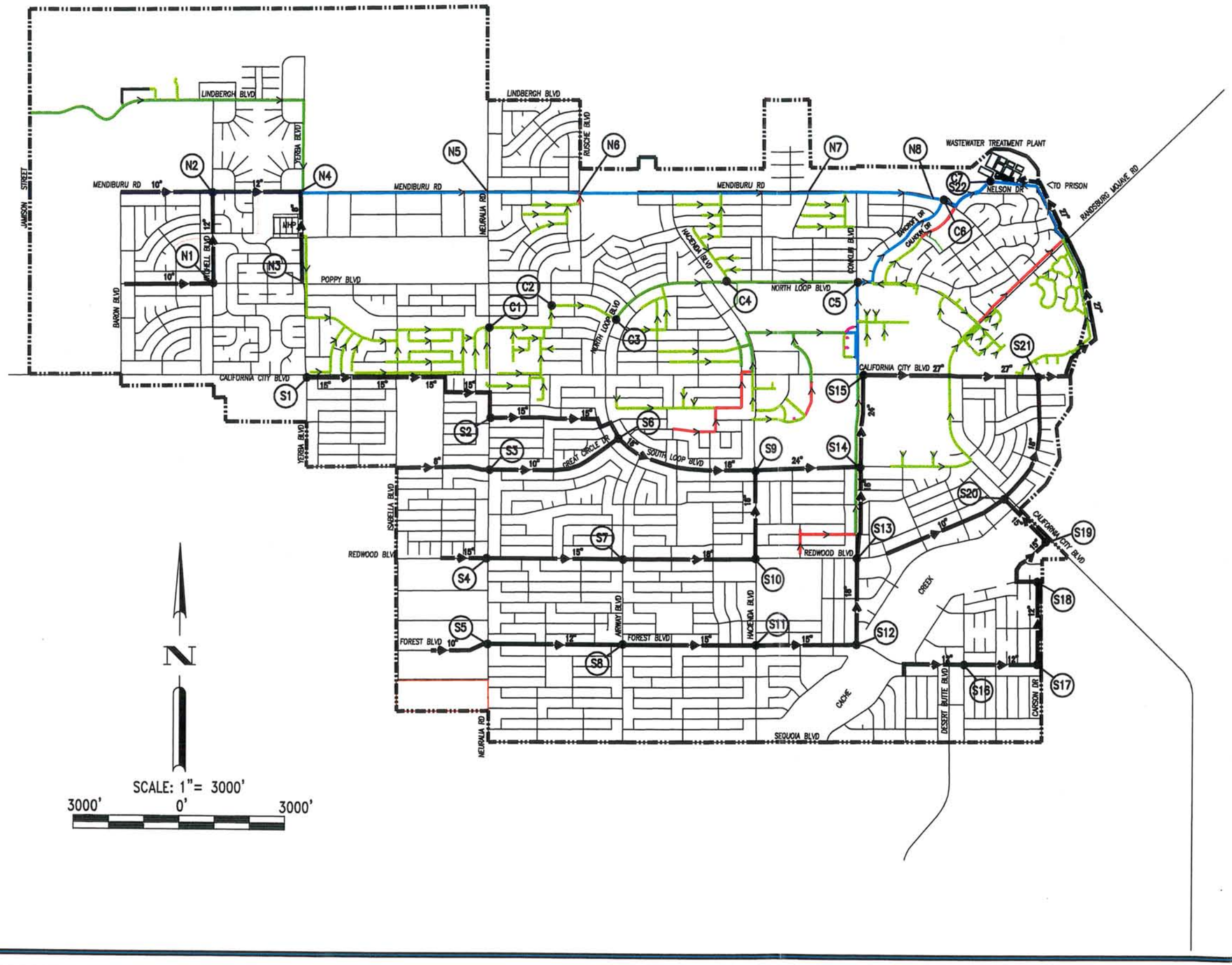

CALIFORNIA CITY

EXISTING AND MASTER PLANNED TRUNK SEWERS

KEY

- 15", 12", 10", 8", 6" — EXISTING SEWERS
- MASTER PLANNED TRUNK SEWERS
- N2 — ANALYSIS NODE NORTH TRUNK SERVICE AREA
- C3 — ANALYSIS NODE CENTRAL TRUNK SERVICE AREA
- S1 — ANALYSIS NODE SOUTH TRUNK SERVICE AREA
- STUDY AREA BOUNDARY

FIGURE 8

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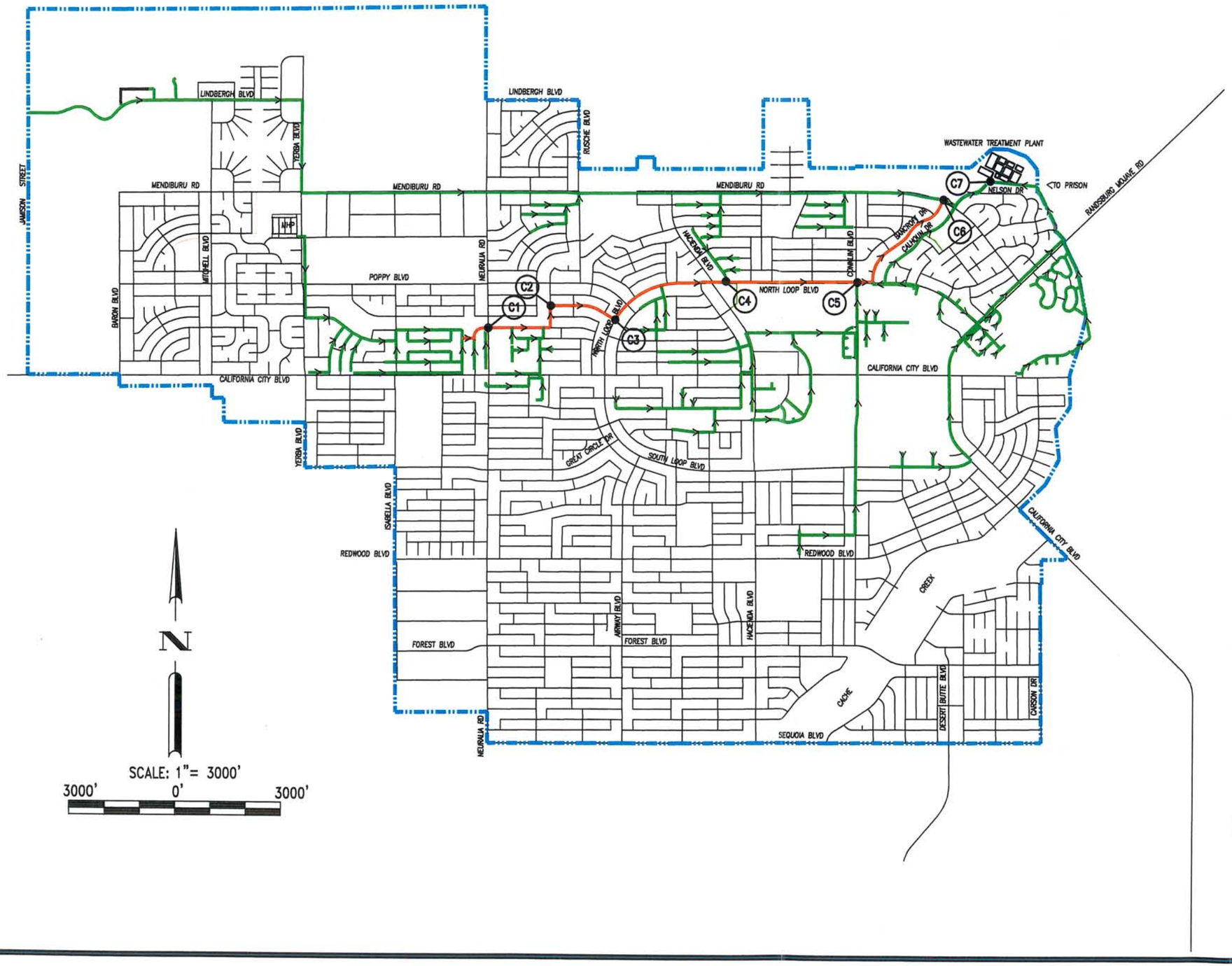

CALIFORNIA CITY

UNDERSIZED SEWERS 20-YEAR PROJECTED FLOW

KEY

- EXISTING MAIN (ADEQUATELY SIZED)
- EXISTING MAIN (UNDERSIZED)
- STUDY AREA BOUNDARY
- (C1) ANALYSIS NODE

FIGURE 9

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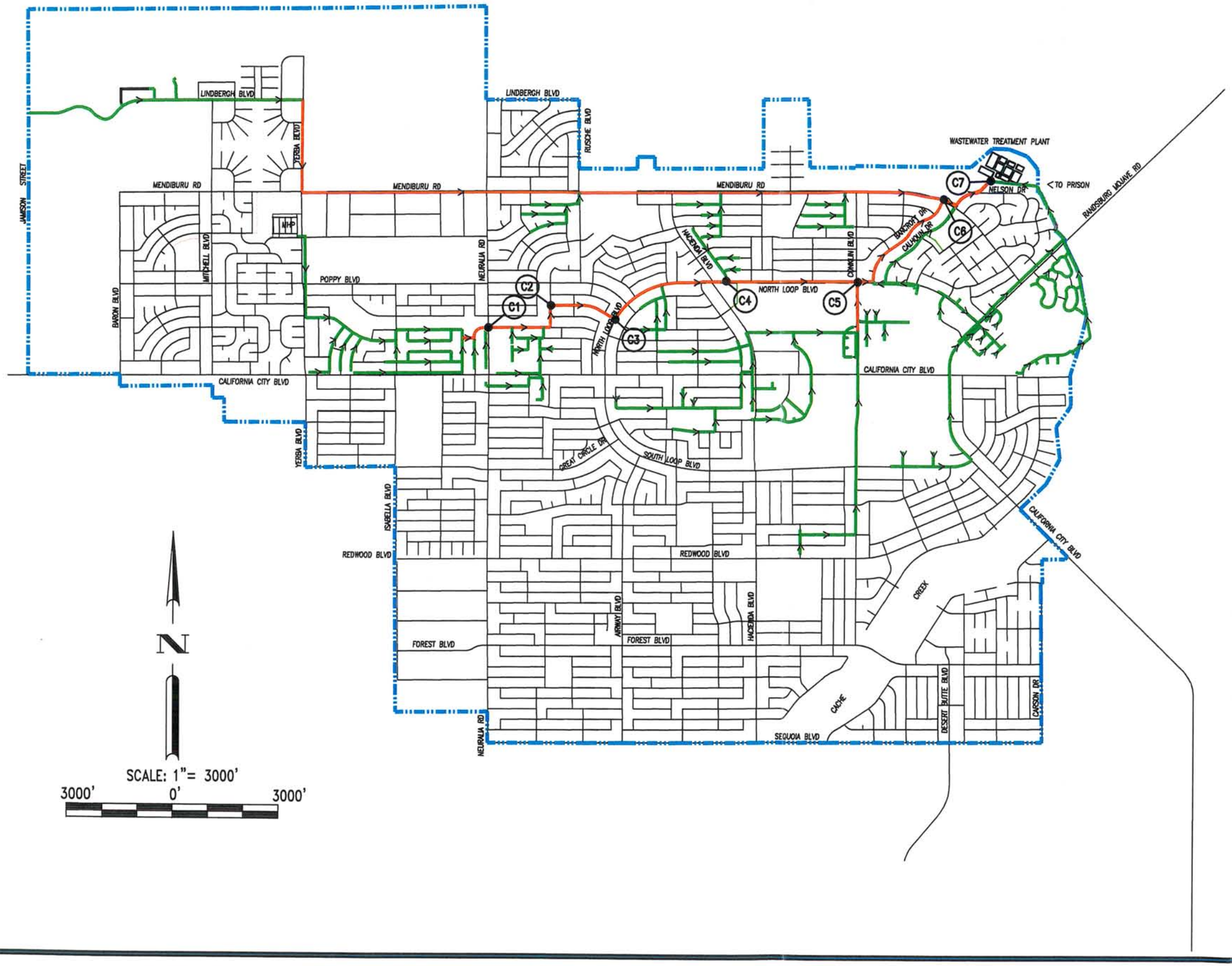

CALIFORNIA CITY

UNDERSIZED SEWERS BUILD-OUT PROJECTED FLOW

KEY

- EXISTING MAIN (ADEQUATELY SIZED)
- EXISTING MAIN (UNDERSIZED)
- STUDY AREA BOUNDARY
- (C5) ANALYSIS NODE

FIGURE 10

SEPTEMBER 2002

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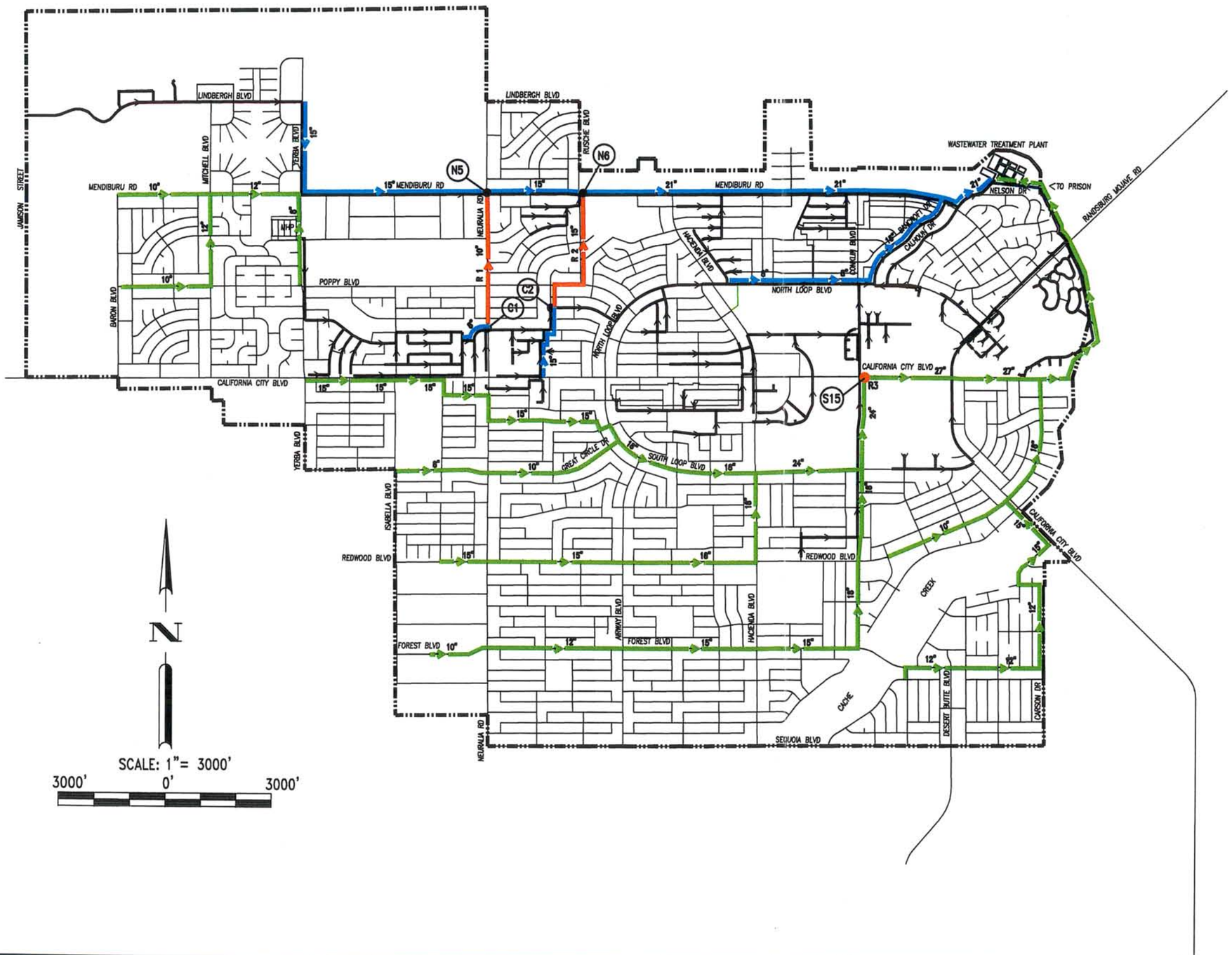

CALIFORNIA CITY

PROPOSED RELIEF SEWER MAINS

KEY

- EXISTING SEWER MAIN
- PROPOSED MASTER PLANNED SEWER MAIN
- R 1 10" — RELIEF SEWER TO OUTSIDE SERVICE AREA AND SIZES
- R3 — RELIEF CONNECTION POINT TO OUTSIDE SERVICE AREA
- 21" — PARALLEL RELIEF SEWER AND SIZES
- STUDY AREA BOUNDARY
- S15 — ANALYSIS NODE

FIGURE 11

SEPTEMBER 2002

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CHAPTER III

COST SUMMARY

CHAPTER III– COST SUMMARY

Costs have been estimated for the major components of the master sewer plan improvements on the following bases:

- Bid costs for recent public works, prevailing wage, projects involving similar pipe sizes have been compared.
- Polyvinylchloride (PVC) pipe and concrete manholes have been assumed.
- Pipe depths of 12 to 18 feet have been assumed, with the lesser depths associated with smaller, upstream, pipe sizes.
- Manholes have been estimated to be required at approximate 400 foot intervals.
- No lateral installations are included in cost summaries, nor are tees and wyes.
- Though almost all lines can be installed in unpaved roads at this time, during actual installation, the roads may be paved. Therefore, the costs include pavement restoration.
- No direct allowance has been made for trench dewatering (unlikely) or sugar-sand requiring excessive shielding or sheeting.
- It has been assumed that work will be done on a phased basis involving million dollar contracts or less.
- In view of the necessarily preliminary, schematic, status of system design, contingencies have been estimated at 15 percent.
- Assuming that much of the work may conceivably be done by assessment district, surveying, engineering, inspection, legal and assessment engineering costs have been estimated at 20 percent of costs plus contingencies.
- Costs are estimated at the current Engineering News-Record Construction Cost Index, (6588.70 for

September 2002) http://www.enr.com/cost/cost1.asp; inflationary trends will increase costs.

With these criteria and caveats, the master plan component costs are:

A. Master Planned Trunk Sewers

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
8" Sewer	5,400	LF	35	$ 189,000.00	
10" Sewer	14,600	LF	50	730,000.00	
12" Sewer	15,800	LF	65	1,027,000.00	
15" Sewer	31,000	LF	75	2,325,000.00	
18" Sewer	16,100	LF	90	1,449,000.00	
24" Sewer	5,700	LF	100	570,000.00	
27" Sewer	15,000	LF	105	1,575,000.00	
Manholes	259	EA	2,500	647,500.00	
Subtotal					$ 8,512,500.00
Contingencies @ 15%+/-					1,276,875.00
Subtotal					9,789,375.00
Engineering, Surveying, Inspection,Legal @20%+/-					1,957,625.00
Total					$ 11,747,000.00

B. Relief Sewers

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
8" Sewer	8,400	LF	35	$ 294,000.00	
10" Sewer	3,900	LF	50	195,000.00	
15" Sewer	20,800	LF	75	1,560,000.00	
21" Sewer	12,300	LF	95	1,168,500.00	
Manholes	114	EA	2,500	285,000.00	
Subtotal					$ 3,502,500.00
Contingencies @ 15%+/-					525,375.00
Subtotal					4,027,875.00
Engineering, Surveying, Inspection,Legal @20%+/-					805,125.00
Total					$ 4,833,000.00

C. Collection Sewers

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
8" Sewer	872,000	LF	35	$ 30,520,000.00	
Manholes	2,180	EA	2,500	5,450,000.00	
Subtotal					$ 35,970,000.00
Contingencies @ 15%+/-					5,395,500.00
Subtotal					41,365,500.00
Engineering, Surveying, Inspection,Legal @20%+/-					8,273,500.00
Total					$ 49,639,000.00

D. Collection Sewer Laterals

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
Lateral	20,000	EA	500 $	10,000,000.00	
Subtotal					$ 10,000,000.00
Contingencies @ 15%+/-					1,500,000.00
Subtotal					11,500,000.00
Engineering, Surveying, Inspection,Legal @20%+/-					2,300,000.00
Total					$ 13,800,000.00

E. Lift Stations

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
A				$ 450,000.00	
B				280,000.00	
C				140,000.00	
D				180,000.00	
E				150,000.00	
Subtotal					$ 1,200,000.00
Contingencies @ 15%+/-					180,000.00
Subtotal					1,380,000.00
Engineering, Surveying, Inspection,Legal @20%+/-					276,000.00
Total					$ 1,656,000.00

CHAPTER IV

FUNDING ALTERNATIVES

CHAPTER IV – FUNDING OF THE SEWER COLLECTION SYSTEM

Introduction

The City is impaled upon the horns of a dilemma regarding the phasing, funding and implementation of growth-related extensions of the City's sewer collection system:

- Legal lots have been established without provision for or installation of community wastewater collection facilities.

- The California Regional Water Quality Control Board, Lahontan Region, has allowed construction of residential dwellings up to a density of two per acre with service by septic tanks and leach lines or other onsite wastewater treatment and disposal facilities. (See Memorandum of Understanding, Appendix A.)

- The passage of Proposition 218, in 1996, has prohibited the usage of assessments or fees to finance future installations of sewer lines, and has further circumscribed the City's ability to successfully form assessment districts to provide sewer service. (See Excerpts, Proposition 218, Appendix B.)

Alternatives

The following admittedly difficult and imperfect alternatives to permit the phasing and implementation of wastewater collection facilities are offered for City consideration, without recommendations as to their prioritization or political feasibility.

1. The City continue to allow onsite disposal for new construction with the understanding that prior to exceeding the maximum development densities mandated by the Regional Water Quality Control Board (RWQCB), sewers would have to be constructed. Financing this construction could be by assessment district (1913 Act) and/or through the use of Planned Sewer Areas (PSA).

2. The City charge a trunk sewer connection fee at the time of connection to cover the cost of the future backbone sewer system.

3. City Council policy adoption, by ordinance or resolution, of a policy that street funding and construction will be timed to encourage sewer

construction in discrete development areas, utilizing the formation of sewer assessment districts which will permit connection of new and existing residences to the City's collection system.

4. City petition of, and action by, the Lahontan Regional Water Quality Control Board to rescind its present policy permitting limited usage of onsite disposal systems within the incorporated limits of California City, and prohibiting such usage.

5. A City request for, and enactment of, special-purpose legislation requiring the prohibition described in Alternative 2.

Discussion of Alternatives

In brief discussion of these alternatives, all of which must be subject to legal analysis:

1. Improvements financed by assessment district and/or Planned Sewer Area (Alternate No. 1), could include only those facilities needed to serve the area being assessed (onsite improvements) or could include offsite downstream improvements such as master planned trunk sewers, relief mains or lift stations that benefit other areas. In the first case, assessment district financing for the benefit of that area only would be recommended. In the second case, where offsite improvements benefit a larger population, the improvements could be fully or partially financed by assessment district bonds with the balance paid by other funds (loans, grants, cash, etc). The other funding or excess assessments could be retired through the use of a Planned Sewer Area (PSA). With a Planned Sewer area, the area of benefit would be defined and as those within the area connected, their connection fee would be that specifically calculated for the PSA. The PSA in this alternate would be for the benefit of those within a given trunk service area, not a citywide PSA.

2. Alternate No. 2 involves calculating a connection fee for trunk sewer service based on dividing the cost of the proposed backbone system by the number of equivalent dwelling units (EDU) that will be served in the future. For purposes of this calculation, the backbone system would include only the gravity mains proposed (master planned mains and relief mains). Lift stations, local

collection sewers and laterals would be additive and calculated separately.[1] The fee would be subject to annual adjustments indexed to the Engineering News Record Construction Cost index previously discussed. Currently, the connected load to the existing system, excluding the prison, is approximately 1,340 EDU's. The remaining unconnected EDU's within the study area are approximately 39,442 (See Table 4). The cost of installing the backbone sewer system today is approximately $16,580,000 (Master planned sewers - $11,747,000; Relief Sewers - $4,833,000). Dividing the total cost by the remaining EDU's produces a trunk sewer connection fee of $420.36 per EDU.

Assessment district financing, as described in alternate 1 above, is recommended for localized areas that form to complete onsite sewers in advance of exceeding their maximum development densities mandated by the RWQCB. The PSA is recommended to establish a citywide service connection fee to cover the cost of offsite master planned trunk sewers. According to Proposition 218, this connection fee would be acceptable if the person connecting into the sewer system immediately receives sewer service. It would not be legal if the person was connecting to a dry sewer in hopes of receiving sewer service in the future.

Money would be collected in the PSA and used to finance trunk or relief sewers on an as needed basis. If there weren't enough money to pay for the trunk line when the need was identified, the City would have the option to seek for other financing sources that may be reimbursed by the PSA as funds become available. Another option is to disallow any further connection to the trunk service area until funds become available.

If a localized area exceeds maximum development densities mandated by the RWQCB and it is located a considerable distance from any physical trunk sewer, its onsite mains could be paid for with assessment proceedings. If there were not enough money in the PSA to extend a trunk main to their location, the localized area would have two options. They could

[1] The total current cost of lift stations, local collection sewers and laterals is approximately $63,025,000. The benefit of those facilities is for individual areas being served and is best financed by assessment districts at the time they are constructed.

either extend the main and be reimbursed through the PSA as funds became available, or they could install a temporary lift station and pump to the trunk line. The cost of the lift station including operations and maintenance would rest with the localized area.

3. This third alternative may be fairly effective but will require both initial and continuing dedication by the City Council in defending the policy against the wishes of those who desire development utilizing onsite wastewater disposal.

4. The City would, in order to secure this change in existing Lahontan Board policy (Alternate 4), need to present solid evidence that the existing policy will contribute, in the long run, to degradation of groundwater or to human health violations. The Board will, of course, receive opposition from lot owners.

5. Under Alternate five, the legislature is not bound by the same rules of evidence as the Regional Board. Success at this level would be dependent upon the City's relationships with its legislative representatives, the presentation of arguments regarding the City's unique circumstances, and the relative political influence of lot owners, as well as the weight of evidence regarding water quality or health hazards.

Alternates 3, 4 and 5 would ultimately benefit the city by concentrating development and thereby reducing costs in developing and maintaining infrastructure. In other words, a higher concentration of development would mean less street, sewer, water and other infrastructure to be maintained per capita. It would also decrease response time for emergency services.

The pursuit of Alternates 3, 4 and 5 could help provide leverage to expedite this alternative. People would be more willing to connect to sewer if other services such as new streets are included. With the eventuality of the Board imposing further restrictions on wastewater disposal, there will be more of a sense of urgency to participate.

None of the alternatives represent an ideal solution to the City's sewer collection system expansion needs. Each such

solution is dependent, in the final analysis, upon the City's ability to encourage concentric growth and its success in forming assessment districts as needed to serve such growth.

It seems unlikely that any Citywide bond issue, whether general obligation or revenue, for a major sewer system expansion would succeed. Sewer rates cannot be utilized to fund future system expansion; neither can connection fees. Assessment districts to serve specific growth areas as described in alternative number 1, appear to be the only viable financing mechanism.

CHAPTER V

RECOMMENDED IMPLEMENTATION MEASURES

CHAPTER V – RECOMMENDED IMPLEMENTATION MEASURES

In order to implement, simultaneously or sequentially, any or all of the three alternative approaches described in Chapter Four several steps must be undertaken by the City, its staff, and to the degree required, its consultants.

It is suggested that it may be desirable to initiate all three approaches simultaneously so that undue delay in implementation will not be incurred should one or another approach encounter irresoluble legal or policy difficulties.

With respect to implementation of any of the approaches, an intensive program of Council familiarization with and public information regarding the need for an expanded community sewer system, and the long-term health and water quality hazards inherent in continued development with onsite waste disposal must be undertaken. Council unanimity in support of this objective will be essential.

Each of the alternative approaches require preparatory work by the City:

- Alternative (1) is for smaller individual areas. Its impact would not affect the entire city at any one given time. The city has utilized with success, a number of assessment districts for the purpose of constructing sewer improvements. In addition to the assessment districts, however, planned sewer areas (PSA) are also recommended to ensure that the backbone components are constructed on an as-needed basis. Again, the PSA's recommended with Alternative 1 are for localized trunk service areas. Assessment districts and PSA's are implemented in a similar manner using legal counsel, engineering reports and public hearings.

- Alternative (2) would require review and approval by legal counsel prior to adoption by City council. Proposition 218 states that, "Fees or charges based on potential or future use of a service are not permitted." If the fee is charged at the time of connection, the service is provided. Though the fee may be for future work, it covers the impact that connection will have on the future system.

REFERENCES

REFERENCES

Health Education Services, A Division of Health Research, Inc., Recommended Standards for Wastewater Facilities, 1997 Edition, p 10-5. 518.439.7286. www.hes.org

Fair, G.M. and Geyer, J.C., Water Supply and Waste Water Disposal, 1st Edition, John Wiley & Sons, Inc., New York (1954), p. 136.

Metcalf & Eddy, Inc., George Tchobanoglous, Wastewater Engineering: Treatment Disposal Reuse, 2nd Edition, McGraw-Hill Book Company, (1979).

City of Lancaster Department of Public Works, ENGINEERING DESIGN GUIDELINES Policies and Procedures, January 1997.

Kern County Resource Management Agency, KERN COUNTY Development Standards, August 1995.

U.S. Census Bureau, U.S. Census Bureau Data, based on 2000 Census for the City of California City, http://factfinder.census.gov/home/en/datanotes/expsflu.htm.

USGS Quadrangle Map, California City North, California-Kern Co., 7.5 Minute Series (Topographic), 1973.

USGS Quadrangle Map, California City South, California-Kern Co., 7.5 Minute Series (Topographic), 1973.

USGS Quadrangle Map, Sanborn, California-Kern Co., 7.5 Minute Series (Topographic), 1973, (Minor Revision 1994).

Montgomery Watson, City of California City Wastewater Treatment Plant Upgrade Volume II - Drawings, Sheet 5M-1, April 2000.

Peter Smith, Kern Council of Governments (COG), Population Projection Data, Telephone interview, 3 January 2002.

RRM Design Group, The Villages of California City Specific Plan, Draft, Figure 12, August 1992.

California City Municipal Code, Chapter 2, Sanitation Service, Title 7, 2001.

California City Municipal Code, Chapter 6, Article 2 Preservation of SDI Fund, Rev. 01/98.

California State Legislature, Proposition 218 Implementation Statutes, Sections 53739-53753.5, 1996.

APPENDIX A

MEMORANDUM OF UNDERSTANDING BETWEEN CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION AND CITY OF CALIFORNIA CITY, 1989;
"SEPTIC TANK GUIDELINES"

This requirement also applies to domestic wastewater discharges from new commercial and industrial developments with wastewater discharge volumes exceeding two EDUs per acre density (500 gal/day/acre based on 250 gal/day/EDU). On June 16, 1988, the State Water Resources Control Board approved the revisions. For purposes of this Memorandum of Understanding, gross acreage is that area which encompasses the entire net lot area plus any underlying fee title within the adjacent right(s)-of-way, if any.

Inasmuch as the City has incorporated into its review criteria the "Minimum Criteria for Subsurface Discharge of Sewage" contained in the Board's guidelines, and has consistently applied these criteria in its review of proposed developments, it is not against the public interest for the Board to reduce its oversight work by eliminating redundant review of proposed projects.

It is agreed that:

I. The City is authorized to issue construction permits for projects that utilize individual subsurface disposal systems without Regional Board approval under the following conditions:

A. All of the following:

1. The on-site soil characteristics comply with established "Minimum Criteria for Individual Waste Disposal Systems as adopted by Resolution 6-88-15; and

2. The discharge is composed of <u>domestic</u> wastewater only; and

B. One of the following:

1. The development consists of single-family residences, multiple-family residences, non-residential or of mixed occupancy and the cumulative development density in the specified area, as defined on Map "A" which is made a part of this memorandum, does not exceed two equivalent dwelling units (EDUs) per acre (500 gallons/acre/day wastewater

flow). The estimated wastewater flow from non-residential or mixed occupancy developments shall be determined using Table I-2 and I-3 in the Uniform Plumbing Code and occupant loads as determined by Table 33A in the Uniform Building Code; or

2. The development consists only of a single-family home on an individual lot, subdivided prior to January 14, 1988, which has a minimum net area of 15,000 square feet; or

3. The project is in a class that has been designated exempt from Regional Board review in writing under signature of the Regional Board Executive Officer; or

4. The project/development has been granted an exemption by the Board and complies with the City's standards for use of septic tank wastewater disposal systems.

II. The City shall <u>not</u> issue construction permits without Regional Board approval for the following projects:

A. Projects that involve domestic wastewater discharge from residential, commercial or industrial development if the cumulative development density in the specified area as defined on Map "A" is in excess of two EDUs/acre or 500 gallons/acre/day as determined by the Board (except in exempted areas); or

B. Projects that will have industrial wastewater discharges; or

C. Projects that do not comply with the City's standards for use of septic tank wastewater disposal systems; or

D. Projects located within existing waste discharge prohibition areas (unless in areas exempted in I.B. above); or

E. Projects utilizing package wastewater treatment plants with on-site disposal; or

III. The City, at its discretion, may defer consideration of projects, based on water quality impacts, to the Board for any projects even if it appears that compliance with Section I. of this Memorandum of Understanding has been achieved.

IV. The City, at its discretion, may require the formation of a public entity (as defined in the State of California Government Code Section 53090 et seq.) to maintain septic systems in residential developments of one hundred (100) lots or more.

V. The Board may review permits issued by the City at its discretion. Copies of permits will be made available upon request for review in City offices.

VI. The Board, upon reviewing permits issued by the City, may require proposals be submitted and/or waste discharge requirements (permits) be obtained for all other types of waste discharges such as stormwater runoff and solid waste leachate.

VII. The City, on its own initiative or at the request of an applicant and upon providing the information specified in the implementation guidelines, may apply for individual, large scale, or area-wide exemptions.

VIII. The applicant, for projects found in compliance with the Board's guidelines, will be notified of acceptance by issuance of a City building permit or by issuance of a Board clearance letter.

IX. The City shall maintain a record of all documents submitted and reviewed under this Memorandum of Understanding. This record shall be kept as a note on the construction permit for each project.

X. This Memorandum of Understanding shall be effective immediately after execution of this agreement and shall remain in full force until terminated by a prior thirty (30) day written notice by either party.

XI. This Memorandum of Understanding may be amended as mutually agreed to by the City and the Regional Board.

XII. All notices and communications under this Memorandum of Understanding shall be addressed to the following:

Peggy L. Rosler
City of California City
City Manager
21000 Hacienda Blvd.
California City, Ca 93505

O.R. Butterfield
California Regional Water Quality
Control Board, Lahontan Region
15371 Bonanza Road
Victorville, Ca 92392-2494

This Memorandum of Understanding is executed on the date of the most recent signature below, by the following authorized representatives of the parties.

Peggy L. Rosler
City Manager

Date 3/20/89

O.R. Butterfield
Executive Officer

Date 3-24-89

APPENDIX B

EXCERPTS, PROPOSITION 218

PART VII. "PROPOSITION 218 IMPLEMENTATION STATUTES"

INCLUDING ARTICLE XIII D

Article 4.3

LOCAL LEVIES

§53739 Rates or amounts; voter-approved ordinances or resolutions; adjustments

(a) An ordinance or resolution presented for voter approval pursuant to this article or to Article XIIIC or XIIID of the California Constitution may state a range of rates or amounts. If the ordinance or resolution is approved by the requisite number of votes at an election held for that purpose, the governing board of the adopting local government may thereafter impose the tax, assessment, or property-related fee or charge at any rate or amount that is less than or equal to the maximum amount authorized by the voter-approved ordinance or resolution.

(b) (1) Except as provided in paragraph (2), an ordinance or resolution presented for voter approval pursuant to Article XIIIC or XIIID of the California Constitution may provide that the tax, assessment, or property-related fee or charge rates or amounts stated in that ordinance or resolution may be adjusted for inflation pursuant to a clearly identified formula stated in that ordinance or resolution. If an ordinance or resolution described in the preceding sentence is approved by the requisite number of votes at an election held for that purpose, the governing board of the adopting local government may thereafter impose the tax, assessment, or property-related fee or charge at any rate or amount that is less than or equal to the inflation-adjusted maximum amount authorized by the voter-approved ordinance or resolution.

(2) Notwithstanding the authority established in paragraph (1), if the amount or rate of a tax, assessment, or property-related fee or charge is determined by using a percentage calculation, the ordinance imposing the tax, assessment, or property-related fee or charge may not provide that the percentage will be adjusted for inflation.

Article 4.6

PROPOSITION 218 OMNIBUS IMPLEMENTATION ACT

§53750 Definitions

For purposes of Article XIIIC and Article XIIID of the California Constitution and this article:

(a) "Agency" means any local government as defined in subdivision (b) of Section 1 of Article XIIIC of the California Constitution.

(b) "Assessment" means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. "Assessment" includes, but is not limited to, "Special Assessment," "Benefit Assessment," "Maintenance Assessment," and "Special Assessment Tax."

(c) "District" means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) "Drainage system" means any system of public improvements that is intended to provide for erosion control, landslide abatement, or for other types of water drainage.

(e) "Extended," when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) "Flood control" means any system of public improvements that is intended to protect property from overflow by water.

(g) "Identified parcel" means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h) (1) "Increased," when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee or charge.

(B) Revises the methodology by which the tax, assessment, fee or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be "increased" by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax or fee or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, or fee or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee or charge is not deemed to be "increased" in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, or fee or charge, if those higher payments are attributable to events other than an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) "Notice by mail" means any notice required by Article XIIIC or XIIID of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIIIC or XIIID of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) "Record owner" means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) "Registered professional engineer" means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(l) "Vector control" means any system of public improvements or services that is intended to provide for the surveillance and control of vectors as defined in subdivision (f) of Section 2200 of the Health and Safety Code.

(m) "Water" means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water.

§53753 Notice, protest, and hearing requirements

(a) The notice, protest, and hearing requirements imposed by this section supersede any statutory provisions applicable to the levy of a new or increased assessment that is in existence on the effective date of this section, whether or not that provision is in conflict with this article. Any agency that complies with the notice, protest, and hearing requirements of this section shall not be required to comply with any other statutory notice, protest, and hearing requirements that would otherwise be applicable to the levy of a new or increased assessment, with the exception of Division 4.5 (commencing with Section 3100) of the Streets and Highways Code. If the requirements of that division apply to the levy of a new or increased assessment, the levying agency shall comply with the notice, protest, and hearing requirements imposed by this section as well as with the requirements of that division.

(b) Prior to levying a new or increased assessment, or an existing assessment that is subject to the procedures and approval process set forth in Section 4 of Article XIIID of the California Constitution, an agency shall give notice by mail to the record owner of each identified parcel. Each notice shall include the total amount of the proposed assessment chargeable to the entire district, the amount chargeable to the record owner's parcel, the duration of the payments, the reason for the assessment and the basis upon which the amount of the proposed assessment was calculated, and the date, time, and location of a public hearing on the proposed assessment. Each notice shall also include, in a conspicuous place thereon, a summary of the procedures for the completion, return, and tabulation of the assessment ballots required pursuant to subdivision (c), including a statement that the assessment shall not be imposed if the ballots submitted in opposition to the assessment exceed the ballots submitted in favor of the assessment, with ballots weighted according to the proportional financial obligation of the affected

ARTICLE XIII D

[ASSESSMENT AND PROPERTY RELATED FEE El

§ 1. Application of article

Sec. 1. Application. Notwithstanding any other provision of law, the ov
to all assessments, fees and charges, whether imposed pursuant to state statute or
Nothing in this article or Article XIII C shall be construed to:

(a) Provide any new authority to any agency to impose a tax, ass
charge.

(b) Affect existing laws relating to the imposition of fees or charg a
property development.

(c) Affect existing laws relating to the imposition of timber yield tes

§ 2. Definitions

Sec. 2. Definitions. As used in this article:

(a) "Agency" means any local government as defined in subdivisi (b
of Article XIII C.

(b) "Assessment" means any levy or charge upon real property ar
conferred upon the real property. "Assessment " include: br
assessment," "benefit assessment," "maintenance assessment"

(c) "Capital cost" means the cost of acquisition, installation, on
replacement of a permanent public improvement by an agency.

(d) "District" means an area determined by an agency to contain all rce
benefit from a proposed public improvement or property-relate

(e) "Fee" or "charge" means any levy other than an ad valorem ta a
imposed by an agency upon a parcel or upon a person as a
including a user fee or charge for a property related service.

(f) "Maintenance and operation expenses" means the cost of rent, ai
fuel, power, electrical current, care, and supervision necessary
permanent public improvement.

(g) "Property ownership" shall be deemed to include tenancies of real
liable to pay the assessment, fee, or charge in question.

(h) "Property-related service" means a public service having a direct

property. An agency shall give notice by mail at least 45 days prior to the date of the public hearing upon the proposed assessment.

(c) Each notice given pursuant to subdivision (b) shall contain an assessment ballot that includes the agency's address for receipt of the form and a place where the person returning the assessment ballot may indicate his or her name, a reasonable identification of the parcel, and his or her support or opposition to the proposed assessment. Each assessment ballot shall be signed and either mailed or otherwise delivered to the address indicated on the assessment ballot. Regardless of the method of delivery, all assessment ballots shall be received at the address indicated, or the site of the public testimony, in order to be included in the tabulation of a majority protest pursuant to subdivision (e). An assessment ballot may be submitted, changed, or withdrawn prior to the conclusion of the public testimony on the proposed assessment at the hearing. An agency may provide an envelope for the return of the assessment ballot.

(d) At the time, date, and place stated in the notice mailed pursuant to subdivision (b), the agency shall conduct a public hearing upon the proposed assessment. At the public hearing, the agency shall consider all objections or protests, if any, to the proposed assessment. At the public hearing, any interested person shall be permitted to present written or oral testimony. The public hearing may be continued from time to time.

(e) (1) At the conclusion of the public hearing conducted pursuant to subdivision (d), the agency shall tabulate the assessment ballots submitted, and not withdrawn, in support of or opposition to the proposed assessment. The agency may use technological methods of tabulating the assessment ballots, including, but not limited to, punchcard or optically readable (bar-coded) assessment ballots.

In the event that more than one of the record owners of an identified parcel submits an assessment ballot, the amount of the proposed assessment to be imposed upon the identified parcel shall be allocated to each ballot submitted in proportion to the respective record ownership interests or, if the ownership interests are not shown on the record, as established to the satisfaction of the agency by documentation provided by those record owners.

(2) A majority protest exists if the assessment ballots submitted, and not withdrawn, in opposition to the proposed assessment exceed the assessment ballots submitted, and not withdrawn, in its favor, weighting those assessment ballots by the amount of the proposed assessment to be imposed upon the identified parcel for which each assessment ballot was submitted.

(3) If there is a majority protest against the imposition of a new assessment, or the extension of an existing assessment, or an increase in an existing assessment, the agency shall not impose, extend, or increase the assessment.

(4) The majority protest proceedings described in this subdivision shall not constitute an election or voting for purposes of Article II of the California Constitution or of the California Elections Code.

(i) "Special benefit" means a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large. General enhancement of property value does not constitute "special benefit."

§ 3. Limitations on property taxes, assessments, fees and charges; electric and gas service fees

Sec. 3. Property Taxes, Assessments, Fees and Charges Limited. (a) No tax, assessment, fee, or charge shall ve assessed by any agency upon any parcel of property or upon any person as an incident of property ownership except:

(1) The ad valorem property tax imposed pursuant to Article XIII and Article XIII A.

(2) Any special tax receiving a two-thirds vote pursuant to Section 4 of Article XIII A.

(3) Assessments as provided by this article.

(4) Fees or charges for property related services as provided by this article

(b) For purposes of this article, fees for the provision of electrical or gas service shall not be deemed charges or fees imposed as an incident of property ownership.

§ 4. Proposed assessments; procedures and requirements

Sec. 4. Procedures and Requirements for All Assessments. (a) An agency which proposes to levy an assessment shall identify all parcels which will have a special benefit conferred upon them and upon which an assessment will be imposed. The proportionate special benefit derived by each identified parcel shall be determined in relationship to the entirety of the capital cost of a public improvement, the maintenance and operation expenses of a public improvement, or the cost of the property related service being provided. No assessment shall be imposed on any parcel which exceeds the reasonable cost of the proportional special benefit conferred on that parcel. Only special benefits are assessable, and an agency shall separate the general benefits from the special benefits conferred on parcel. Parcels within a district that are owned or used by any agency, the State of California or the United States shall not be exempt from assessment unless the agency can demonstrate by clear and convincing evidence that those publicly owned parcels in fact receive no special benefit.

(b) All assessments shall be supported by a detailed engineer's report prepared by a registered professional engineer certified by the State of California.

(c) The amount of the proposed assessment for each identified parcel shall be calculated and the record owner of each parcel shall be given written notice by mail of the proposed assessment, the total amount thereof chargeable to the entire district, the amount chargeable to the owner's particular parcel, the duration of the payments, the reason for the assessment and the basis upon which the amount of the proposed assessment was calculated, together with the date, time, and location of a public hearing on the proposed assessment. Each notice shall also include, in a conspicuous place thereon, a summary of the procedures applicable to the completion, return, and tabulation of the ballots required pursuant to subdivision (d), including a disclosure statement that the existence of a majority protest, as defined in subdivision (e) will result in the assessment not being imposed.

(d) Each notice mailed to owners of identified parcels within the district pursuant to subdivision (c) shall contain a ballot which includes the agency's address for receipt of the ballot once completed by any owner receiving the notice whereby the owner may indicate his or her name, reasonable identification of the parcel, and his or her support or opposition to the proposed assessment.

(e) The agency shall conduct a public hearing upon the proposed assessment not less than 45 days after mailing the notice of the proposed assessment to record owners of each identified parcel. At the public hearing, the agency shall consider all protests against the proposed assessment and tabulate the ballots. The agency shall not impose an assessment if there is a majority protest. A majority protest exists if, upon the conclusion of the hearing, ballots submitted in opposition to the assessment exceed the ballots in favor of the assessment. In tabulating the ballots, the ballots shall be weighted according to the proportional financial obligation of the affected property.

(f) In any legal action contesting the validity of any assessment, the burden shall be on the agency to demonstrate that the property or properties in question receive a special benefit over and above the benefits conferred on the public at large and that the amount of any contested assessment is proportional to, and no greater than, the benefits conferred upon the property or properties in question.

(g) Because only special benefits are assessable, electors residing within the district who do not own property within the district shall not be deemed under this Constitution to have been deprived of the right to vote for any assessment. If a court determines that the Constitution of the United States or other federal law requires otherwise, the assessment shall not be imposed unless approved by a two-thirds vote of the electorate in the district in addition to being approved by the property owners as required by subdivision (e).

§ 5. Effective date of article; assessments exempted from procedures and requirements of Section 4

Sec. 5. Effective Date. Pursuant to subdivision (a) of Section 10 of Article II, the provisions of this article shall become effective the day after the election unless otherwise provided. Beginning July 1, 1997, all existing, new, or increased assessments shall comply with this article. Notwithstanding the foregoing, the following assessments existing on the effective date of this article shall be exempt form the procedures and approval process set forth in Section 4:

(a) Any assessment imposed exclusively to finance the capital costs or maintenance and operation expenses for sidewalks, streets, sewers, water, flood control, drainage systems or vector control. Subsequent increases in such assessments shall be subject to the procedures and approval process set forth in Section 4.

(b) Any assessment imposed pursuant to a petition signed by the persons owning all of the parcels subject to the assessment at the time the assessment is initially imposed. Subsequent increases in such assessments shall be subject to the procedures and approval process set forth in Section 4.

(c) Any assessment the proceeds of which are exclusively used to repay bonded indebtedness of which the failure to pay would violate the Contract Impairment Clause of the Constitution of the United States.

(d) Any assessment which previously received a majority voter approval from the voters voting in an election on the issue of the assessment. Subsequent increases in those assessments shall be subject to the procedures and approval process set forth in Section 4.

§ 6. New or existing increased fees and charges; procedures and requirements; voter approval

Sec. 6. Property Related Fees and Charges. (a) Procedures for New or Increased Fees and Charges. An agency shall follow the procedures pursuant to this section in imposing or increasing any fee or charge as defined pursuant to this article, including, but not limited to, the following:

(1) The parcels upon which a fee or charge is proposed for imposition shall be identified. The amount of the fee or charge proposed to be imposed upon each parcel shall be calculated. The agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified

parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed to be imposed on each, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, together with the date, time, and location of a public hearing on the proposed fee or charge.

(2) The agency shall conduct a public hearing upon the proposed fee or charge not less than 45 days after mailing the notice of the proposed fee or charge to the record owners of each identified parcel upon which the fee or charge is proposed for imposition. At the public hearing, the agency shall consider all protests against the proposed fee or charge. If written protests against the proposed fee or charge are presented by a majority of owners of the identified parcels, the agency shall not impose the fee or charge.

(b) Requirements for Existing, New or Increased Fees and Charges. A fee or charge shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.

(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

(4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted. Standby charges, whether characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with Section 4.

(5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners. Reliance by an agency on any parcel map, including, but not limited to, an assessor's parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article. In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article.

(c) Voter Approval for New or Increased Fees and Charges. Except for fees or charges for sewer, water, and refuse collection services, no property related fee or charge shall be imposed or increased unless and until that fee or charge is submitted and approved by a majority vote of the property owners of the property subject to the fee or charge or, at the option of the agency, by a two-thirds vote of the electorate residing in the affected area. The election shall be conducted not less than 45 days after the public hearing. An agency may adopt procedures similar to those for increases in assessments in the conduct of elections under this subdivision.

(d) Beginning July 1, 1997, all fees or charges shall comply with this section.

§53753.5 **Exempt assessments; application of notice, protest, and hearing requirements; subsequent increases**

(a) If an agency has complied with the notice, protest, and hearing requirements of Section 53753, or if an agency is not required to comply with those requirements because the assessment is exempt from the procedures and approval process set forth in Section 4 of Article XIIID of the California Constitution, then those requirements shall not apply in subsequent fiscal years unless the assessment methodology is changed to increase the assessment, or the amount of that assessment is proposed to exceed an assessment formula or range of assessments adopted by an agency in accordance with Article XIIID of the California Constitution or Section 53753.

(b) Notwithstanding subdivision (a), the following assessments existing on the effective date of Article XIIID of the California Constitution shall be exempt from the procedures and approval process set forth in Section 4 of that article:

(1) Any assessment imposed exclusively to finance the capital costs or maintenance and operation expenses for sidewalks, streets, sewers, water, flood control, drainage systems, or vector control.

(2) Any assessment imposed pursuant to a petition signed by the persons owning all of the parcels subject to the assessment at the time the assessment is initially imposed.

(3) Any assessment the proceeds of which are exclusively used to repay bonded indebtedness of which the failure to pay would violate the Contract Impairment Clause of the Constitution of the United States.

(4) Any assessment that previously received majority voter approval from the voters voting in an election on the issue of the assessment.

Any subsequent increases in an assessment listed in paragraph (1), (2), or (4) shall be subject to the procedures and approval process set forth in Section 4 of Article XIIID of the California Constitution.

(c) For purposes of this section, the following words and phrases shall have the following meanings:

(1) "Assessments existing on the effective date of Article XIIID of the California Constitution" means assessments levied by the legislative body of the agency on or before November 6, 1996.

(2) "Procedures and approval process set forth in Section 4 of Article XIIID" means all of the requirements set forth in Section 4 of Article XIIID of the California Constitution, including, but not limited to, the requirement to separate general and special benefits and the requirement to assess parcels that are owned or used by an agency, the State of California, or the United States of America.

SEPTIC TANK GUIDELINES

Memorandum of Understanding
Between the
California Water Quality Control Board
Lahontan Region
and the
City of California City

This Memorandum of Understanding is entered into by and between the California Regional Water Quality Control Board, Lahontan Region (hereinafter Board), and the City of California City (hereinafter City). Its purpose is to expedite the overall review process for proposed land developments and to provide a clear operating policy for the Board and the City on the implementation of the Board's guidelines for wastewater disposal from land developments.

Section 13260 of the California Water Code requires any person discharging waste or proposing to discharge waste that may affect waters of the State, except to a community sewer system, to file a report of waste discharge with the regional board of that region. Implementation of this code section has included regulation of individual waste systems wherever warranted.

In 1973, the Board adopted guidelines to (1) establish the conditions under which waivers of the filing requirement would be in the public interest (pursuant to California Water Code Section 13269); (2) establish minimum criteria for the use of individual systems; and (3) prevent pollution or nuisance caused by the discharges from leaching or percolating systems.

On January 14, 1988, the Regional Board adopted revisions to the "Guidelines for Waste Disposal from Land Developments". In conjunction with these revisions, the Regional Board also adopted the "Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems". These implementation guidelines list general and specific provisions in considering exemptions to the maximum density criteria (2 EDUs per acre) for individual waste disposal systems in both new and existing land developments.

This requirement also applies to domestic wastewater discharges from new commercial and industrial developments with wastewater discharge volumes exceeding two EDUs per acre density (500 gal/day/acre based on 250 gal/day/EDU). On June 16, 1988, the State Water Resources Control Board approved the revisions. For purposes of this Memorandum of Understanding, gross acreage is that area which encompasses the entire net lot area plus any underlying fee title within the adjacent right(s)-of-way, if any.

Inasmuch as the City has incorporated into its review criteria the "Minimum Criteria for Subsurface Discharge of Sewage" contained in the Board's guidelines, and has consistently applied these criteria in its review of proposed developments, it is not against the public interest for the Board to reduce its oversight work by eliminating redundant review of proposed projects.

It is agreed that:

I. The City is authorized to issue construction permits for projects that utilize individual subsurface disposal systems without Regional Board approval under the following conditions:

A. All of the following:

1. The on-site soil characteristics comply with established "Minimum Criteria for Individual Waste Disposal Systems as adopted by Resolution 6-88-15; and

2. The discharge is composed of domestic wastewater only; and

B. One of the following:

1. The development consists of single-family residences, multiple-family residences, non-residential or of mixed occupancy and the cumulative development density in the specified area, as defined on Map "A" which is made a part of this memorandum, does not exceed two equivalent dwelling units (EDUs) per acre (500 gallons/acre/day wastewater

flow). The estimated wastewater flow from non-residential or mixed occupancy developments shall be determined using Table I-2 and I-3 in the Uniform Plumbing Code and occupant loads as determined by Table 33A in the Uniform Building Code; or

2. The development consists only of a single-family home on an individual lot, subdivided prior to January 14, 1988, which has a minimum net area of 15,000 square feet; or

3. The project is in a class that has been designated exempt from Regional Board review in writing under signature of the Regional Board Executive Officer; or

4. The project/development has been granted an exemption by the Board and complies with the City's standards for use of septic tank wastewater disposal systems.

II. The City shall <u>not</u> issue construction permits without Regional Board approval for the following projects:

A. Projects that involve domestic wastewater discharge from residential, commercial or industrial development if the cumulative development density in the specified area as defined on Map "A" is in excess of two EDUs/acre or 500 gallons/acre/day as determined by the Board (except in exempted areas); or

B. Projects that will have industrial wastewater discharges; or

C. Projects that do not comply with the City's standards for use of septic tank wastewater disposal systems; or

D. Projects located within existing waste discharge prohibition areas (unless in areas exempted in I.B. above); or

E. Projects utilizing package wastewater treatment plants with on-site disposal; or

III. The City, at its discretion, may defer consideration of projects, based on water quality impacts, to the Board for any projects even if it appears that compliance with Section I. of this Memorandum of Understanding has been achieved.

IV. The City, at its discretion, may require the formation of a public entity (as defined in the State of California Government Code Section 53090 et seq.) to maintain septic systems in residential developments of one hundred (100) lots or more.

V. The Board may review permits issued by the City at its discretion. Copies of permits will be made available upon request for review in City offices.

VI. The Board, upon reviewing permits issued by the City, may require proposals be submitted and/or waste discharge requirements (permits) be obtained for all other types of waste discharges such as stormwater runoff and solid waste leachate.

VII. The City, on its own initiative or at the request of an applicant and upon providing the information specified in the implementation guidelines, may apply for individual, large scale, or area-wide exemptions.

VIII. The applicant, for projects found in compliance with the Board's guidelines, will be notified of acceptance by issuance of a City building permit or by issuance of a Board clearance letter.

IX. The City shall maintain a record of all documents submitted and reviewed under this Memorandum of Understanding. This record shall be kept as a note on the construction permit for each project.

X. This Memorandum of Understanding shall be effective immediately after execution of this agreement and shall remain in full force until terminated by a prior thirty (30) day written notice by either party.

XI. This Memorandum of Understanding may be amended as mutually agreed to by the City and the Regional Board.

XII. All notices and communications under this Memorandum of Understanding shall be addressed to the following:

Peggy L. Rosler City of California City City Manager 21000 Hacienda Blvd. California City, Ca 93505	O.R. Butterfield California Regional Water Quality Control Board, Lahontan Region 15371 Bonanza Road Victorville, Ca 92392-2494

This Memorandum of Understanding is executed on the date of the most recent signature below, by the following authorized representatives of the parties.

Peggy L. Rosler Peggy L. Rosler City Manager	O.R. Butterfield Executive Officer
Date 3/20/89	Date _____

ORDINANCE NO. 89-414

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CALIFORNIA CITY AMENDING THE CALIFORNIA CITY MUNICIPAL CODE AS IT RELATES TO THE LIMITING OF ON-SITE SEWAGE DISPOSAL

THE CITY COUNCIL OF THE CITY OF CALIFORNIA CITY ORDAINS as follows:

Section 1. Purpose

This Ordinance amends the California City Municipal Code by limiting development of real property with on-site sewage disposal to conform to the Memorandum of Understanding between the California Water Regional Water Quality Control Board and the City of California City.

The Council finds, determines and declares as follows:

(a) The California Regional Water Quality Control Board has adopted amendments to the Water Quality Control Plans for the North and South Lahontan Basins which prohibit discharge of domestic waste water to individual waste disposal systems where the density is in excess of two dwelling units per acre.

(b) The California Regional Water Quality Control Board has proposed an exemption to the above requirements which would allow an exemption to the above requirements allowing the City to develop in distinctly specified areas in accordance with the above-mentioned Memorandum of Understanding.

(c) The above-mentioned proposed exemption is within the guidelines of the public policy of the City with regard to the use of individual waste water disposal systems and the City sewer system.

Section 2. Amendment

Section 6-4.01 of the City of California City Municipal Code is hereby amended as follows:

"Section 6-4.01 Connections Required

(a) Prior to the issuance of any building permit for any building upon property which fronts upon or is located within 200 feet of a City sewer line, provisions shall be made for such building to be connected to such City sewer line. Property which does not front upon a City sewer shall be deemed located within 200 feet of a City sewer only if such property is also contiguous to a public right-of-way through which such City sewer line may be reached. (Chapter 4, Art. VII, C.C.M.C., as amended by Section 1, Ord. 9-69-14)

(b) On-site sewage disposal systems shall be limited to two (2) dwelling units per acre pursuant to the above-mentioned Memorandum of Understanding. Where the density has exceeded the standards of the Memorandum of Understanding, all domestic waste water discharge shall discharge to the community sewer system.

(c) The City is divided into zones for the purposes of resolving density determination. Each zone shall be evaluated on its individual density. Where any individual zone exceeds two (2) dwelling units per acre, development shall be halted and a moratorium shall be declared in that zone until all domestic waste water discharge can be discharged into the City sewer system."

Section 3. Other

Except as provided herein, the California City Municipal Code is reaffirmed and readopted.

PASSED, APPROVED and ADOPTED this 7th day of March, 1989.

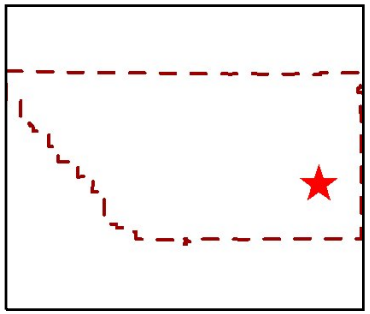
Mayor

ATTEST:

City Clerk

(SEAL)

California City WWTP



Legend

Roads

- Arterial
- Collector
- Highway
- Local
- Ramp
- Unpaved

- County of Kern
- Assessment Parcels
- Aerial Photo 2008

N

Scale: 1:3,124

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

City of California City

Initial Study and Negative Declaration for

Wastewater Treatment Plant Expansion

January 1993

JMM James M. Montgomery

CITY OF CALIFORNIA CITY
PUBLIC WORKS DEPARTMENT

INITIAL ENVIRONMENTAL STUDY
NEGATIVE DECLARATION
MITIGATION MONITORING PLAN

FOR

WASTEWATER TREATMENT PLANT EXPANSION

JANUARY 1993

James M. Montgomery, Consulting Engineers, Inc.
301 North Lake Avenue
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CITY OF CALIFORNIA CITY
PUBLIC WORKS DEPARTMENT

WASTEWATER TREATMENT PLANT EXPANSION
NEGATIVE DECLARATION

JANUARY 1993

NEGATIVE DECLARATION

CITY OF CALIFORNIA CITY
WASTEWATER TREATMENT PLANT EXPANSION

FINDING

The City of California City finds that the proposed project, as amended by inclusion of the following mitigation measures, will not have a significant effect on the environment. The facts supporting this finding are presented in the attached Initial Environmental Study.

PROJECT DESCRIPTION

The existing 0.3 mgd California City wastewater treatment plant is proposed to be expanded to 1.0 mgd and upgraded to provide tertiary treatment. New facilities will be designed for adequate flocculation, filtration, and disinfection of the secondary effluent. Proposed improvements include new: influent pump station, headworks, aerators, secondary clarifiers, return activated sludge (RAS) pump station, flocculation, filters, chlorine contact tank, chemical facility, generator facility, effluent pump station, 12-inch diameter effluent force main, and sludge drying beds. With the exception of the effluent pipeline, all new facilities will be located within the existing treatment plant boundaries.

Additional treatment capacity will be necessary to accommodate anticipated population growth, and to comply with more stringent effluent quality requirements by the California Regional Water Quality Control Board, Lahontan Region. Tertiary treatment facilities will also be required for the production and reuse of reclaimed water. The City is proposing to limit the existing practice of percolating effluent into ponds by using the effluent as reclaimed water for landscape irrigation at Central Park (including the golf course).

PROJECT LOCATION

The project is located within the City of California City in the Antelope Valley portion of Kern County, California. The project site includes the existing City of California City wastewater treatment plant property, the Central Park Golf Course, and the path of the proposed pipeline in existing roads to connect these two sites. Specifically, the pipeline alignment occurs within Nelson Drive, Calhoun Road, and North Loop Boulevard. The project site is located on the USGS California City North Quadrangle, within latitudes 35° 8' and 35° 9' N and longitude 117° 55' and 117° 57' W.

MITIGATION MEASURES

Mitigation measures to reduce construction and operation related impacts to less than significant levels and to minimize less than significant impacts are proposed as follows:

Air Quality

The Contractor shall:

- Control dust emissions by regular watering of the construction site. The specifications will state that the contractor is responsible to water the construction area sufficiently to prevent dust in an amount damaging to property, cultivated

vegetation, domestic animals, causing a nuisance to persons living in or occupying buildings in the vicinity.

- Use low-sulfur (0.05 percent by weight) diesel fuel in all construction equipment requiring diesel fuel;
- Maintain all construction equipment in proper tune;
- Cover the dirt in trucks during on-road hauling;
- Avoid the use of on-site temporary electric power generation; and
- Select construction equipment with the lowest air emissions and best energy efficiency.

In order to reduce air emissions related to project operation, the California City Public Works Department shall:

- Install energy-efficient lighting at the treatment plant; and
- Use native drought-resistant plant species for any treatment plant property landscaping to reduce water consumption and to provide passive solar benefits.

Implementation of the following Best Available Control Technology (BACT) is required by the Kern County Air Pollution Control District and will reduce adverse air quality impacts from engines to a less than significant level. For diesel-fired internal combustion engines BACT includes:

- Turbocharger with intercooler
- Injection timing retarded 4° F, B.T.C. (unless voids UL or Fire Marshall certification)
- Use of low sulfur fuel.

For natural gas-fired internal combustion engines BACT includes:

- Clean burn (very lean fuel mixture and multichamber cylinder head with multiple ignition sources) or
- Selective Catalytic Reduction (SCR).

For all engines BACT includes:

- Zero percent opacity visible crankcase emissions, ie. positive crankcase ventilation (PCV) (or equivalent control).

Biology

The City and/or Contractor shall:

- Survey for California desert tortoise on the access road from Nelson Drive to the treatment plant and the area proposed for sludge drying beds;

- Prior to tortoise resurvey, install a footed fence (at least 1 ft below grade) laterally on the access road (from Nelson Drive to the treatment plant) and around the sludge drying beds location to prevent entry by tortoises from Cache Creek channel or adjacent lands, and to exclude them from grading activities;

- If any individual tortoises are discovered, they shall be cleared from the site under permit from the U.S. Fish and Wildlife Service. The clearance shall be conducted while the reptiles are active, during the species' emergence and feeding cycle in the spring;

- Vehicular passage around and on the sites should be kept to a minimum; and

- Confine all pipeline construction activity (including truck and equipment movement) to within the existing roadway right of way.

Noise

The Contractor shall:

- Equip construction machinery with noise reduction equipment (e.g. mufflers);
- Limit construction activity to the period of 7:00 a.m. to 7:00 p.m., Monday through Saturday excluding holidays; and
- Comply with the City's Noise Ordinance or obtain a Noise Variance for Construction Activity. The Noise Ordinance limits noise generated to 60 dB(A) for residential property and prohibits the generation of noise:
  - that endangers the public health, welfare or safety, or causes a noise level on any other property to exceed:
    - the noise standard for a cumulative period of more than thirty minutes in any hour; or
    - the noise standard plus 5 dB(A) for a cumulative period of more than fifteen minutes in any hour; or
    - the noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour; or
    - the noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour; or
    - the noise standard plus 20 dB(A) for any period of time.

Risk of Upset

The Contractor shall:

- Submit a City-approved traffic plan to the City Engineer of California City prior to the start of construction activities.

Transportation

The Contractor shall:

- Provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the *Manual of Uniform Traffic Control Devices*.

Cultural Resources

The Contractor shall:

- Halt work in the immediate area of any cultural resource finding and retain a qualified archaeologist to inspect the area and present recommendations for further treatment. The recommendations of the archaeologist shall then be implemented prior to continuation of project construction in the immediate area of the finding.

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INITIAL ENVIRONMENTAL STUDY

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WASTEWATER TREATMENT PLANT EXPANSION
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CHAPTER 1

PROJECT DESCRIPTION

BACKGROUND

The City of California City (City) owns and operates the wastewater treatment plant located off Mendiburu Road in the northeast section of the City. In order to accommodate expected increases in wastewater flows and to provide reliable service to the public, an upgrade and expansion of the treatment plant is planned. The proposed improvements incorporate secondary reuse of the wastewater for landscape irrigation. The following document provides a complete environmental review of the project in accordance with the California Environmental Quality Act (CEQA).

PROJECT LOCATION

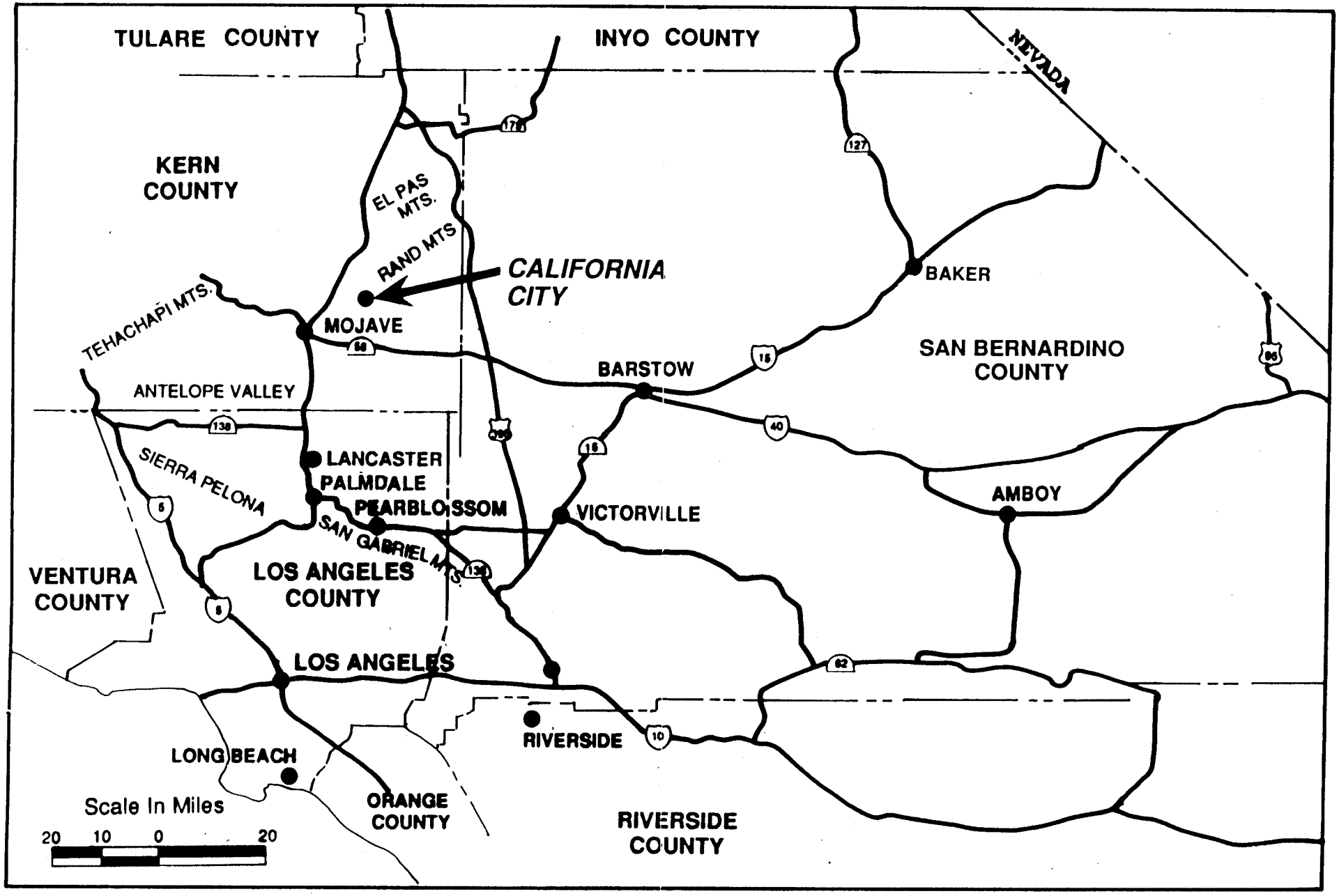
California City is located in the high desert region of the Antelope Valley in southeastern Kern County (Figure 1-1). The incorporated area of the City encompasses approximately 186 square miles of the western Mojave Desert, approximately 15 miles northeast of the City of Mojave. The project site includes the existing City of California City wastewater treatment plant property, the Central Park Golf Course, and the path of the proposed pipeline in existing roads to connect these two sites (Figure 1-2). Specifically, the pipeline alignment occurs within Nelson Drive, Calhoun Road, and North Loop Boulevard. The project site is located on the USGS California City North Quadrangle, within latitudes 35° 8' and 35° 9' N and longitude 117° 55' and 117° 57' W.

PROJECT COMPONENTS

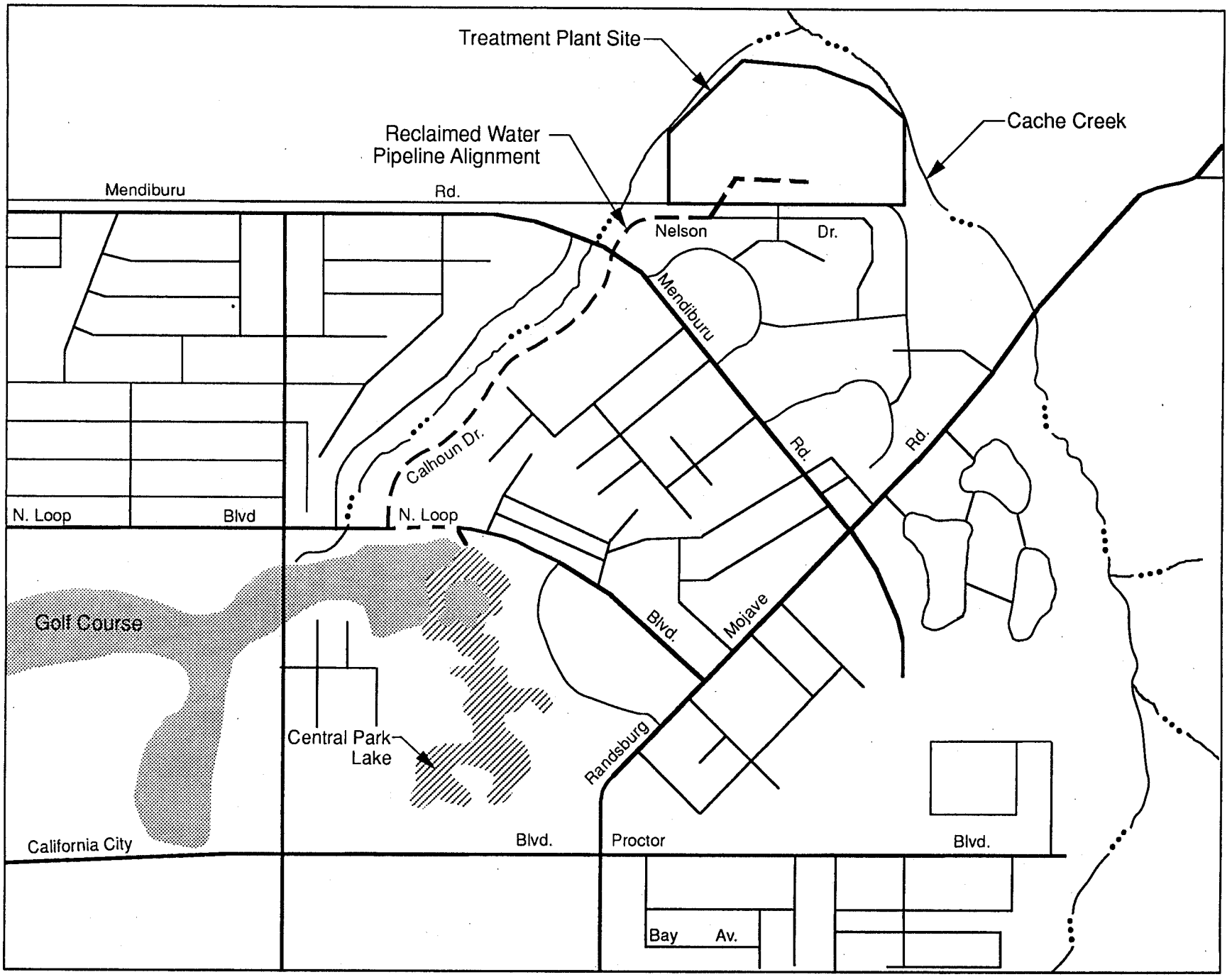
The existing wastewater treatment plant has a capacity of 0.3 million gallons per day (mgd). The City's Public Works Department proposes to expand facilities at the plant in order to accommodate 1.0 mgd, an additional capacity of 0.7 mgd. The additional treatment capacity will be necessary to accommodate anticipated population growth, and to comply with more stringent effluent quality requirements by the California Regional Water Quality Control Board, Lahontan Region. Tertiary treatment facilities will also be required for the production and reuse of reclaimed water. The City is proposing to limit the existing practice of percolating effluent into ponds by using the effluent as reclaimed water for landscape irrigation at Central Park (including the golf course).

Existing Facilities

The existing treatment plant is an aerated lagoon system with percolation ponds designed for an average flow of 0.3 mgd (peak flow of 0.6 mgd). Recorded wastewater flows (1991) indicate an average flow of 0.204 mgd with a maximum flow of 0.24 mgd. Existing facilities include influent pump station, head works (bar screen, comminutor and parshall flume), four aeration lagoons with floating surface aerators (5 - 10 hp) and percolation ponds. The two existing aeration lagoons are divided into four by divider walls, resulting in two primary and two secondary lagoons. Total lagoon volume equals 1.79 million gallons (mil gal). The existing eight percolation ponds cover an area of 9.6 acres. The effluent percolates through 200 to 250 ft of native geological formations before it reaches the groundwater table. Currently, one percolation pond is filled with secondary effluent at a time. When a pond empties it is filled again, with pond bottoms being scarified from time to time to maintain percolation rate. Average rate of percolation observed in the ponds is 12 inches per week.



VICINITY MAP
FIGURE 1-1



Project Site Location
Figure 1-2

New Facilities

The proposed modifications will increase design capacity to 1.0 mgd (average flow) and 2.0 mgd (peak flow) and produce wastewater effluent which meets State of California Title 22 requirements for production and reuse of reclaimed water. New facilities will be designed for adequate flocculation, filtration, and disinfection of the secondary effluent. Proposed improvements include new: influent pump station, headworks, aerators, secondary clarifiers, return activated sludge (RAS) pump station, flocculation, filters, chlorine contact tank, chemical facility, generator facility, effluent pump station, 12-inch diameter effluent force main, and sludge drying beds (Figure 1-3). With the exception of the effluent pipeline, all new facilities will be located within the existing treatment plant boundaries.

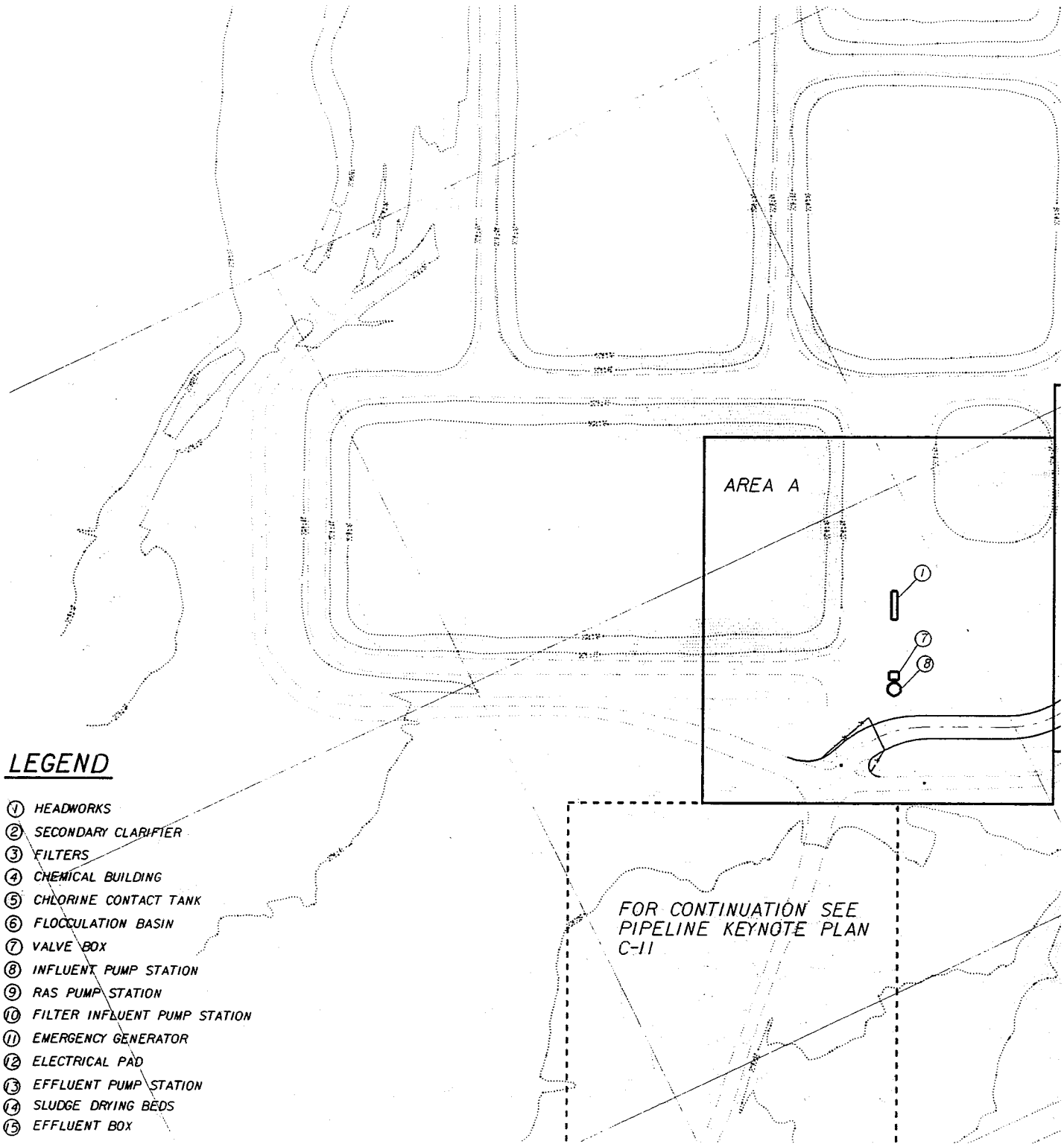
The new pump station will be designed for an average flow of 1.0 mgd (peak flow of 2.0 mgd) and the existing pump station will be used as a backup during emergencies. The new pump station will include two submersible pumps, each with a 35 hp, 1170 rpm motor. For normal operation, only one pump will operate at a time.

The new headworks will handle the total design flow of 1.0 mgd and the existing facilities will provide backup during emergencies. A new bar screen, comminutor, and parshall flume will be provided.

The proposed secondary treatment facilities include an extended aeration treatment system followed by secondary clarifiers. The extended aeration system is a modification of the activated sludge process. The existing secondary aeration basins will be modified to be used as extended aeration basins and the existing primary aeration basins will be used as flow equalization basins (when required). Existing aerators will be removed and two new 30 hp aerators will be provided for each basin. Two 45 ft diameter (16 ft side water depth) clarifiers will also be provided to settle the sludge generated by the aeration system. The settled sludge from the clarifiers will be recycled back into the aeration basin to maintain a steady biomass in the aeration basin. The RAS pump station will be located adjacent to the clarifiers. The sludge from the clarifiers will flow into the wet well by gravity. Two submersible pumps (each with 20 hp motors) will be provided in the wet well.

Tertiary treatment facilities will be designed for an average flow of 1.0 mgd and will include: filter influent pump station, flocculation basins, filters, chlorine contact tank, chemical facility, and generator facility. Secondary effluent from the clarifiers will be pumped to the flocculation basins through the filter influent pump station and will flow to the filters, chlorine contact tanks, and ultimately flow to the storage pond by gravity. Reclaimed water will be pumped through a 12-inch diameter force main to the lake in Central Park prior to delivery for reuse. Reclaimed water will replenish the lake and supply irrigation water for the golf course and park grounds. The existing park irrigation system piping will be used to distribute the reclaimed water.

The waste activated sludge from the return sludge lines will be conveyed to the sludge drying beds for dewatering and final disposal. Sludge drying beds will be located east of the existing percolation ponds (Figure 1-3). Dried sludge will be removed at approximately 50 percent solids and then used as soil amendment or landfilled. Five beds, each with an area of 3,000 sq ft will be provided. The drying beds will be equipped with a PVC liner to prevent percolation of any underdrain flow through the soil. Underdrain flow will be collected through perforated PVC pipes and returned to the influent pump station via the plant drain.



LEGEND

1. HEADWORKS
2. SECONDARY CLARIFIER
3. FILTERS
4. CHEMICAL BUILDING
5. CHLORINE CONTACT TANK
6. FLOCCULATION BASIN
7. VALVE BOX
8. INFLUENT PUMP STATION
9. RAS PUMP STATION
10. FILTER INFLUENT PUMP STATION
11. EMERGENCY GENERATOR
12. ELECTRICAL PAD
13. EFFLUENT PUMP STATION
14. SLUDGE DRYING BEDS
15. EFFLUENT BOX

T.B.M.
BRASS CAP ON TOP 2" I.P.
S.E. COR. SEC 18, T 32 S, R38E
ELEV. 2311.65
DATUM U.S.G.S. 1980 ADJUSTMENT

BASIS OF BEARING:

SOUTH LINE OF SECTION 18, TOWNSHIP 32 SOUTH, RANGE 38 EAST, MOUNT DIABLO MERIDIAN.

ESTABLISHED BETWEEN SOUTHEAST CORNER AND WEST 1/16 CORNER OF SAID SECTION.

Scale: 1"=120'

CHAPTER 2

ENVIRONMENTAL SETTING

The environmental setting is described with respect to topography, geology and soils, seismicity, climate and air quality, surface water, ground water, biological resources, noise, land use, population and housing, circulation, public services, utilities, aesthetics, recreation, and cultural resources.

TOPOGRAPHY

The southeast desert portion of Kern County is bounded by the Sierra Nevada Range to the west and northwest. This range divides the southeast desert from the San Joaquin Valley. Peaks in the Sierra Nevadas reach over 6,000 ft in the west with Mount Whitney and other peaks towards the northwest exceeding 14,000 ft in elevation. The Coso Range is to the north, with elevations extending above 8,000 ft, while to the northeast and east is the Argus Range, with elevations above 6,000 ft. The El Paso Range lies to the south with heights above 5,000 ft. At about 2,000 ft elevation, the valley floor is high desert, consisting of sandy soil, with a large dry lake bed.

California City is located within the Antelope Valley in the westernmost Mojave desert. The Valley is a triangular-shaped plain of some 3,000 square miles bounded to the south by the San Gabriel Mountains and to the northwest by the Tehachapi Mountains. Elevations in the developed portion of the City range from 2,300 to 2,400 ft with the overall highest desert elevation reaching 4,000 ft. The terrain of California City slopes from 0 to 15 percent (Open Space Element of the California City General Plan, 1973).

The project site is approximately 2,300 to 2,330 ft in elevation with gently sloping and relatively uniform topography. North and east of the treatment plant is the steep drainage channel of Cache Creek. Overall, the property slopes downward toward the creek to the southeast. Berms protect the northeast sides of the existing ponds from flood waters.

GEOLOGY AND SOILS

The geology of the area is characterized by unconsolidated deposits consisting primarily of younger alluvium and dune sand including unconsolidated sand, angular boulders, cobbles, and gravel, with small quantities of silt, and clay beneath alluvial plains. Unconsolidated deposits of older alluvium range from 800 to 1,000 ft deep, becoming more shallow towards the northeast.

Occupying approximately 25,000 square miles, the Mojave Desert is enclosed by the San Andreas fault (southwest), the Transverse Ranges (southwest), and the Garlock fault, the Tehachapi Mountains, and the Basin Ranges (north, northeast). The desert itself is a Cenozoic feature, presumably formed from movements related to the San Andreas and Garlock faults. The Mojave area contains Proterozoic, Paleozoic, and lower Mesozoic rocks with the thickness of the valley fill being greatest in the Antelope Valley. The region is currently dominated by broad alluviated basins that are mostly aggrading surfaces receiving nonmarine continental deposits from adjacent uplands. Throughout the Mojave, small hills rise above the alluvial valley fill, remnants of the mountainous topography that is partly erased by erosion or buried by debris (Norris, 1990).

SEISMICITY

Like most of southern California, California City is located in a seismically active area. The Antelope Valley lies between the Garlock and San Andreas faults in the westernmost Mojave

(Figure 2-1).

Known faults within the general project area include:

		Possible Magnitude
Lockhart	12 miles to the northeast	7.5
Muroc	4 miles to the southwest	6.5
Garlock	9 miles to the northwest	8.0
Rosamond	18 miles to the southeast	6.5
San Andreas	40 miles to the southwest	8.0+

One of the more significant faults in the area, the Garlock fault, extends from Frazier Mountain easterly for more than 150 miles. Despite the absence of any historical earthquakes clearly attributable to this fault, it is regarded as active (Norris, 1990). The closest Alquist-Priolo Special Studies Zone is located on the Mojave and Cross Mountain USGS Quadrangles and surrounds the Garlock fault. The project site is not within this area. The Garlock fault is considered active because in this area it displaces quaternary sediments (Seismic Safety Element of the California City General Plan, 1975). Apparently, the Garlock fault has been offset by the San Andreas fault where the two intersect at the western end of the Mojave.

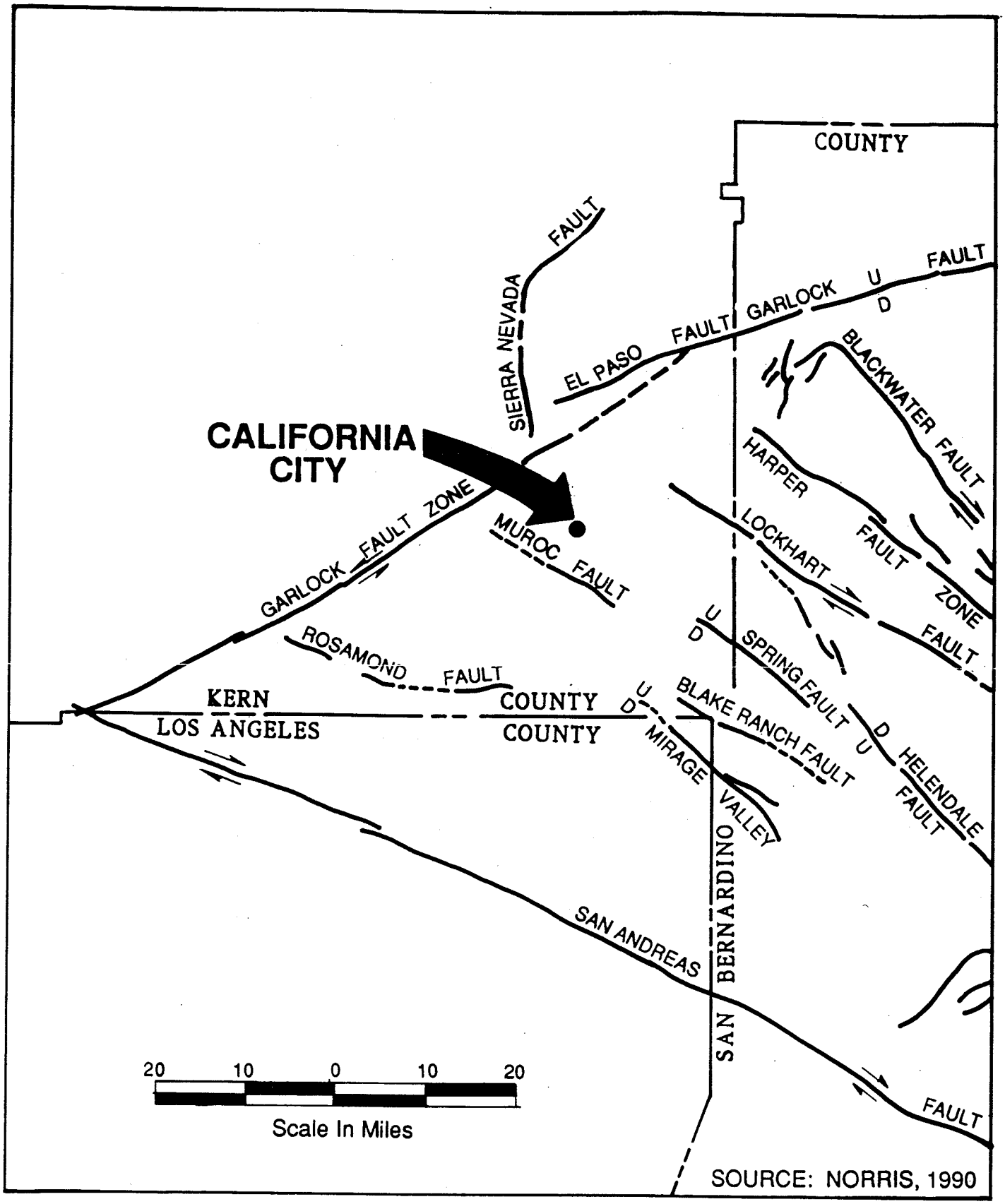
Earthquake related hazards within the City include ground shaking, ground failure (including landslides) and surface faulting. While no landslides are identified within the City (Seismic Safety Element of the California City General Plan, 1975), mud flow and soil creep on the slopes may be precipitated by flash floods. Land subsidence and liquefaction are not considered potential hazards in California City.

CLIMATE AND AIR QUALITY

California City is a desert region with an average annual rainfall of approximately 5.6 inches and the majority of precipitation occurring from October through March. This rainfall information is provided from the Mojave monitoring station (approximately 15 miles to the southwest) located at latitude north 35° 3', longitude west 118° 10' and elevation 2,735 ft (NOAA, 1982). Average temperatures in California City range from 83° F in July to 46° F in December. High temperatures in the southeast desert rise to 100° F or higher about 66 days a year and drop into the 60's at night. Winters are cool with nighttime temperatures dropping to 32° F or less for about 77 days a year, and then warming into the 50's during the day (KCAPCD, 1991).

The prevailing southwest winds travel up the Antelope Valley at a mean speed of 6 to 12 knots with an extreme velocity of 53 to 67 knots (Land Use and Circulation Element of the California City General Plan, 1977). Summer winds are generally light, but with afternoon warming a south-southeast wind blows at 10-25 mph. Wind speeds are typically much higher in the afternoon than in the late evening and early mornings. Strong winds occur in the late winter and spring as cold fronts move rapidly through the area. During winter, the southeast desert experiences westerly winds of 20 to 35 mph which can be sustained for periods up to 24 hours. Summer in the southeast desert is characterized by warm dry days with cool nights (KCAPCD, 1991).

Air quality information for Kern County is collected by the California Air Resources Board (CARB). The majority of this information, however, is not for the Antelope Valley or the southeast desert region. Since no monitoring data were available directly for California City, information from the South Coast Air Quality Management District Lancaster station are provided in Table 2-1. Lancaster is approximately 10 miles from the Kern County line and 35 miles from



PRINCIPAL FAULTS NEAR CALIFORNIA CITY
FIGURE 2-1

TABLE 2-1

DATA SUMMARY OF SCAQMD LANCASTER AIR QUALITY MONITORING STATION (1987-1989)

	1987	1988	1989
Suspended Particulate Matter (PM_{10})			
% of samples with 24 hours >150 μg/m³ (Federal)	NM	NM	0
% of samples with 24 hours >50 μg/m³ (State)	NM	NM	44.6
AGM Concentration (μg/m³)	NM	NM	43.0
Maximum 24 hour concentration (μg/m³)	NM	NM	110
Ozone (O_3)			
Days with 1 hour >0.12 ppm (Federal)	32	44	27
Days with 1 hour >0.09 ppm (State)*	105	105	95
Maximum hourly concentration (ppm)	0.17	0.18	0.21
Carbon Monoxide (CO)			
Days with 8 hours ≥9.5 ppm (Federal)	0	0	0
Days with 8 hours ≥9.1 ppm (State)	0	0	0
Maximum hourly concentration (ppm)	12	11	13
Nitrogen Dioxide (NO_2)			
% AAM exceeded >0.0534 ppm (Federal)	0	0	0
Days with 1 hour >0.25 ppm (State)	0	0	0
Maximum hourly concentration (ppm)	0.09	0.09	0.08

Notes:

* State criterion was 1 hour ≥0.10 for 1987 and 1988.

AAM - Annual Arithmetic Mean
AGM - Annual Geometric Mean
NM - Pollutant Not Monitored

Source: South Coast Air Quality Management District, Air Quality Data, 1987-1989.

California City. Lancaster represents a station which receives a significant portion of transported pollutants from both the South Coast Air Basin (SCAB) and the San Joaquin Valley Air Basin (SJVAB).

The Kern County Air Pollution Control District has prepared an Air Quality Attainment Plan (AQAP) for the Southeast Desert region (1991). The Plan was prepared to satisfy the legal mandates of the California Clean Air Act (CCAA) and because the Southeast Desert (SED) portion of Kern County has been designated as a nonattainment area for the California Ambient Air Quality Standard for ozone. This designation is not based on documented ozone exceedences in Kern County, but of exceedences documented elsewhere in the SED Air Basin. The CCAA recognizes ozone as a regional pollutant and an exceedence anywhere in the basin places the entire basin in nonattainment. The CCAA divides nonattainment areas into three categories: moderate, serious, and severe, depending on ambient air quality levels, with requirements that are progressively more stringent. The SED portion of Kern County's ozone problem is classified as "serious". Those districts which cannot attain and maintain the CAAQS before December 31, 1994 but can before December 31, 1997, are classified as "serious". Table 2-2 describes the Federal and State ambient air quality standards.

The SED Air Basin also currently exceeds the state standard for particulates less than 10 microns in diameter (PM_{10}). The Antelope Valley area has been classified a Group II nonattainment area and the Kern County APCD is cooperating with the South Coast AQMD by monitoring PM_{10} levels. The SED portion of Kern County is either unclassified or in attainment for other priority pollutants.

The AQAP describes proposed transportation control, area source control and stationary source control measures to reduce area air pollutant emissions. The District has chosen to delegate the responsibility of preparing transportation control measures for existing indirect sources to the Kern Council of Governments (COG), the agency responsible for coordinating regional transportation in the area. Stationary source control measures include the District's Rule 210.1 III.C.1.b., Current New Source Review (NSR) Rule, which states, "Effective July 1, 1991, the district shall adopt a permitting program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors from all permitted new or modified stationary sources . . . If such a program has not been adopted, a new or modified stationary source shall provide offsets for any cumulative net emissions increases of any nonattainment pollutant or its precursors." The wastewater treatment plant is not currently a stationary source permitted by KCAPCD.

SURFACE WATER

In general, the Antelope Valley is very arid, with few surface water features. Streams flowing from the Sierra Nevada, White, San Gabriel and San Bernardino Mountains seep into the dry desert alluvium with only the largest persisting to the valley floor. Within California City, surface waters include Cache Creek (east of the project site) and the 16 acre man-made Central Park lake supplied by pumping groundwater.

Approximately five square miles in area, Koehn Dry Lake is a moist, salt encrusted playa lake used for commercial recovery of salt deposits. The project area drains northeast to Koehn Lake (10 miles to the north) via Cache Creek and its tributaries (ephemeral streams with flow only during infrequent storms). The Water Quality Control Plan for the South Lahontan Basin (6B) lists the beneficial uses of minor streams in the Fremont hydrologic unit (such as Cache Creek) as groundwater recharge, water contact recreation, noncontact water recreation, and wildlife habitat.

TABLE 2-2
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

AIR POLLUTANT	CALIFORNIA		FEDERAL		
	CONCENTRATION	DISTRICT METHOD	PRIMARY	SECONDARY	METHOD
Ozone	≥0.10 ppm (1-hr. avg.)	U.V. Photometry	> 0.12 ppm (1-hr. avg.)	> 0.12 ppm (1-hr. avg.)	Chemiluminescent
Carbon Monoxide	>9 ppm (8-hr. avg.) >20 ppm (1-hr. avg.)	Non-dispersive Infra-red Spectrophotometry	>9 ppm (8-hr. avg.) >35 ppm (1-hr. avg.)	>9 ppm (8-hr. avg.) >35 ppm (1-hr. avg.)	Non-dispersive Infra-red Spectrophotometry
Nitrogen Dioxide	≥0.25 ppm (1-hr. avg.)	Gas Phase Chemiluminescence	>0.05 ppm (annual avg.)	>0.053 ppm (annual avg.)	Gas Phase Chemiluminescence
Sulfur Dioxide	0.05 ppm (24-hr. avg. with Ozone ≥ 0.10 ppm, 1-hr. avg. or TSP ≥ 100 ug/m3, 24-hr. avg.) >0.25 ppm (1-hr. avg.)	Pulsed Fluorescence	>0.03 ppm (annual avg.) >0.14 ppm (24-hr. avg.)	>0.53 ppm (3-hr. avg.)	Para-rosaniline
Total Suspended Particulate (TSP)			>75 ug/m3 (annual geometric mean) >260 ug/m3 (24-hr. avg.)	>60 ug/m3 (annual geometric mean) >150 ug/m3 (24-hr. avg.)	High Volume Sampling
Suspended Particulate Matter (PM 10)	>30 ug/m3 (ann. geometric mean) >50 ug/m3 (24-hour avg.)	Size Segregated Inlet High Volume Sampling			
Sulfates	≥25 ug/m3 (24-hr. avg.)	High Volume Sampling Methyl-thymol Blue			
Lead	≥1.5 ug/m3 (30-day avg.)	High Vol. Sampling x-ray fluorescence	>1.5 ug/m3 (calendar quarter)	>1.5 ug/m3 (calendar quarter)	High Volume Sampling Atomic absorption Spectrophotometry
Hydrogen Sulfide	≥0.03 ppm (1-hr. avg.)	Cadmium Hydroxide Stractan			
Vinyl Chloride	≥0.010 ppm (24-hr. avg.)	Gas Chromatography			
Ethylene	≥0.10 ppm (8-hr. avg.) ≥0.50 ppm (1-hr. avg.)				
Visibility Reducing Particles	In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70% (1 observation)				

Source: South Coast Air Quality Management District, 1987. Air Quality Handbook.

Although annual rain fall in California City averages only five inches, individual storms can cause significant flooding. The Department of Housing and Urban Development Federal Insurance Administration prepares Flood Hazard Boundary Maps. In California City, a flood hazard area is identified surrounding Cache Creek (Figure 2-2). The existing treatment plant property is adjacent to the flood hazard area. Existing percolation ponds partially within the flood hazard area are protected by berms.

GROUND WATER

Located within the south Lahontan groundwater basin, California City is underlain by the California City Hydrologic Subarea, Koehn Subunit, Fremont Hydrologic Unit, as defined by the South Lahontan Basin Plan. Surface drainage in the 330 square mile area is internal, to Koehn Dry Lake 10 miles north-northeast of California City. The boundaries of the Koehn Subunit are the Tehachapi Mountains on the west, the Rand Mountains to the east, the El Paso Mountains to the north, and the Muroc fault to the south.

Recharge occurs at moderate to high rates in the west and south bordering alluvial fans of the Sierra Nevadas and Tehachapi Mountains. The aquifer is generally unconfined, with groundwater movement toward the pressure area around Koehn Dry Lake. The Koehn Subunit receives subsurface inflow from the Antelope Valley to the south and east. Since there is no known outflow, the ground water basin is considered to be closed. The California City Subunit is subject to virtually no recharge.

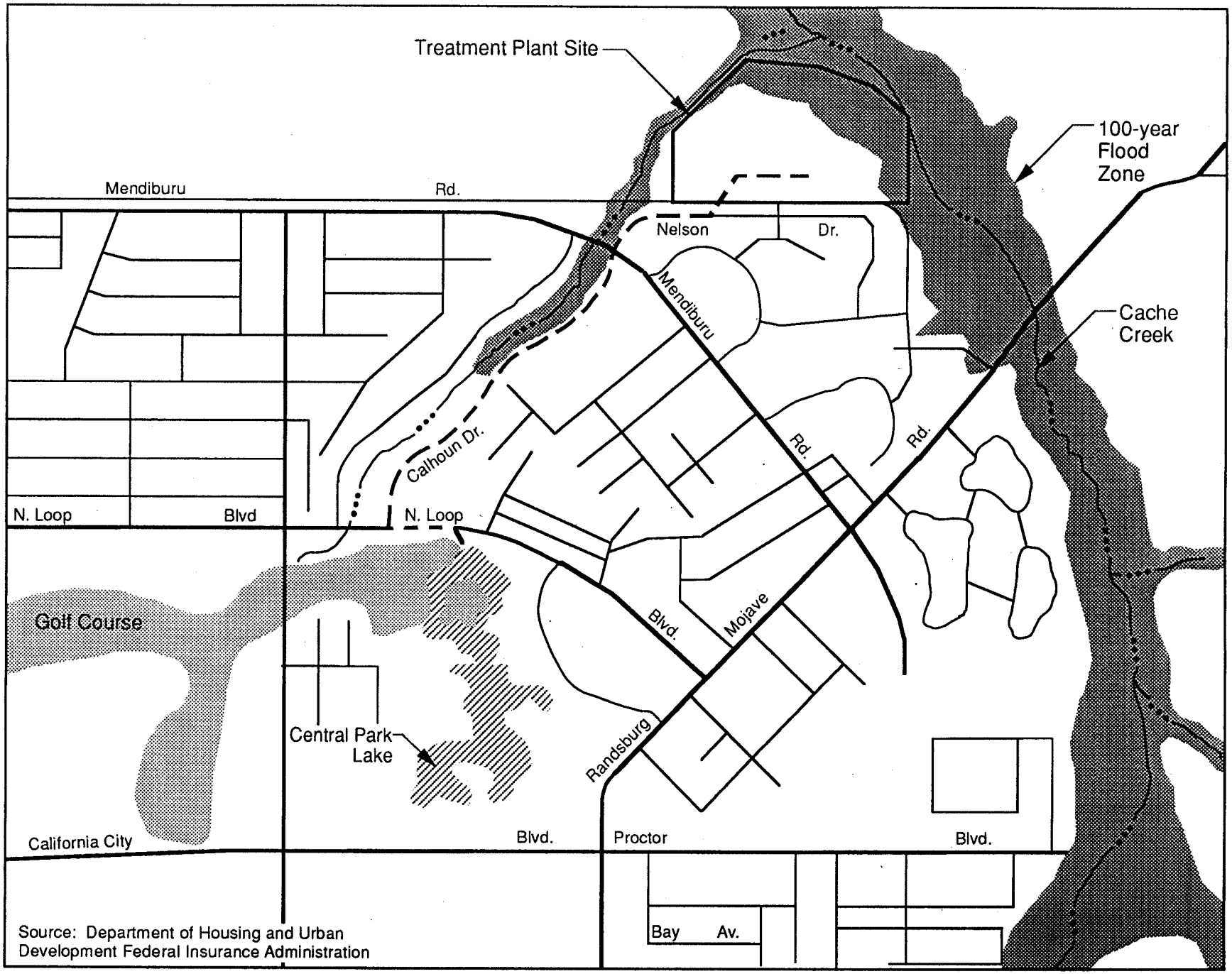
Ground water movement is also affected by local extraction in California City and by the Garlock and Muroc faults. Groundwater pumping has occurred in the South Lahontan Basin for about 100 years. In some areas groundwater reserves have been seriously overdrafted, resulting in a lowered groundwater levels and a loss of beneficial uses (irrigation, domestic supply, wetland and fish and wildlife habitat).

As listed in the south Lahontan Basin Plan (1987), beneficial uses of the groundwater in the Koehn Hydrologic Subunit include:

- Municipal and domestic - includes usual uses in community or military water systems and domestic uses from individual water supply systems.
- Agricultural - includes crop, orchard and pasture irrigation; stock watering; support of vegetation for range grazing; and all uses in support of farming and ranching operations.
- Industrial service - includes uses such as mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, geothermal power and oil well repressurization.
- Freshwater replenishment - provides a source of freshwater for replenishment of inland lakes and streams of varying salinities.

General groundwater quality objectives for all groundwaters in the basin include:

- Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
- In groundwaters used for domestic or municipal supply (MUN), the median concentration of coliform organisms over any seven day period shall be less than 2.2/100 ml.
- Groundwaters designated for MUN shall not exceed the chemical or radionuclides limits specified in California Administrative Code Title 17.



Source: Department of Housing and Urban Development Federal Insurance Administration

Flood Hazard Boundary Map
Figure 2-2

- Groundwaters designated for agricultural supply shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

Specific mineral objectives for groundwater basins have not yet been determined by the Lahontan Regional Board.

BIOLOGICAL RESOURCES

A biological resource survey was conducted on and immediately adjacent to the existing treatment plant property and along the portion of the proposed pipeline alignment not within existing streets. The complete results of the survey (Frank Hovore & Associates) are included as Appendix A.

Vegetation

There appears to be little natural terrain within the areas surveyed. The project sites are located in areas which consist primarily of degraded upper Mojave desert habitat, vegetated with typical invasive non-native herbaceous species including Chenopod (Saltbush) Scrub habitat and Mojave Creosote Bush Scrub habitat (terminology after Holland, 1986). These communities are widespread in the Mojave desert. Dominant plant species in the Saltbush Scrub include fourwing saltbush, mustards, and Russian thistle, with occasional individuals of other saltbush species, Indian ricegrass and non-native grasses. Formations of these species on lands surrounding the existing treatment facilities are dense to moderately sparse, depending upon the degree to which they have been recently disturbed. Typical species in the Creosote Scrub are creosote bush, cheesebush, boxthorn, Mormon tea, and burrobush. Depending upon the amount and timing of winter and spring rainfall, various annual grasses and wildflowers may appear from March to June. In general, groundcover vegetation over the pipeline alignment is sparse, and shrubs are well-spaced.

Virtually all of the open space around the exiting treatment plant has been graded and/or cleared periodically as part of area maintenance, and contains primarily invasive (both native and non-native species). The dominant shrub, fourwing saltbush, forms dense formations along the north portion of the site, spreading from the fenceline to the Cache Creek wash margin. This habitat is dominated by saltbush, and contains very low floral diversity, with only various non-native mustards and Russian thistle competing significantly with saltbush for space and cover values.

The area immediately east of the treatment plant has been graded and contains virtually no natural vegetation aside from emergent non-native herbaceous species. Between the treatment plant and Nelson Road, the land is more-or-less intact, although both runoff and vehicle use have altered the soil surface to a relatively great extent. The vegetation would be characterized as severely degraded Creosote Scrub, thinly distributed, and covered with trash and debris.

From Nelson Road to Mendiburu Road the roadside habitats to a distance of 50 ft are entirely disturbed and receive regular vehicle use. Along the north-west side of Nelson, there is grading up to 100 ft from the asphalt, with no natural vegetation. The south side of Mendiburu is heavily disturbed, with virtually no natural habitats intact.

Wildlife

The most abundant reptile species seen along the alignment and on the treatment plant site was the Great Basin whiptail lizard, with side-blotched lizard, zebra-tailed lizard, leopard lizard, southern

desert horned lizard, and spiny lizard observed in lesser numbers. A red coachwhip was the only snake observed during the survey, but gopher snakes, glossy snakes, sidewinder rattlesnakes, and several species of burrowing sand snakes would be expected occasionally on the natural areas within the survey zone.

Bird species diversity around the treatment ponds was relatively high and included: mourning dove, Brewer's blackbirds, western mockingbirds, meadowlarks, sage sparrow, horned lark, along with several species of flycatchers and swallows. Common ravens occurred commonly over the property, but do not nest on or near the sites surveyed. A few wading birds, including killdeer, American avocet, and black-necked stilt, were observed in the area of treatment ponds, feeding in the shallower pools and resting on berms.

Desert kangaroo rat and antelope ground squirrel were observed on the treatment plant site, and a few black-tailed jackrabbit, along with considerable rabbit scats, were seen. Coyote are the most common large predators on the site, and evidence (tracks, scats) of other smaller predators such as skunks, raccoons and possibly kit fox was observed. It appears that antelope ground squirrels and kangaroo rats have dug burrows into the exiting pond berms along the north margin of the site, inside the fence.

The only wildlife seen along the pipeline alignment consisted of the more disturbance tolerant lizard species (side-blotched, whiptail), and burrow evidence of kangaroo rats in remnant Creosote Scrub lots. One antelope ground squirrel was seen along the north margin of Mendiburu Road, and a few individuals of this species may persist in open space lots along Conklin Boulevard, but in general the areas marginal to the road have very low habitat values.

Sensitive Species. Several sensitive species have the potential to occur within the project site areas. These include snowy plover, burrowing owl, great blue heron, prairie falcon, LeConte's thrasher, pallid bat, Townsend's pale big-eared bat. Threatened or endangered species potentially on site include desert tortoise and mojave ground squirrel (MGS).

California Desert Tortoise. The proposed project site and surrounding terrain was surveyed for California desert tortoise on May 9, 1991 and again in detail on June 12, 1992. This species is currently listed by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) as Threatened. Survey transects were conducted around the treatment plant site, covering all habitat types and potential tortoise areas. No desert tortoise sign were located on the project site. A single large male tortoise was seen along Conklin Avenue north of the intersection with Mendiburu Road. A single old scrape was seen in the open lot between the existing treatment plant and the northern margin of Nelson Road. Occasional transient tortoises undoubtedly venture south from natural terrain across Mendiburu and into residential areas, but no sign of activity was seen anywhere in the alignments surveyed.

Mojave Ground Squirrel. The MGS is a state listed Threatened species and a Candidate 2 Federal species. Candidate species, Category 2 are taxa which existing information indicates may warrant listing as endangered or threatened, but for which substantial biological information to support a proposed rule is lacking. Visual and trapping surveys (using CDFG protocols) were completed for MGS in June 1992. No MGS were observed during the surveys, and no direct evidence of their presence was found on the property or adjacent lands. The habitat type and quality appears marginal to the maintenance of populations of this species, with heavy human use and intrusion

(relative to the tolerances of same by this species) evident over the entire survey area. No specific report of its former occurrence in this locality is known, and it is not believed to occur within the project zone.

NOISE

Land uses in the area of the proposed project are residential (with collector streets), undeveloped agriculture, and the desert tortoise natural area. Noise levels within this area are generally low and result from a combination of natural and man-made sounds with the overwhelming majority of noise resulting from vehicular traffic on nearby roadways. No sensitive noise receptors (schools, hospitals, libraries or convalescent homes) are located within the immediate vicinity of the project areas.

Exterior noise standards within the City are 45 - 55 dB(A) for residences, 60-65 dB(A) for commercial properties and 70 dB(A) for industrial and manufacturing areas (City Noise Ordinance). The lower dB(A) requirements are for 10:00 p.m. to 7:00 a.m. and the higher levels are allowed from 7:00 a.m. to 10:00 p.m. According to the City General Plan (1974), compatible noise levels (in Ldn) are 55 dB for single-family dwellings, to 80 dB for agriculture and to 80 dB for Open Space and Natural Resources (Noise Element of the California City General Plan, 1974).

According to the City's Noise Ordinance, construction noise shall not create any noise that endangers the public health, welfare or safety, exceeds 60 dB(A) as measured on residential property or causes a noise level on any other property to exceed:

- the noise standard for a cumulative period of more than thirty minutes in any hour; or
- the noise standard plus 5 dB(A) for a cumulative period of more than fifteen minutes in any hour; or
- the noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour; or
- the noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour; or
- the noise standard plus 20 dB(A) for any period of time.

LAND USE

The zoning of the existing treatment plant property is RA - recreational and agricultural. South of Mendiburu Road immediately adjacent to the existing treatment plant, the zoning is for multiple family residential.

POPULATION AND HOUSING

California City began as a private land development with the first sale of land occurring in 1958. Today, it is one of the largest (in land area) incorporated cities in California with an estimated potential for over 62,000 dwelling units (Housing Element of the California City General Plan, 1984). In 1977, the City had 2,282 persons residing in 975 housing units. As of January 1, 1991, the numbers had risen to 7,181 residents in 2,884 dwelling units. Kern County as a whole supported a population of 559,886 residents in over 202,500 dwelling units as of January 1, 1991. The County's vacancy rate for housing units averaged 8.34 in 1991 while California City had 11.89 percent of all dwelling units vacant (California Department of Finance).

Estimates made by the Kern Council of Governments (COG) indicate that California City will grow by approximately 3 percent per year for a year 2000 population of 14,800 and 27,464 persons by 2010. The 2010 projection for the whole county is 991,772 residents. The City's planning staff expects population to increase by approximately 4 percent per year.

CIRCULATION

Major highways near California City include State Route 14 which connects to the Golden State and the San Diego Freeways. South of the City, State Route 58 provides east-west circulation. Interstate 395, which connects the Riverside area with the National Parks to the north, occurs less than a mile and a half from the City's eastern border. Local streets within the City are extensive and widely disbursed although not all collector streets are paved. The treatment plant is off of Mendiburu Road and the pipeline alignment will occur within Nelson Drive, Calhoun Road, and North Loop Boulevard. Traffic on these roadways is generally light.

PUBLIC SERVICES

- Fire protection is provided by the California City Fire Department located at 8190 California City Boulevard.
- Police protection is provided by the California City Police Department located at 8190 California City Boulevard.
- Students within California City attend schools of the Mojave Unified School District. The school closest to the project site is an elementary school located off 90th Street (over one mile from the site).

UTILITIES

- Southern California Edison Co. supplies electric service within the City.
- Southern California Gas Co. provides natural gas within the City. Liquid propane gas is also widely used.
- California City telephone service is supplied by Continental Telephone Company.

Water

Water services in the City are provided by the City's Public Works Department. The Department's facilities have a maximum pumping capacity of eight million gallons per day. The City obtains approximately 80 percent its water supply from wells located within the developed portion of the City. The remainder is purchased from the Antelope Valley-East Kern Water Agency (AVEK), a purveyor of the State Water Project.

Sewer

Sewerage service is provided by the City's Public Works Department. The existing treatment plant consists of oxidation ponds for treatment with final disposal by means of percolation and evaporation. The collection system consists of 8 to 12 inch diameter sewers with an interceptor system of 12 to 15 inch diameter sewers which carry the wastewater to the treatment plant. The

collection system flows by gravity except for the lift station at the treatment plant site. A unit flow of 100 gallons per capita per day is assumed (Conservation Element of the California City General Plan, 1973).

Storm Drains

Runoff originating west of the City is conveyed through the City via Cache Creek and other intermittent streams. Within the developed areas of the City, storm water is conveyed in the streets utilizing curbs and gutters as available. Street flow is then intercepted by drainage channels, usually improved natural channels which existed before the area was developed.

Solid Waste

Solid waste within California City is collected by Benz Sanitation and transported to the Mojave Sanitary Landfill located on Silver Queen Road, approximately four miles south of the City of Mojave off Route 14.

AESTHETICS

Within California City, Twenty Mule Team Parkway is designated as a scenic highway route. It begins at the intersection of Randsburg/Mojave Road and continues northeasterly to the San Bernardino County line, intersecting with Highway 395. The 16 miles of this roadway offer a panoramic view of the Mojave Desert with an abundance of desert wildlife. Twenty Mule Team Parkway is located east of the project site but not adjacent to the property. Scenic views from the project site include the Tehachapi Mountains to the northwest.

RECREATION

Within the City, the Central Park lake is used for boating, fishing and aesthetic enjoyment but not for body contact sports. Other facilities include a driving range and golf course, community center, swimming pool, sports arena, Borax Hill park, Little League ball park and the Galileo Hill Park (operated by a private developer).

CULTURAL RESOURCES

The prehistory and ethnohistory of the western Mojave Desert are comparatively poorly known. On the Antelope Valley desert floor, sites are usually found in close proximity to a spring or where the water table is high. Ancient human habitation in eastern Kern County tended to be concentrated in the Tehachapis and is only minimally represented on the Antelope Valley floor. It is likely that the same peoples who lived at seasonal camps near reliable sources of water in the mountains and foothills, at least during later prehistoric periods, were the same as those who periodically travelled to the Antelope Valley floor. The earliest occupation of the Antelope Valley may date to 2000-4000 B.C. Protohistoric and Late Prehistoric peoples that may have made use of the sandy stretches of the Antelope Valley floor are the Kitanemuk or the "Serrano" and/or Vanyume and the Tataviam or Alliklik. The history of aboriginal exploitation of the western Mojave Desert/Antelope Valley is probably that of limited use by transient groups that at no time established permanent residence year-round in single locations.

A record search was completed at the Southern San Joaquin Valley Regional Office of the State Historic Preservation Office at California State University at Bakersfield. This investigation

revealed that no prehistoric or historic archaeological sites had been previously recorded upon the project site. The record search revealed that there are five recorded sites along Cache Creek between one and three miles to the north of the project area. A field reconnaissance of the treatment plant property was completed on Saturday, June 29, 1991; no cultural resources were discovered on this property. No rock outcrops or overhangs were encountered, so the possibility that shelters or rock art might be present on the parcel is nonexistent. The pipeline alignment was not surveyed since it exists within previously disturbed paved streets.

The complete archaeological resources report for the subject property is on file with the City.

CHAPTER 3

ANALYSIS OF IMPACTS AND MITIGATION MEASURES

This section presents the expected environmental impacts of the proposed project and identifies mitigation measures as appropriate. The format of the preliminary environmental analysis is the environmental checklist included in California Environmental Quality Act (CEQA) guidelines. The following explains all questions on the checklist.

1. Earth

Will the proposal result in:

a. **Unstable earth conditions or in changes in geologic substructures?** No. The project will not require any excavation of a depth sufficient to alter substructures or create unstable earth conditions. Maximum depth of excavation will be 30 ft.

b. **Disruptions, displacements, compaction, or overcovering of the soil?** Yes. Construction of the new facilities (including five sludge drying beds) will require soil excavation. Approximately 6,500 cubic yards of excess soil will require off-site disposal. Removal and disposal of the soil will be the responsibility of the contractor. The Mojave Landfill does require clean fill for use as daily cover and can accommodate from 25 to 50 trucks per hour. The impact of this soil displacement will be less than significant.

c. **Change in topography or ground surface relief features?** Yes. Construction will include limited grading on the treatment plant site, excavation for construction of the clarifier, and construction of the sludge drying beds. While this will result in minor alterations in surface relief, the impact is insignificant.

d. **The destruction, covering, or modification of any unique geologic or physical features?** No. No unique geologic or physical features currently exist at the project property, therefore none will be affected by construction.

e. **Any increase in wind or water erosion of soils, either on or off the site?** Yes, during construction, wind erosion potential would increase due to the increase in exposed soil. Fugitive dust is generated at the rate of approximately 1.2 tons per acre of construction per month of activity (SCAQMD, 1987).

   Dust emissions will be mitigated by regular watering of the construction site. The specifications will state that the contractor is responsible to water the construction area sufficiently to prevent dust in an amount damaging to property, cultivated vegetation, domestic animals, causing a nuisance to persons living in or occupying buildings in the vicinity.

   Water erosion is unlikely because of low rainfall and relatively flat slopes. Water erosion potential will be temporarily increased during the earth moving activities of the construction phase. Project related soil erosion impacts are minor, temporary, and less than significant.

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?** No. The nearest stream channel, Cache Creek, will be not be affected by the proposed project. No discharge to this water body is proposed and site erosion will be mitigated as in 1. e. above. While the project does include

additions of reclaimed water to the lake within Central Park, no related changes in deposition will result.

g. **Exposure of people or property to geologic hazards such as earthquake, landslides, mudslides, ground failure or similar hazards?** Maybe. The project site is located near several fault zones. New facilities will be subjected to the potential hazards of ground shaking, ground failure, and surface faulting. Design of the new structures will be based on the most probable ground acceleration for the site (0.35 g). Impacts will be less than significant as mitigated by appropriate design features.

2. Air

Will the proposal result in:

a. **Substantial emissions or deterioration in the ambient air quality?** Maybe. Project construction will have a short term impact on local air quality from construction equipment emissions. Additionally, construction activities will generate fugitive dust at the rate of approximately 1.2 tons per acre per month of activity (SCAQMD, 1987). The greatest concentration of dust will occur during strong winds, during loading of excavated materials onto trucks, and during unloading of earth material onto a stockpile, and the reverse sequence of operations during backfilling.

Temporary air pollutant emissions will also be generated by the truck trips required to dispose of the 6,500 cubic yards of excess soil generated by the project. An estimated 325 truck trips will be required over the excavation period. If a majority of the soil is taken to the Mojave Sanitary Landfill, a round trip of 40 miles can be assumed. Emissions for the truck trips would be approximately:

Pollutant	Emission Factor (gm/mi)	Total Emissions (lbs)
Reactive Organic Gases	2.93	84
Carbon Monoxide	8.37	240
Nitrogen Oxides	17.20	493
Particulates	3.3	95
Sulfur Oxides	3.2	92

Source of emissions factors: SCAQMD, 1987

Emissions would be spread over the length of the excavation period and do not represent daily estimates.

Emission thresholds for construction activities are not specifically addressed by the Kern County AQAP. However, implementation of the following mitigation measures will reduce project related air impacts to a less than significant level. The Contractor shall:

- Control dust by regular watering of the construction site;
- Use low-sulfur (0.05 percent by weight) diesel fuel in all construction equipment requiring diesel fuel;

- Maintain all construction equipment in proper tune;
- Cover the dirt in trucks during on-road hauling;
- Avoid the use of on-site temporary electric power generation; and
- Select construction equipment with the lowest air emissions and best energy efficiency.

Once in operation, the modified treatment plant will require more energy for operation which will in turn increase off-site emissions at the power plant source. This level of this increase is minor and less than significant.

Air pollutant emissions related to project operation could be reduced by implementation of the following mitigation measures. The California City Public Works Department shall:

- Install energy-efficient lighting at the treatment plant; and
- Use native drought-resistant plant species for any treatment plant property landscaping to reduce water consumption and to provide passive solar benefits.

Normal treatment plant operation will require electrical power only. In the event of electric utility power failures, an emergency power generator(s) will be used to meet energy demands. Currently, one generator exists on-site but the proposed plant expansion may require one additional generator. Impacts on air quality from the use of these generators would be temporary. Implementation of the following Best Available Control Technology (BACT) is required by the Kern County Air Pollution Control District and will reduce adverse impacts to a less than significant level:

For diesel-fired internal combustion engines:
- Turbocharger with intercooler
- Injection timing retarded 4° F, B.T.C. (unless voids UL or Fire Marshall certification)
- Use of low sulfur fuel.

For natural gas-fired internal combustion engines:
- Clean burn (very lean fuel mixture and multichamber cylinder head with multiple ignition sources) or
- Selective Catalytic Reduction (SCR).

For all engines:
- Zero percent opacity visible crankcase emissions, ie. positive crankcase ventilation (PCV) (or equivalent control).

b. The creation of objectional odors? Maybe. The proposed treatment plant expansion includes the construction of five sludge drying beds a site east of the existing percolation ponds. At a flow rate of 1.0 mgd, approximately 180 pounds of sludge per day would be generated. The sludge will be removed from the secondary clarifiers after an approximate residence time (in the aeration basins) of 60 days. As this "old" sludge will be properly digested, the generation of extremely objectionable odors is not anticipated. According to records from the California City Airport, winds in the City come from the west 80% of the time. Wind speed and direction information was also obtained from Edwards Air Force Base Weather Station (located approximately 15 miles south of the treatment plant). Data averages by month for the last 40 years are presented in Table 3-1. An average wind direction of 235

TABLE 3-1

ANTELOPE VALLEY WIND INFORMATION SUMMARY

MONTH	DIRECTION (degrees)	MEAN SPEED (knots)	EXTREME SPEED (knots)
January	250	6	53
February	250	7	58
March	250	9	64
April	250	10	52
May	240	11	54
June	240	11	51
July	230	13	51
August	230	12	53
September	230	14	42
October	230	10	45
November	180	9	48
December	240	14	58

Notes: Data are from the Edwards Air Force Base Climatological Data Base.
Information represents average data for the last 40 years from the Base Weather Station.

degrees was recorded from this station. Wind direction from the east south east would carry any odors emanating from the treatment plant or sludge drying beds towards Randsburg Mojave Road and away from the closest residences to the south. Wind from the south, as in February, would carry odors to the north towards the tortoise preserve and again away from residences.

Since excessive odor generation is not expected and since average wind direction will not carry odors directly into residential areas, project-related odor impacts will be less than significant.

c. **Significant alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?** No. Implementation of the proposed project will not alter local or regional climate.

3. Water

Will the proposal result in:

a. **Changes in currents or the course or direction of water movements, in either marine or fresh water?** No. Project implementation will not directly affect the course or direction of any natural surface water feature.

b. **Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?** No. Implementation of the proposed project will not significantly increase the area of impervious surface already present on the site. Therefore, absorptions rates, drainage patterns, or the rate and amount of surface water runoff will not be altered over existing conditions.

c. **Alterations to the course or flow of flood waters?** No. While the existing treatment plant property does encompass some the 100-year flood hazard area adjacent to Cache Creek, construction of all new facilities (including sludge drying beds) will occur outside the hazard area as mapped by the Department of Housing and Urban Development Federal Insurance Administration (Figure 2-2). Existing percolation ponds within the flood zone are protected by berms. The course and/or flow of flood waters will be unaffected by project construction.

d. **Change in the amount of surface water in any water body?** Maybe. Operation of the proposed project will include additions of reclaimed water to the lake within Central Park which may slightly increase pond surface area. The lake will be equipped with a level to sensor which will start/stop pumps at the plant by telemetry, thereby preventing flooding. The impact of this possible increase in surface water is not considered adverse. Additionally, since the majority of percolation ponds will no longer be required under normal operation, the surface area of the ponds will be dry (less than 10 acres). Under existing conditions, only half of the existing percolation ponds are full at any one time. This reduction in surface water is less than significant.

e. **Discharge into surface waters, or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?** Yes. Operation of the proposed project will include additions of reclaimed water into the lake located within Central Park. The lake is used for boating, fishing, and aesthetic enjoyment but not for

body contact sports. The lake water is currently high in nutrients and supports significant algal growth. Introduction of tertiary treated reclaimed water may be potentially beneficial. Therefore, no significant adverse impacts to water quality will result from project implementation.

f. **Alteration of the direction or rate of flow of groundwater?** No. The project does not involve percolation of water in quantities great enough to alter the rate or flow of groundwater.

g. **Change in the quantity of groundwater, either through direct additions, or withdrawals, or through interception of an aquifer by cuts or excavations?** Yes. The proposed project does not involve any direct additions or withdrawals of groundwater. Indirect minor additions may occur from percolation (from the storage pond at the treatment plant site) and/or landscape irrigation of the reclaimed water. More significantly, since the project provides reclaimed water for landscape irrigation use, substantial quantities of potable water will no longer be withdrawn from the California City Subunit aquifer. The impact is beneficial.

h. **Substantial reduction in the amount of water otherwise available for public water supplies?** No. Since the proposed project involves the use of reclaimed water for landscape irrigation, potable water currently used for that purpose will be available. The impact is beneficial.

i. **Exposure of people or property to water related hazards such as flooding or tidal waves?** No. Proposed new facilities will be constructed on the part of the treatment plant property located outside the boundary of the 100-year hazard zone as defined by the Department of Housing and Urban Development Federal Insurance Administration.

j. **Change in the quality of groundwater?** Maybe. Effluent water quality in November of 1989 was described by total dissolved solids of 778 mg/l, chlorides of 103.9 mg/l, sodium of 192.9 mg/l, and sulfates of 99.4 mg/l. The discharge permit for the expanded plant will require effluent with a biochemical oxygen demand (BOD) of no greater than 30 mg/l and the upgraded treatment processes will improve effluent quality over existing conditions. Since no specific water quality objectives exist for the affected groundwater basin, no direct comparisons can be made. However, since effluent quality will improve and percolation will decrease, the impact is potentially beneficial.

4. Plant Life

Will the proposal result in:

a. **Change in the diversity of species, or number of any species of flora (including trees, shrubs, grass, crops, and aquatic plants)?** Yes. Construction of the proposed improvements on the treatment plant site, sludge drying bed area, and along the route of the pipeline alignment will disturbed existing vegetation. All of the construction areas have been previously disturbed and no sensitive plant species were identified on these parcels. Some remnant, severely degraded, Creosote Scrub habitat exists between the treatment plant and Nelson Road. However, due to the degraded nature of the exiting habitat and its relatively

widespread distribution, temporary disturbance of the area would be a less than significant impact. Reductions in the number of any flora species will be less than significant.

b. **Reduction of the numbers of any unique, rare, or endangered species of plants?** No. No sensitive plant species were identified on the project parcels and project development will not result in the loss of specific plant resources or vegetation communities of concern to local, state, or federal agencies.

c. **Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?** No. The proposed project does not include planting of species not already found in the area nor will it result in a barrier to the normal replenishment of existing species.

d. **Reduction in acreage of any agricultural crop?** No. The existing treatment plant site, the sludge drying bed area, and the pipeline alignment are not currently used for agriculture. Therefore, project implementation will not result in reduction in acreage of any agricultural crop.

5. **Animal Life**

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)?** Yes. Project construction will result in surface disruption to less than five acres of previously disturbed area. Some rodent, bird, and/or invertebrate species may be temporarily displaced. Additionally, since the majority of the percolation ponds will no longer be required under normal operating conditions, birds currently attracted to the percolation pond sites may relocate. Existing use of the percolation ponds by various bird species is transitory and of low-value, as no food resources exist in the ponds. These impacts are minor and, since no sensitive species are involved, are less than significant.

b. **Reduction of the numbers of any unique, rare, or endangered species of animals?** Maybe. Data base-listed species which may reasonably be expected to occur within the project site areas include: snowy plover, great blue heron, prairie falcon, burrowing owl, LeConte's thrasher, pallid bat, and Townsend's pale big-eared bat. Project implementation may reduce resting area for snowy plover and great blue heron (since the majority of the percolation ponds will no longer be in use). Due to the small area and low value of the site, the impact is less than significant. No evidence of nesting was seen for burrowing owl, pallid bat, or Townsend's pale big-eared bat. Implementation of the proposed project would have no impact on these species. Prairie falcon utilization of the site is unlikely due to the close proximity of residences. LeConte's thrasher was not observed during the biological resources survey but may occur in the Cache Creek channel. Any disturbance in this area would pose a minor incremental loss of marginal habitat for this species but would not be a significant impact.

Project construction has the potential to disturb two other sensitive species: the state and Federal Threatened desert tortoise and the California Threatened, Federal Candidate 2 Mojave ground squirrel. No MGS were observed during the field survey and no direct evidence of their presence was found on the property or on adjacent lands. The habitat type and quality

appears marginal to the maintenance of populations of this species. Implementation of the proposed project should have no direct or indirect impacts to this species.

Since no specimens or sign were found during the field survey, changes to the existing percolation ponds or construction within the existing footprint of the fenced treatment plant area would have no impacts on desert tortoise. Expansion onto lands adjacent to the existing site would likewise not appear to threaten any individuals of this species, but desert tortoise may wander into Creosote Scrub habitats on lots south of the fenceline. Inadvertent disturbance to desert tortoises during construction would constitute a significant impact. Therefore, prior to the start of construction activity at the treatment plant or the portion of the pipeline north of Nelson Drive. The City shall:

- Resurvey for California desert tortoise on the access road from Nelson Drive to the treatment plant and the area proposed for sludge drying beds;
- Install a footed fence (at least 1 ft below grade) laterally along the access road from Nelson Drive to the treatment plant and the area proposed for sludge drying beds to prevent entry by tortoises from Cache Creek channel or adjacent lands, and to exclude them from grading activities;
- If any individual tortoises are discovered, they should be cleared from the site under permit from the U.S. Fish and Wildlife Service. The clearance should be conducted while the reptiles are active, during the species' emergence and feeding cycle in the spring;
- Vehicular passage around and on the sites should be kept to a minimum; and
- Confine all pipeline construction activity (including truck and equipment movement) to within the existing roadway right of way.

Implementation of the above mitigation measures will reduce the potential impacts on sensitive species to a less than significant level.

c. **Introduction of new species of animals into an area, or result in a barrier to the migration of movement of animals?** Maybe. No new animal species will be introduced as part of the proposed project. Impacts to migratory birds include a reduction in potential resting areas since the majority of percolation ponds currently used will no longer be required. Since one pond will continue to be used for storage and due to the low-value of the existing resource, no significant impacts on animal migration will occur.

d. **Deterioration to existing fish or wildlife habitat?** No. No significant natural habitat occurs in any of the areas proposed for project development.

6. Noise

Will the proposal result in:

a. **Increases in existing noise levels?** Yes. Noise levels will be temporarily elevated over the background traffic noise during the construction period. Noise levels generated by various

pieces of construction equipment range from approximately 68-97 dB(A) and are described in Table 3-2.

The sound pressure level (SPL) from a certain activity at a certain distance, R, can be calculated by the following equation:

$$SPL_R = SPL_X - 20 \log (R/X)$$

where: SPL_R = SPL at a distance R from the noise source, in dB
SPL_X = SPL at a distance X from the noise source, in dB
R, X = Distance in feet from the noise source

Residences are the most sensitive noise receptors located adjacent to the treatment plant property (approximately 375 feet from the plant boundary). Assuming the highest noise level equipment is used, 97 dB at 50 ft, then:

$$SPL_{375} = 97 - 20 \log (375/50) = 79.5 \text{ dB}$$

Residences located along the pipeline alignment may be as close as 50 feet from construction activity.

$$SPL_{250} = 97 - 20 \log (50/50) = 97 \text{ dB}$$

Construction at both these sites would violate the City's Noise Ordinance standard for construction activity which prohibits the creation of noise levels in excess of 60 dB(A) on residential property.

In order to mitigate noise impacts from construction activity, the contractor shall:

- Equip construction machinery with noise reduction equipment (e.g. mufflers).
- Limit construction activity to the period of 7:00 a.m. to 7:00 p.m., Monday through Saturday excluding holidays.

In addition to the 60 dB(A) standard for residential property, compliance with the City's Noise Ordinance would also prohibit the generation of noise:

- that endangers the public health, welfare or safety, or causes a noise level on any other property to exceed:
  - the noise standard for a cumulative period of more than thirty minutes in any hour; or
  - the noise standard plus 5 dB(A) for a cumulative period of more than fifteen minutes in any hour; or
  - the noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour; or
  - the noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour; or
  - the noise standard plus 20 dB(A) for any period of time.

TABLE 3-2

CONSTRUCTION EQUIPMENT NOISE RANGES

Equipment	Noise Range at 50 feet (dBA)
Earthmoving	
Compactors (rollers)	72-75
Front Loaders	72-85
Backhoes	72-93
Tractors	77-97
Scrapers, Graders	80-93
Pavers	85-88
Trucks	82-93
Materials Handling	
Concrete Mixers	75-87
Concrete Pumps	81-83
Cranes, movable	75-87
Stationary	
Pumps	68-72
Generators	72-83
Compressors	75-87
Impact Equipment	
Jackhammers, Rock Drills	82-97
Vibrator	69-81
Saws	72-82

Source: Canter, 1977.

Even with the use of equipment mufflers during construction, noise levels in excess of the standards stated in the City's Noise Ordinance may be created. The Department of Public Works will be required to obtain a noise variance from the City's Noise Variance Board. With implementation of the above mitigation and the granting of a noise variance for the length of the construction period, project construction related impacts on noise are less than significant.

Noise levels on the project site will also be elevated during project operation. The expanded facilities will include noise generating pumps. However, since the pumps will be enclosed in wet wells, noise levels should be attenuated below existing standards and no significant noise impacts will be generated.

b. **Exposure to people to severe noise levels?** Maybe. Persons nearby the construction activity (within 50 feet) may be intermittently exposed to noise levels in excess of 90 dB(A). Since this impact is temporary and localized, it is considered less than significant.

7. Light and Glare

Will the proposal produce new light or glare? No. Lighting present on the exiting treatment plant site will be unaltered or undergo minor, less than significant changes.

8. Land Use

Will the proposal result in a substantial alteration of the present or planned land use of an area? No. The treatment plant site is currently zoned for recreation and agriculture. Construction of the sludge drying beds would prohibit both of these activities. However, the existing treatment plant property has a similar zoning, therefore the impact of the proposed plant expansion on land use is considered less than significant. Installation of the pipeline to connect the treatment plant with Central Park will not result in any permanent alteration to existing land use.

9. Natural Resources

Will the proposal result in:

a. **Increase in the rate of use of any natural resources?** Yes. Improvements at the treatment plant will require additional electric service which may result in an increase in consumption of fossil fuels. This level of consumption is considered less than significant.

b. **Substantial depletion of any nonrenewable resource?** No. The quantity of fossils fuels required to accommodate electric demand at the upgraded treatment plant is not considered a substantial depletion.

10. Risk of Upset

Will the proposal involve:

a. **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?** Maybe. Chemical use at the expanded plant will include

alum, polymer, and chlorine. Chorine will be stored in six one-ton cylinders (90 days storage) and leak detection consistent with the Uniform Fire Code will be provided. Current safety practices for chemical transport and handling will continue to be employed after expansion. The impact is less than significant.

b. **Possible interference with an emergency response plan or an emergency evacuation plan?** Maybe. Increased numbers of slow-moving construction vehicles on local roadways may interfere with the passage of emergency vehicles. The following measure will reduce this impact to a less than significant level:

- The Contractor shall submit a City-approved traffic plan to the City Engineer of California City prior to the start of construction activities.

11. Population

Will the proposal alter the location, distribution, density or growth rate of the human population of an area? Maybe. Project construction will not directly affect the growth rate or density of California City. However, expansion of any infrastructure can be considered growth inducing. The Kern Council of Governments is anticipating the population of the City to increase almost 4 fold by 2010 over January 1991 values. The proposed project would provide wastewater treatment 3.3 times existing levels and would therefore be considered growth accommodating. Since the proposed project will not provide service for significantly more population than is planned for by Kern COG, no significant impact on population will result.

12. Housing

Will the proposal affect existing, or create a demand for additional housing? Maybe. The project will not have any direct effect on housing within California City. The secondary impacts on population are discussed above. Project-related impacts on housing are less than significant.

13. Transportation/Circulation

Will the proposal result in:

a. **Generation of additional vehicular movement?** Yes. During construction, additional vehicles would be expected from construction workers commuting to and from the site. Additionally, removal of the approximately 6,500 cu yd of excess fill material will require approximately 325 truck trips spaced over the length of the construction period. Operation of the treatment plant will involve two employees commuting to and from the site. Since traffic flow in the area is light and the increases are minor, the impact is less than significant.

b. **Effects on existing parking facilities or demand for new parking?** Yes. During construction, additional parking will temporarily be required for the construction workers. Limited parking is available at the plant site for this temporary requirement. The impact is less than significant.

c. **Substantial impact upon existing transportation systems?** Maybe. Slow moving

construction vehicles, including those needed to dispose of approximately 6,500 cu yd of excess soil will be moving on and off site during the length of the construction period. Additionally, construction of the proposed pipeline may temporarily close one lane of traffic on each of the affected roadways. However, due to the low volume of exiting traffic on these roadways and since the contractor will develop a traffic control plan, the impact is not significant.

d. **Alterations to present patterns of circulation or movement of people and/or goods?** Yes. Project construction may result in temporary lane closures and/or detours. Due to the low traffic volumes on the affected roadways and the short duration of the disturbance, the impact is less than significant.

e. **Alterations to waterborne, rail, or air traffic?** No. The project will not directly effect any watercourse, railway, or airport.

f. **Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?** Maybe. With the increased movement of construction vehicles, hazards to vehicles, bicycle riders, and pedestrians may temporarily increase adjacent to the project site during the construction period. Included in the project specifications will be a description of the Contractor's responsibility to provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the *Manual of Uniform Traffic Control Devices*. No significant impact will be created.

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?
b. Police protection?
c. Schools?
d. Parks or other public facilities?
e. Maintenance of public facilities, including roads?
f. Other governmental services?

a. - f. Maybe. Project construction will not directly impact any fire stations, police stations, or schools. None of these facilities are located in the immediate vicinity of the project site. However, during the construction period, increased numbers of large slow-moving vehicles will be present on local roadways, possibly obstructing the passage of emergency vehicles. In order to reduce this impact to a less than significant level, the Contractor shall submit a City-approved traffic plan to the City Engineer of California City prior to the start of construction activities.

Construction of the reclaimed water pipeline may temporarily restrict traffic flow to the park, but not prohibit park attendance. Irrigation of the park with reclaimed water will comply with Title 22 regulations and therefore not create any adverse impacts.

California City's increased population by 2010, which will be accommodated by the proposed increase in the capacity of the wastewater treatment plant, will cause an increased demand for

public services within the City. California City's Planning Department is currently updating the General Plan in order to plan for the necessary improvements to public services required by the anticipated population growth.

15. Energy

Will the proposal result in:

a. **Use of substantial amounts of fuel or energy?** Maybe. During the construction period, energy, chiefly as gasoline and diesel fuel, will be consumed by construction equipment and vehicles on site, and by workers' commutes to the site. Energy consumption would be unavoidable and irreversible, but would not be significant due to its small amount and short-term occurrence.

b. **Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?** No. The electricity required to operate the expanded treatment plant will not constitute a substantial or significant increase in energy consumption over existing conditions.

16. Utilities

Will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. **Power or natural gas?**
b. **Communication systems?**
c. **Water?**
d. **Sewer and septic tanks?**
e. **Storm water drainage?**

a.- e. Maybe. During the construction phase, limited service interruptions may be experienced at the treatment plant. However, before construction begins an extensive effort would be made to locate all the existing utilities lines within the construction area. During construction, conservative safety margins would be established to stay clear of existing buried utilities lines. Also, due to the increased electricity requirement, a larger transmission line and/or transformer may need to be installed by the power company at the treatment plant property. No significant impact will be created.

California City's increased population by 2010, which will be accommodated by the proposed increase in the capacity of the wastewater treatment plant, will cause an increased demand for utility services within the City. California City's Planning Department is currently updating the General Plan in order to plan for the necessary improvements to utility services required by the anticipated population growth.

f. **Solid waste and disposal?** Maybe. The project will necessitate the disposal of approximately 6,500 cu yd of excess fill. This material will be sold by the contractor for use at other construction projects and/or hauled to a landfill. The Mojave Sanitary Landfill, located approximately 20 miles from the project site, accepts clean fill for use as daily landfill cover.

Operators at the landfill have indicated that soil could be deposited at the landfill by at least 25-50 trucks per day without disrupting landfill operation. The contractor shall submit a construction vehicle traffic plan to the City prior to the start of project construction. Project-related impacts on solid waste will be less than significant.

17. Human Health

Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)?

b. Exposure of people to potential health hazard?

a., b. Maybe. An average level of safety hazard to construction workers would exist at the construction site during the construction period. Adherence to standard Federal and state Occupational Safety and Health Administration (OSHA) regulations by the contractor would reduce this impact to a less than significant level. Project operation will provide effective wastewater treatment for the population of California City. The impact on public health is beneficial. Potential health impacts from the use of reclaimed water for irrigation are mitigation by strict adherence to Title 22 regulations. No significant impact will result.

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 significant creation of an aesthetically offensive site open to the public view? No. The project expansion involves previously disturbed areas: the existing treatment plant property, sludge beds area, and roadways. No significantly large structures are proposed which could obstruct desert views.

19. Recreation

Will the proposal result in impacts upon the quality of existing recreational opportunities? Maybe. During construction, access to Central Park may be slightly hampered. However, after implementation, the project will provide a reliable source of landscape irrigation water for the golf course and Central Park. The impact is beneficial.

20. Cultural resources

a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?

b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?

c. Does the proposal have the potential to cause a physical change which would affect unique ethnic or cultural values?

d. Will the proposal restrict existing religious or sacred uses within the potential impact area?

a. - d. Maybe. An archaeological resources inventory and impact assessment was made of the treatment plant site and surrounding area. The complete archaeological resources investigation for the subject property is on file with the City. An archival search revealed that no prehistoric or historical sites had been recorded on or within the boundaries of the study area, and an on-foot reconnaissance of the site confirmed that no cultural resources exist within the area to be developed.

A previously unrecorded prehistoric site (CA-KER-TS1) was discovered in the vicinity of the project area during the field reconnaissance. However, construction of the proposed project will be restricted to the proposed property with access confined to existing dirt roads in order to completely avoid this newly recorded archaeological site. With the implementation of this mitigation measure, no project-related significant impacts will result on archaeological resources. However, future development or disturbance to the south of the project site must take into account the presence of site CA-KER-TS1.

While no prehistoric or historic sites have been identified in the immediate vicinity of any proposed project facilities, there is still some potential for unknown cultural resources to be uncovered during project construction. Specifically, the pipeline alignment within existing paved streets was not surveyed for cultural resources. Therefore, to reduce impacts on cultural resources to a less than significant level, the contractor shall:

- Halt work in the immediate area of any cultural resource finding and retain a qualified archaeologist to inspect the area and present recommendations for further treatment. The recommendations of the archaeologist shall then be implemented prior to continuation of project construction in the immediate area of the finding.

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 restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? No. As mitigated, the proposed project will not have significant impacts on sensitive species such as the desert tortoise. Similarly, mitigation included as part of the project will prevent significant impacts to cultural resources.

b. Does the project have the potential to achieve short-term impact, 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). No. The project would have short-term impacts related to construction activity and long-term beneficial impacts related to the proper treatment of wastewater for the citizens of California City. Additionally, the project will limit the amount of potable water currently used for irrigation within Central Park. The impact is beneficial.

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). No. The project has no cumulative adverse impacts.

d. **Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?** No. The project will provide wastewater treatment and non-potable water supply for the citizens of California City, a beneficial effect.

III. DETERMINATION

On the basis of this initial evaluation:

___ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

_X_ 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 herein have been added to the project. A NEGATIVE DECLARATION will be prepared.

___ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Signature _____

Title PUBLIC WORKS DIRECTOR

Date 1-6-93

CONSISTENCY WITH EXISTING ZONING, PLANS AND LAND USE CONTROLS

The project involves no change in existing zoning or land use, as the new plant facilities would be located within the boundaries of the existing plant site, and the reclaimed water pipeline would be laid in existing streets.

REFERENCES

California City General Plan. Conservation Element, 1973. Housing Element, 1984. Land Use and Circulation, 1977. Noise Element, 1974. Open Space Element, 1973. Seismic Safety Element, 1975.

Kern County Air Pollution Control District (KCAPD), Southeast Desert Kern County, Air Quality Attainment Plan, 1991.

National Oceanic and Atmospheric Administration (NOAA). Climatology of the United States (1951 - 1980). No. 81, September, 1982.

Norris, R.M. and R.W. Webb. Geology of California. Wiley and Sons. 1990.

Regional Water Quality Control Board Lahontan Region (6). Water Quality Control Plan Report. 1987.

South Coast Air Quality Management District (SCAQMD). Air Quality Handbook. 1987.

PREPARERS OF THE INITIAL STUDY

The Initial Study was prepared by the following environmental professionals and engineers.

Project Manager	Janet L. Fahey, D. Env. P.E.
Project Scientists	Sarah M. Kuss Steven C. Atkinson
Biological Analyses	Frank Hovore & Associates
Cultural Resources Analyses	Brian D. Dillon, Ph.D.
Project Engineering Manager	Madhu Kundu
Project Engineering	Satish Kamath

APPENDIX A

BIOLOGICAL RESOURCES REPORT

[Note: Biological Resources Report for the area north of the existing treatment plant property (Original Bio Report) on file with the City of California City]

ENVIRONMENTAL SETTING

Site Descriptions and Habitat Types

The existing treatment facility and proposed pipeline alignment are located in areas which consist primarily of degraded (in varying degrees) upper Mojave desert habitat, vegetated with typical invasive non-native herbaceous species, alkaline-favoring Chenopod (Saltbush) Scrub habitat, and Mojave Creosote Bush Scrub habitat (terminology after Holland, R.F., 1986, *Preliminary Descriptions of the Terrestrial Natural Communities of California*, California Department of Fish and Game publ., 156 pp.). These communities are widespread in the Mojave desert, with the Saltbush Scrub occurring most widely, but in poorly defined trends, as it tends to form the vegetation type over disturbed or recovering sites (following grading, disking, etc.). Creosote Scrub extends from Death Valley southward to the Little San Bernardino Mountains and eastward into northern Arizona and southern Nevada. Both vegetation types characteristically occur on well-drained secondary soils with moderate to relative low capillarity, with many of the plant species being deep-rooted phreatophytes (species which are able to tap subsurface water systems). The dominant plant species in the Saltbush Scrub over the sites surveyed are fourwing saltbush (*Atriplex canescens*) mustards (*Descurania* sp., *Sisymbrium* sp., and *Thelypodium* sp.), and Russian thistle (*Salsola iberica*), with occasional individuals of other saltbush species, Indian ricegrass and non-native grasses. Formations of these species on lands surrounding the existing treatment facilities are dense to moderately sparse, depending upon the degree to which they have recently been disturbed. Typical species in the Creosote Scrub are creosote bush (*Larrea tridentata*), cheesebush (*Hymenoclea salsola*), boxthorn (*Lycium* spp.), Mormon tea (*Ephedra nevadensis*), and burrobush (*Ambrosia dumosa*). Depending upon the amount and timing of winter and spring rainfall, a various annual grasses and wildflowers may appear from March to June; in general, however, groundcover vegetation over the pipeline alignment is sparse, and shrubs are well-spaced.

Substrates over the site and alignment are primarily sandy or clay/sand types, some of the areas around the treatment plant appearing to be deep alluvial fans deposited by flooding along Cache Creek drainage. Soils along the pipeline alignment include some pale gravel deposits in low mounds, but in general all surface substrates along the alignment proper have been graded and compacted marginal to existing roads. There appears to be little natural terrain within the areas

surveyed, although some undeveloped lots along the east side of Conklin Avenue contain remnant stands of Creosote Scrub vegetation on what appear to be relatively natural sand formations.

VEGETATION

Existing Treatment Facility

Virtually all of the open space around the existing facility has been graded and/or cleared periodically as part of area maintenance, and contains primarily invasive (both native and non-native) species. The dominant shrub, fourwing saltbush, forms dense formations along the north portion of the site, spreading from the fenceline to the Cache Creek wash margin. This habitat is dominated by the saltbush, and contains very low floral diversity, with only various non-native mustards and Russian thistle competing significantly with saltbush for space and cover values.

The area immediately east of the treatment site has been graded into an elevated pad about 20 feet higher than the natural terrain, and contains virtually no natural vegetation aside from emergent non-native herbaceous species. Between the treatment plant and Nelson Road the land is more-or-less intact, although both runoff and vehicle use have altered the soil surface to a relatively great extent. The vegetation would be characterized as severely degraded Creosote Scrub, thinly-distributed, and covered with trash and debris, vehicle tracks, dog feces, and bisected by grading.

From Nelson Road to Mendiburu, and then along Mendiburu to Conklin Avenue, the roadside habitats to a distance of 50 feet are entirely disturbed and receive regular vehicle use. Along the north - west (the road curves) side of Nelson, there is grading up to 100 feet from the asphalt, with no natural vegetation. The south side of Mendiburu is heavily disturbed, with virtually no natural habitats intact; the north side of the vehicular use area (the road consists of several wide tracks, over 100 feet wide in total) has remnant Creosote Scrub habitat extending away from the road into relatively high-value desert. A 4-wheel vehicle track parallels the roadbed about 20 - 40 feet north of the graded lanes, and this appears to receive regular use. The strip of vegetation between this track and the road remains intact, although degraded by use and trash dumping.

Along Conklin Avenue south to the Municipal Golf Course the road is paved, through existing residential development, with several undeveloped lots on both sides of the street. The west margin of the road has a ± 30 foot wide graded and compacted strip continuous for the entire length of the alignment. The east margin was also graded, but is not compacted or maintained.

The southeast and northeast corners of Conklin and Margery Avenues contain lots with remnant Creosote scrub; the southeast corner at Rene has some natural scrub habitat extending over approximately one irregular acre, south to Sally; the remainder of the east side area to North Loop is a graded lot.

WILDLIFE

The most abundant reptile species seen along the alignment and on the treatment site was the Great Basin whiptail lizard, with side-blotched, zebra-tailed lizard, leopard lizard, southern desert horned lizard, and spiny lizard observed in lesser numbers.

A red coachwhip was the only snake observed during our surveys, but the same species as noted in the original report would be expected occasionally on the natural areas within the survey zone. Bird species diversity around the treatment ponds was relatively high, as might be expected with the presence of open water nearby. Mourning doves, Brewer's blackbirds, western mockingbirds, meadowlarks, sage sparrows, and horned larks, along with several species of flycatchers and swallows were seen on or over the property. Common ravens, a major culprit in the decline of desert tortoises in the Mojave region, occurred commonly over the property, but do not nest on or near the sites surveyed.

A few wading birds, including killdeer, American Avocet, and black-necked stilt, were observed in the area of treatment ponds, feeding in the shallower pools and resting on berms.

Desert kangaroo rat and antelope ground squirrel were observed on the treatment plant site, and a few black-tailed jackrabbit, along with considerable rabbit scats, were seen. Coyote are the most common large predators on the site, and evidence (tracks, scats) of other smaller predators such as skunks, raccoons and possibly kit fox was observed. It appears that antelope ground squirrels and kangaroo rats have dug burrows into the existing pond berms along the north margin of the site, inside the fence; both species can pass readily through chain-link fencing.

The only wildlife seen along the pipeline alignment consisted of the more disturbance-tolerant lizards species (side-blotched, whiptail), and burrow evidence of kangaroo rats in remnant Creosote Scrub lots. One antelope ground squirrel was seen along the north margin of Mendiburu, and a few individuals of this species may persist in open space lots along Conklin, but in general the areas marginal to the road have very low habitat values.

SENSITIVE SPECIES • Occurrence and Potential Impacts

Data base-listed species which might reasonably be expected to occur within the areas surveyed include:

- **snowy plover *Charadrius alexandrinus nivosus*)** -this small species might occur around the treatment ponds as a migrant, stopping to feed and rest near the open water. Project implementation would not affect this species except as it provides such opportunities.

- **great blue heron (*Ardea herodias*)** - this species was seen at the existing treatment facility. It is listed as a "Special Animal" by the CDFG, NDDB, for rookery sites only. Project implementation would have no impact to this species.

- **prairie falcon (*Falco mexicanus*)** - this species is found throughout the Mojave desert region, nesting in cliff-faces and high rock outcroppings. Given the proximity of residences and frequent human disturbance of the areas under consideration for this project, implementation would have no significant negative impact to the species.

- **burrowing owl (*Athene cunicularia*)** - this diminutive predator nests near the project site, and the presence of treatment pond embankments might induce continued use of the area, as this species commonly nests along canal and irrigation pond embankments. No evidence of nests or foraging use of the areas around the existing facilities or along alignments was seen, and implementation would have no effect on this species.

- **LeConte's thrasher (*Toxostoma lecontei*)** - this is a secretive bird known to frequent desert wash and open scrub habitats, and probably occurs on or near the existing treatment plant site, particularly in the Cache Creek channel. None were observed by FH&A biologists, but its secretive nature and dispersed population structure makes it difficult to survey. Disturbance of the site could pose a minor incremental loss of marginal habitat for this CSC taxon, but would not be a significant impact.

- **pallid bat (*Antrozous pallidus*)** - a recent addition to the CSC list, this species appears to be declining in the state. It forages terrestrially for nocturnal arthropods, especially jerusalem crickets and scorpions, and would be expected to occur at least on an occasional basis on the project site. No suitable roosts or breeding sites exist within the areas surveyed, and implementation would create no impact to this species.

- **Townsend's pale big-eared bat (*Plecotus townsendii pallescens*)** - this big-eared bat subspecies is widely-distributed throughout southern California and the southwestern deserts where it commonly roosts and breeds in caves and mine shafts. No specific habitats occur in the proposed project areas, and implementation would have no impact.

THREATENED AND ENDANGERED SPECIES

Desert Tortoise

The existing treatment site and pipeline alignments were surveyed in part for California desert tortoise (*Xerobates agassizi*) on 9 May 1991, and again in detail on 12 June 1992. This species is currently listed by the U.S. Fish and Wildlife Service (USFWS) and the CDFG as Threatened. Loss of individuals or habitat may be considered a significant impact. Survey transects were conducted around the treatment plant site, covering all habitat types and potential tortoise areas. Peripheral surveys of the property between the plant site and pipeline alignments, and along the road system leading to the golf course were also conducted by FH&A biologists, walking transects of opportunity over all habitat types and elevations. Survey personnel included F. Hovore assisted by I. Swift.

Results

No desert tortoise sign were located on the project site, but only a single large male tortoise was seen along Conklin Avenue north of the intersection with Mendiburu. A single old scrape was seen in the open lot between the existing treatment plant and the northern margin of Nelson Road, and tracks of two different tortoises were observed in the wash bottom of Cache Creek immediately west of this lot. The creek margin has been graded level to the site terrain at two points along the western margin of the site, and so tortoises wandering the wash bottom may occasionally come up out of the channel and onto the site. Occaisional transient tortoises undoubtedly venture south from natural terrain across Mendiburu and into residential areas, but no sign of activity was seen anywhere in the alignments surveyed.

Human depredation, both direct and incidental, is probably considerable in areas immediately adjacent to residential systems. Spent shotgun shells and bullet casings were found within the project area and on adjacent lands, and the entire area is criss-crossed with tracks from motorcycles and other off-road vehicles. Trash-dumping is common on the site, and we observed evidence of dogs and feral cats everywhere on the alignments.

Impacts

Changes to the existing percolation ponds or construction within the existing footprint of the fenced treatment plant area would have no impact on this species. Expansion onto lands adjacent to the existing site would likewise not appear to threaten any individuals of this species, but because it may wander into Creosote Scrub habitats on lots south of the fenceline, it should be surveyed for and cleared (under permit from U.S. Fish and Wildlife Service) prior to any wholesale clearing or excavating on this property. Confining pipeline construction to areas within 30 feet of the existing road alignments would practically preclude disturbance of critical habitat, populations or individuals of this species. As proposed, the project would not appear to generate any direct or indirect impacts to desert tortoise, as no natural habitat will be lost.

Mitigations

Avoidance of impacts is possible by confining construction to areas surveyed around the existing treatment plant and along road margins. Clearance of tortoises from the property immediately south of the treatment site, should construction be planned for this area, would avoid potential impacts. This clearance should be conducted immediately (while the reptiles are still active), or during the species' emergence and feeding cycle in spring, 1993, depending upon the timing of proposed construction. Prior to clearing the habitat, a low, footed fence should be placed around the site perimeter to prevent entry by tortoises from Cache Creek channel or adjacent lands, and to exclude them during grading activities. Vehicular passage around and on the site should be kept to a minimum, and regularly-used access roads should be laterally fenced to prevent tortoises from crawling into the path of construction equipment and other vehicles.

Mohave Ground Squirrel

FH&A biologists evaluated the habitats under consideration for project development for Mohave ground squirrels (*Spermophilus mohavensis*) (MGS) in June 1992, using CDFG protocols for visual and trapping surveys. No MGS were observed during the surveys, and no direct evidence of their presence was found on the property or on adjacent lands. The habitat type and quality appears marginal to the maintenance of populations of this species, with heavy human use and intrusion (relative to the tolerances of same by this species) evident over the entire survey area. No specific report of its former occurrence in this locality is known to us, and it is not believed to occur within the project zone. Implementation of the proposed project should have no direct or indirect impacts to this species.

CITY OF CALIFORNIA CITY
PUBLIC WORKS DEPARTMENT

WASTEWATER TREATMENT PLANT EXPANSION MITIGATION MONITORING PLAN

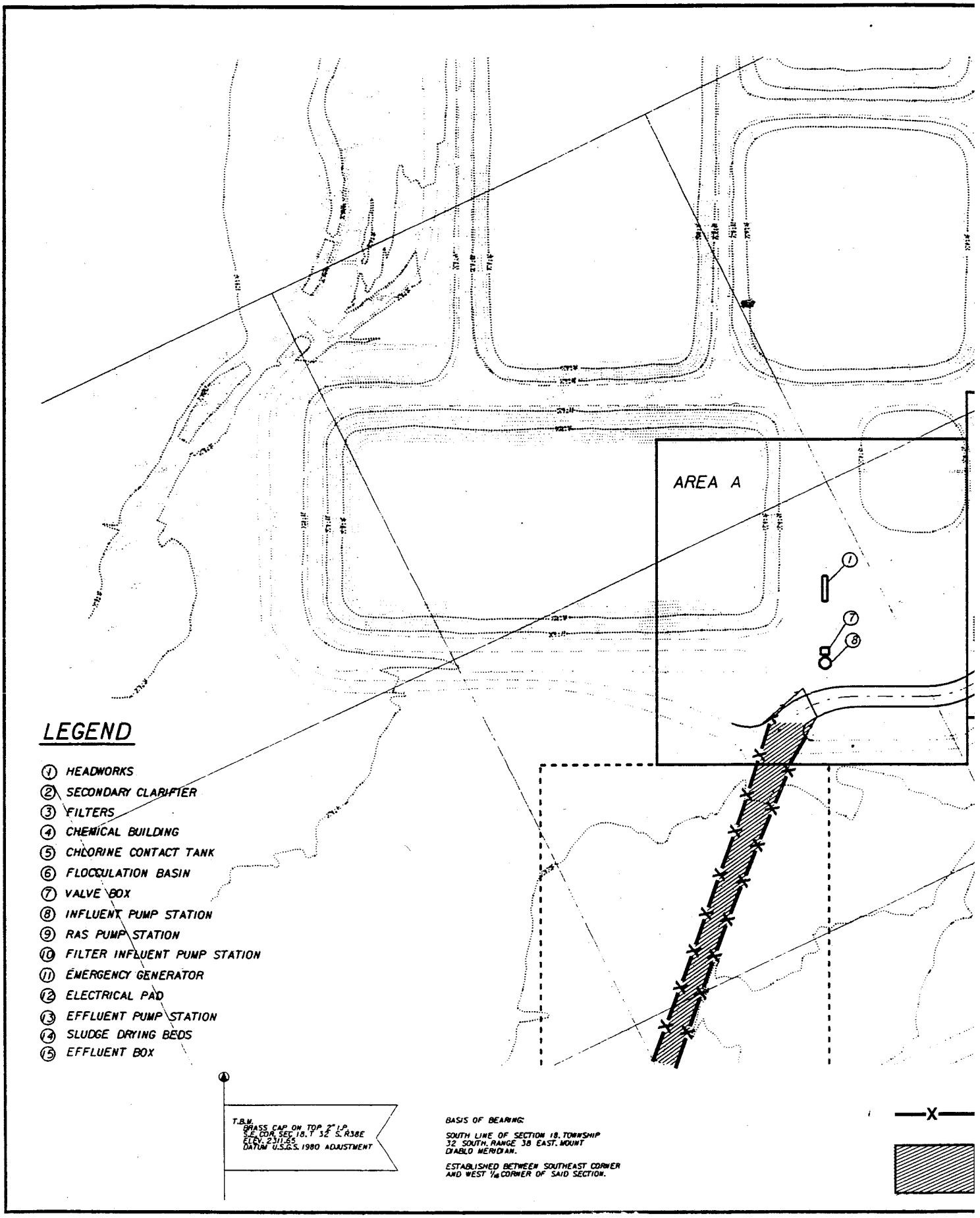
JANUARY 1993

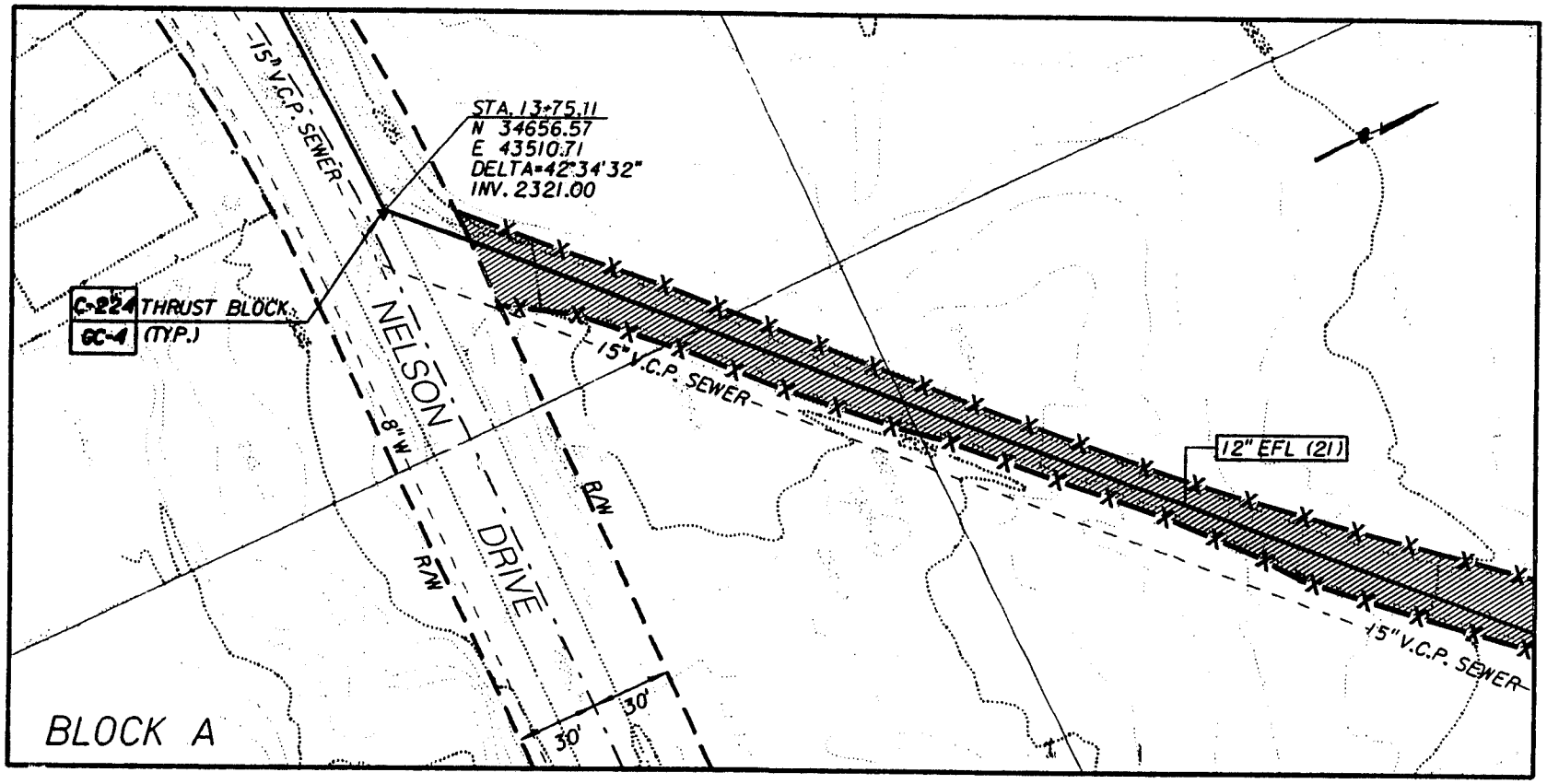
CITY OF CALIFORNIA CITY
MITIGATION MONITORING PROGRAM WASTEWATER TREATMENT PLANT EXPANSION

Mitigation No.	IES Reference	Mitigation	Schedule	Responsible Party	Verification
1	3-2	Dust will be controlled by regular watering of the construction site.	Check of draft plans and specs. Monitor daily during construction.	Design Administrator Construction Inspector	
2	3-3	Low-sulfur (0.05 percent by weight) diesel fuel will be used in all construction equipment requiring diesel fuel as available.	Daily use during construction.	Construction Inspector	
3	3-4	All construction equipment will be maintained in proper tune.	Monitor quarterly during construction.	Construction Inspector	
4	3-4	Dirt in trucks will be covered during on-road hauling.	Monitor daily during construction.	Construction Inspector	
5	3-4	Use of temporary electric power will be avoided wherever possible.	Monitor during construction.	Construction Inspector	
6	3-4	Construction equipment will be selected considering low-emission factors and energy efficiency. Energy efficient equipment that is gasoline powered shall be used when available.	Check prior to the start of construction activity.	Construction Inspector	

CITY OF CALIFORNIA CITY
MITIGATION MONITORING PROGRAM WASTEWATER TREATMENT PLANT EXPANSION

Mitigation No.	IES Reference	Mitigation	Schedule	Responsible Party	Verification
7	3-4	Energy-efficient lighting will be installed for all new treatment plant lighting features.	Check of draft plans and specs.	Design Administrator	
8	3-4	Native drought-resistant plant species will be used for any necessary treatment plant property landscaping.	Check of landscaping plans.	Design Administrator	
9	3-5	Implement BACT for all diesel-fired internal combustion engines as required by KCAPCD.	Check of draft plans and specs.	Design Administrator	
10	3-11	The access road from Nelson Drive to the treatment plant and the area of the proposed sludge drying beds will be resurveyed for California desert tortoise by a qualified biologist (see Figures M-1 and M-2).	Complete during the Spring and prior to the start of construction in these areas. Check of draft plans and specs.	Construction Inspector	
11	3-11	A footed fence (at least 1 ft below grade) will be installed around the two sites described in measure 18 (Figures M-1 and M-2).	Complete prior to tortoise survey (measure 10). Check of draft plans and specs.	Construction Inspector	
12	3-11	If any individual tortoises are discovered, they will be cleared from the site under permit from the U.S. Fish and Wildlife Service.	Complete during the Spring after completion of measure 10 and before the start of construction in these areas.	City of California City City Engineer	


AREA A
1
7
8
LEGEND
1 HEADWORKS
2 SECONDARY CLARIFIER
3 FILTERS
4 CHEMICAL BUILDING
5 CHLORINE CONTACT TANK
6 FLOCCULATION BASIN
7 VALVE BOX
8 INFLUENT PUMP STATION
9 RAS PUMP STATION
10 FILTER INFLUENT PUMP STATION
11 EMERGENCY GENERATOR
12 ELECTRICAL PAD
13 EFFLUENT PUMP STATION
14 SLUDGE DRYING BEDS
15 EFFLUENT BOX
T.B.M.
BRASS CAP ON TOP 2" I.P.
S.E. COR. SEC 18, T 32 S. R38E
ELEV. 2311.65
DATUM U.S.G.S. 1980 ADJUSTMENT
BASIS OF BEARING:
SOUTH LINE OF SECTION 18, TOWNSHIP 32 SOUTH, RANGE 38 EAST, MOUNT DIABLO MERIDIAN.
ESTABLISHED BETWEEN SOUTHEAST CORNER AND WEST 1/16 CORNER OF SAID SECTION.
X



—X— Fence (1 foot below grade)

Area to be resurveyed for Desert Tortoise

Desert Tortoise Mitigation Areas
Figure M-2

CITY OF CALIFORNIA CITY
MITIGATION MONITORING PROGRAM WASTEWATER TREATMENT PLANT EXPANSION

Mitigation No.	IES Reference	Mitigation	Schedule	Responsible Party	Verification
13	3-11	Vehicle passage around and on the sites will be kept to a minimum.	Monitor daily during construction.	Construction Inspector	
14	3-12	All pipeline construction activity will be limited to within the existing roadway right of way.	Monitor daily during pipeline construction.	Construction Inspector	
15	3-14	Construction machinery will be equipped with noise reduction equipment such as mufflers.	Check prior to the start of construction.	Construction Inspector	
16	3-14	Construction activity will be limited to 7:00 a.m. to 7:00 p.m., Monday through Saturday excluding holidays.	Monitor daily during construction.	Construction Inspector	
17	3-14	The City's Noise Ordinance will be complied with or a Noise Variance will be obtained.	Monitor noise levels daily during the construction period or verify that the Variance was obtained prior to the start of construction activity.	Construction Inspector	
18	3-17	A City-approved traffic plan will be submitted to the City Engineer of California City.	Check prior to the start of construction.	Construction Inspector	

CITY OF CALIFORNIA CITY
MITIGATION MONITORING PROGRAM WASTEWATER TREATMENT PLANT EXPANSION

Mitigation No.	IES Reference	Mitigation	Schedule	Responsible Party	Verification
19	3-18	Provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the Manual of Uniform Traffic Control Devices.	Monitor daily during construction.	Construction Inspector	
20	3-23	Work will be halted in the immediate area of any cultural resource finding and a qualified archaeologist will be retained to inspect the area and present recommendations for further treatment. The recommendations of the archaeologist shall then be implemented prior to continuation of project construction in the immediate area of the finding.	Monitor daily during construction.	Construction Inspector	

CITY OF CALIFORNIA CITY
PUBLIC WORKS DEPARTMENT

WASTEWATER TREATMENT PLANT EXPANSION

COMMENT LETTERS
RECEIVED ON THE
INITIAL ENVIRONMENTAL STUDY
SCH #93012037

JANUARY - MARCH 1993

STATE OF CALIFORNIA

PETE WILSON, *Governor*

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

Feb 11, 1993

KEN REDFERN
CITY OF CALIFORNIA CITY
21000 HACIENDA BLVD
CALIFORNIA CITY, CA 93505

Subject: WASTEWATER TREATMENT PLANT EXPANSION
SCH # 93012037

Dear KEN REDFERN:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call Russell Colliau at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

Christine Kinne

Christine Kinne
Acting Deputy Director, Permit Assistance

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

STEVE McCALLEY, R.E.H.S.
DIRECTOR

2700 "M" Street, Suite 300
Bakersfield, CA 93301
(805) 861-3636
(805) 861-3429 FAX

January 15, 1993

City of California City
Public Works Department
21000 Hacienda Blvd.
California City, CA 93505

Attention: Kenneth Redfern

SUBJECT: City of California City
Wastewater Treatment Plant Expansion

Dear Mr. Redfern:

This Department supports the proposed construction of new and upgraded wastewater collection treatment and disposal facilities for the City of California City. It is essential that adequate sewer facilities be developed to keep pace with anticipated growth.

This Department does not wish to impose any conditions on the project at this time.

Thank you for the opportunity to comment on this project.

Sincerely,

Steve McCalley, Director

by Roger Beretti

BY: Roger Beretti, R.E.H.S.
Environmental Health Specialist II

RB:jg

The Gas Company

January 26, 1993

James M. Montegomery Consulting Engineers, Inc.
301 N. Lake Avenue
Pasadena, CA. 91101

Attn: James Montegomery

Re: Wastewater Treatment Plant Expansion

Southern California
Gas Company
6520 Foothill Boule
Tujunga, CA

Mailing Address:
Box 457
Tujunga, CA
91043

The following is in response to your January 23, 1993 letter requesting information relative to an Environmental Impact Report on the proposed development of wastewater treatment plant expansion.

Within areas of interest and responsibilities of the Southern California Gas Company, we find the proposed development reasonable and acceptable.

This letter is not to be interpreted as a contractual commitment to serve the subject development, but only as an information service. Its intent is to notify you that the proposed project can be served from existing mains in the area. This can be done without a major impact on overall system capacity, service to existing customers, or the environment.

Industrial or commercial customers' loads vary with types of equipment used. The availability of natural gas service, as set forth in this letter is based upon present conditons of gas supply and regulatory policies. As a public utility, the Southern California Gas is under the jurisdiction of the California Public Utilities Commission. We can also be affected by actions of federal regulatory agencies. Should these agencies take any action which affects gas supply or the condition under which service is available, gas service will be provided in accordance with the revised conditions.

We have developed several programs which are available, upon request, to provide assistance in selecting the most effective applications of energy conservation techniques for a particular project. If you desire further information on any of our energy conservation programs, please contact the following for assistance: Commercial Sales Supervisor at (818) 951-2453.

2421

Sincerely,

Santo Plescia

Santo Plescia
Planning Aide

SP:dmr
cc: G. Baca

PASADENA
FEB 1 1993
MARIE ENGINEERING CONSULTING ENGINEERS INC.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

PETE WILSON, *Governor*

DEPARTMENT OF TRANSPORTATION
500 SOUTH MAIN STREET
BISHOP, CA 93514

(619)872-0689

February 2, 1993

File: Ker-14-22.00
SCH #93012037

Kenneth Redfern
California City Public Works Dept.
21000 Hacienda Blvd.
California City, CA 93505

PROJECT TITLE: Wastewater Treatment Plant Expansion

We have reviewed the above referenced document and have no comments to offer.

ROBERT J. RUHNKE, Chief
Transportation Planning
Branch B

RJR:pd
cc: SCH
Russ Colliau

AIR POLLUTION CONTROL DISTRICT

THOMAS PAXSON, P.E., Director
2700 "M" STREET, SUITE 290
BAKERSFIELD, CA 93301
Phone: (805) 861-2593
FAX: (805) 861-2595

RESOURCE MANAGEMENT AGENCY

JOEL HEINRICHS, AGENCY DIRECTOR
Air Pollution Control District
Engineering & Survey Services Department
Planning & Development Services Department
Transportation Management Department
Waste Management Department

COMMENT ON NEGATIVE DECLARATION

March 1, 1993

Mr. Ken Redfern, Director
City of California City
Public Works Department
21000 Hacienda Blvd.
California City, CA 93505

SUBJECT: Suggested Air Pollutant Emission Reduction Measures for Your Development Project Described as: City of California City Wastewater Treatment Plant Expansion.

Dear Sir:

Pursuant to Rule 106 of the Kern County Air Pollution Control District Rules and Regulations and Section 40918 of the California Health and Safety Code, Kern County APCD is required to review proposed development projects and suggest ways to minimize associated air quality impacts.

Because Eastern Kern County is "non-attainment" for both ozone (O_3) and respirable particulates (PM_{10}) ambient air quality standards, it is imperative air pollutant emissions associated with your development project be minimized. This must be done to prevent further air quality degradation and/or negation of the beneficial effects of installation of expensive industrial air pollution control equipment.

The attached check list specifies, for your type of project, actions you can take to minimize air pollutant emissions associated with your project.

This list should not be considered all-inclusive; developers are encouraged to implement innovative ways to reduce emissions. Please be aware your project should not incorporate any control measure suggested in this document conflicting with any applicable zoning requirement or building code.

Once you have determined which measures you will implement, please let us know in writing.

Thank you for your cooperation. Please implement all feasible control measures and do your part to improve air quality. Voluntary implementation will help make development of mandatory implementation unnecessary. Should you have any questions, please call me at (805) 861-2593.

Sincerely,

Thomas Paxson, P.E., Director
Air Pollution Control District

TP:bjm
L0238

SUGGESTED AIR POLLUTANT EMISSION REDUCTION MEASURES FOR INDUSTRIAL, RETAIL AND SERVICE, OFFICE, AND INSTITUTIONAL PROJECTS

The following list of reduction measures should be evaluated and used where applicable and feasible. This list should not be considered all-inclusive, any other measures not listed are encouraged. Please check ones you intend to implement and return form.

___ **ACCESS** - Provide direct pedestrian and bicycle access to main entrances of the project from existing or potential public transit stops and the sidewalk. Access should consist of surfaced walkways, ramps, or stairways and should be physically separated from parking areas and vehicle access routes.

___ **PREFERENTIAL PARKING FOR RIDESHARERS** - Provide priority parking for employees who rideshare.

___ **BICYCLE ENHANCEMENTS** - Provide bicycle racks, and/or enclosed and locked bicycle storage.

___ **SHOWERS AND LOCKERS** - Provide employee shower and locker areas for bicycle and pedestrian commuters.

___ **TREES AND SHRUBS** - Provide indigenous trees and shrubs around buildings. This provides several air quality benefits by generating oxygen, anchoring soil and providing wind breaks, and conserving energy by providing shade.

___ **EATING AREAS** - Provide on-site cafeteria services, lounge, and eating areas.

___ **ON-SITE BANKING AND POSTAL SERVICES** - Provide on-site Automatic Teller Machines (ATM's) and postal services.

___ **ON-SITE CHILD CARE** - Provide on-site child care facilities.

___ **BUS TURNOUTS (Where Transit Exists)** - Where transit services exist, construct bus turnouts and loading areas with shelters and locations acceptable to the local transit provider.

___ **TRANSIT EASEMENTS** - Where transit does not exist, but the project is within the transit district's sphere of influence, provide a site at a location and size acceptable to the transit provider. This area will provide future easement for bus turnouts and shelters.

___ **SURFACING ROADS** - Pave, surface, or treat roadways.

___ **SPACE AND WATER HEATING** - Provide low Oxides of Nitrogen (NO_x) emitting and high efficiency water heaters, or solar water heaters.

___ **OTHER** (please describe) _____

_____

SUGGESTED AIR POLLUTANT EMISSION REDUCTION MEASURES FOR CONSTRUCTION SITES

The following list of reduction measures should be evaluated and used where applicable and feasible. This list should not be considered all-inclusive. Any other measures not listed are encouraged. Please check ones your intend to implement and return form.

PRE-CONSTRUCTION - Prior to construction, the following dust control measures should be implemented:

- ___ All material excavated or graded should be sufficiently watered to prevent excessive dust. Watering should occur as needed with complete coverage, preferably in the late morning and after work is done for the day.
- ___ All clearing, grading, earth moving, and excavation activities should cease during periods of winds greater than 20 mph average over one hour.
- ___ All material transported off-site should be either sufficiently watered or securely covered to prevent excessive dust.
- ___ Areas disturbed by clearing, earth moving, or excavation activities should be minimized at all times.
- ___ Where acceptable to the fire department, weed control should be accomplished by mowing instead of discing, thereby leaving the ground undisturbed and with a mulch covering.
- ___ OTHER (please describe) _____

_____

DURING CONSTRUCTION - After clearing, grading, earth moving, and/or excavating, the following dust control practices should be implemented:

- ___ All inactive areas within the construction site should be seeded and watered until plant growth is evident.
- ___ All active areas should be sufficiently watered to prevent excessive dust.
- ___ OTHER (please describe) _____

_____

VEHICULAR ACTIVITIES - During all phases of construction, the following vehicular control measures should be implemented:

DUST

___ On-site vehicle speed should be limited to 15 mph.

___ All areas with vehicle traffic should be periodically watered or treated with dust palliatives.

___ Streets adjacent to the project site should be kept clean, and accumulated silt removed.

___ Access to the site should be by means of an apron into the project from adjoining surfaced roadways. The apron should be surfaced or treated with dust palliatives.

___ OTHER (please describe) _____

_____

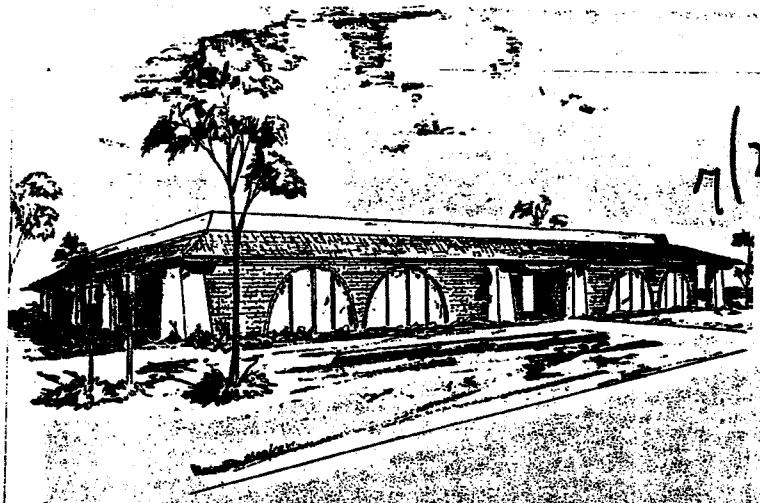
TAILPIPE EMISSIONS -

___ Properly maintain and tune all internal combustion engine driven equipment.

___ Use low sulfur (0.05 %, or less) diesel fuel.

___ OTHER (please describe) _____

_____



Incorporated 1965

City of California City

City Hall

PHONE (619) 373-8661

21000 HACIENDA BLVD - CALIFORNIA CITY, CALIFORNIA 9350

7/2 to Ken R.

July 1, 1993

County Clerk
County of Kern
1415 Truxtun Avenue
Bakersfield, CA. 93301

Re: Notice of Determination
Wastewater Treatment Plant Expansion
California City, CA.

Enclosed are three copies of the referenced Notice of Determination for filing, together with our Check No. 02736 in the amount of $1,290.00 for Fish & Game and County filing fees.

We would appreciate a conformed copy being returned for our files. An envelope is provided herein for that purpose.

Your cooperation in this matter is appreciated.

Respectfully,

June Sides

June Sides
Deputy City Clerk

CALIFORNIA CITY CA. 93505
21000 HACIENDA BLVD.

SIERRA NATIONAL BANK
224 WEST F STREET
P.O. BOX 70
TEHACHAPI, CALIFORNIA 93581

NO. 02736

90-3965
1222

DATE	WARRANT NO.	AMOUNT
6/30/93	2736	1,290.00

PAY ONE THOUSAND TWO HUNDRED NINETY DOLLARS AND 00/100

TO THE ORDER OF
COUNTY OF KERN - COUNTY CLERK
1415 Truxtun Ave.
Bakersfield, CA 93301

TWO SIGNATURES REQUIRED
VOID 90 DAYS AFTER ISSUE

Terry G. Hoch

"002736" ⑆122239652⑈0100211473⑈

Notice of Determination

Appendix H

To: ___ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

X County Clerk
County of Kern
1415 Truxton Avenue
Bakersfield, CA 93301

From: (Public Agency) City of California City
21000 Hacienda Boulevard
(Address)
California City, CA 93505

Subject:
Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

California City Wastewater Treatment Plant Expansion
Project Title

93012037	Mr. Kenneth Redfern	(619) 373-8661
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension

Treatment plant site north of Mendiburu Road., Calhoun Drive and Central Park
Project Location (include county) California City, California (Kern County)

Project Description: The existing 0.3 mgd wastewater treatment plant is proposed to be expanded to 1.0 mgd and upgraded to provide tertiary treatment. Proposed improvements include new: influent pump station, headworks, aerators, secondary clarifiers, RAS pump station filters, chlorine contact tank, chemical facility, 12-inch diameter effluent force main, and sludge drying beds. Reclaimed effluent will be used for landscape irrigation at Central Park.

This is to advise that the City of California City (☒ Lead Agency ☐ Responsible Agency) has approved the above described project on June 1, 1993 (Date) and has made the following determinations regarding the above described project:

1. The project (☐ will ☒ will not) have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures (☒ were ☐ were not) made a condition of the approval of the project.
4. A statement of Overriding Considerations (☐ was ☒ was not) adopted for this project.
5. Findings (☒ were ☐ were not) made pursuant to the provisions of CEQA.

This is to certify that the final Mitigated Negative Declaration with comments and responses and record of project approval is available to the General Public at:
City of California City Public Works Department, 21000 Hacienda Boulevard.,
California City, California 93505

[signature]	June 10, 1993	City Manager
Signature (Public Agency)	*Date*	*Title*

Date received for filing at OPR:

Revised October 1989

Notice of Determination

To: _X_ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

_X_ County Clerk
County of Kern
1115 Truxtun Avenue - First Floor
Bakersfield, CA 93301

From: City of California City
21000 Hacienda Boulevard
California City, CA 93505

FEE RECEIVED
RECEIPT # [illegible]

FILED
KERN COUNTY
DEC 05 2000
JAMES A. RHOADES, CLERK
BY [illegible] DEPUTY

Subject:
Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title: Expansion of the Municipal Waste Water Treatment Plant

2000041075	Jack P. Stewart, City Manager/Planning Director	(760) 373-8661
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	AreaCode/Telephone/Extension

Project Location (include county): 10835 Nelson Drive, California City, County of Kern, California.

Project Description: The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

This is to advise that the City of California Planning Commission has approved the above described project on November 28, 2000 and has made the following determinations regarding the above described project:

1. The project will not have a significant effect on the environment.
2. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were not made a condition of the approval of the project.
4. A Statement of Overriding Considerations was not adopted for this project.
5. Findings were not made pursuant to the provisions of CEQA.

This is to certify that the Negative Declaration with comments and responses and record of project approval is available to the General Public at:

City Hall, City of California City, 21000 Hacienda Boulevard, California City, CA 93505

Jack P. Stewart	Jack P. Stewart, City Manager/Planning Director	12/1/00
Signature	*Title*	*Date*

Date received for filing at OPR:

Notice of Environmental Document
Posted by County Clerk on 12-6-00
and for 30 days thereafter, Pursuant to
Section 21152(C), Public Resources Code

CALIFORNIA DEPARTMENT OF FISH AND GAME

CERTIFICATE OF FEE EXEMPTION

De Minimus Impact Finding

Project Proponent: Jack P. Stewart, Planning Director of the City of California City, 21000 Hacienda Boulevard, California City, CA 93505.

Project Title: Expansion of the Municipal Waste Water Treatment Plant.

Location (including County): 10835 Nelson Drive, California City, County of Kern.

Project Description: The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

Findings of Exemption (attach as necessary):

1. **The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.**

2. **An Initial Environmental Study was prepared to evaluate the potential for adverse environmental impacts which could result from this project.**

3. **The Initial Study indicated that no significant impacts would occur to fish and wildlife resources as a result of this project. Further recommendation that a Negative Declaration be prepared for this project, which was prepared and submitted to the State Clearinghouse (SCH #2000041075), for a 30-day review period prior to Planning Commission approval. (No wildlife related mitigation measures were required for this project).**

4. **The City of California City adopted a Negative Declaration for this project based upon information contained in the Initial Environmental Study.**

Certification:

I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse affect on wildlife resources, as defined in Section 711.2 of the Fish and Game code.

Jack P. Stewart

Name: Jack P. Stewart
Title: Planning Director

12/1/00
Date

Notice of Completion

Appendix F

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

See NOTE below

SCH # _____

Project Title: Expansion of the Municipal Waste Water Treatment Plant

Lead Agency: City of California City

Contact Person: Jack P. Stewart

Street Address: 21000 Hacienda Boulevard

Phone: (760) 373-8661

City: California City Zip: 93505-2293

County: Kern

Project Location

County: Kern

City/Nearest Community: Mojave

Cross Streets: Nelson Drive and Mendiburu Road

Total Acres: 47.36

Assessor's Parcel No. 350-040-06

Section: 18 Twp. 32S Range: 38E Base: MDB&M

Within 2 Miles: State Hwy #: NO

Waterways: NO

Airports: NO

Railways: NO

Schools: NO

Document Type

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

NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☐ Other _____

Local Action Type

- ☐ General Plan Update
- ☐ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☐ Rezone
- ☐ Prezone
- ☐ Use Permit
- ☐ Land Division (Subdivision, 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* Municipal
- ☐ Hazardous Waste: *Type* _____
- ☐ Other: _____

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

Controlled Development, Public Parks & Recreation or Public Schools/O/RA/Controlled Development

Project Description To add capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation

Reviewing Agencies Checklist

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

_____ **Resources Agency**
_____ Boating & Waterways
_____ Coastal Commission
_____ Coastal Conservancy
_____ Colorado River Board
_____ Conservation
_____ Fish & Game
_____ Forestry
_____ Office of Historic Preservation
_____ Parks & Recreation
_____ Reclamation
_____ S.F. Bay Conservation & Development Commission
_____ Water Resources (DWR)

Business, Transportation & Housing
_____ Aeronautics
_____ California Highway Patrol
_____ CALTRANS District #_____
_____ Department of Transportation Planning (headquarters)
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_____ Health Services _____

State & Consumer Services
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_____ SWRCB: Delta Unit
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Regional WQCB #_____ (_____)

Youth & Adult Corrections
_____ Corrections

Independent Commissions & Offices
_____ Energy Commission
_____ Native American Heritage Commission
_____ Public Utilities Commission
_____ Santa Monica Mountains Conservancy
_____ State Lands Commission
_____ Tahoe Regional Planning Agency

_____ Other _____

Public Review Period (to be filled in by lead agency)

Starting Date 4-13-00 Ending Date 5-16-00

Signature Terry Hitchcock FOR Jack P. Stewart, Planning Director Date 4-13-00

Lead Agency (Complete if applicable):
Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: (____) _____

Applicant: City of California City
Address: 21000 Hacienda Boulevard
City/State/Zip: California City, CA 93505-2293
Phone: (760) 373-8661

For SCH Use Only:
Date Received at SCH _____
Date Review Starts _____
Date to Agencies _____
Date to SCH _____
Clearance Date _____
Notes:

Revised October 1989

10/7/80
(Rev. 6/86)

CASE NO. CUP 00-02

CITY OF CALIFORNIA CITY
PLANNING DEPARTMENT

DATE 4-13-00

APPLICATION FOR

- [ ] SITE PLAN APPROVAL
- [XX] CONDITIONAL USE PERMIT
- [ ] VARIANCE
- [ ] ZONE CHANGE
- [ ] QUASI-HOME OCCUPATION
- [ ] TRACT MAP NO. _____
- [ ] _____ PARCEL MAP NO. _____
- [ ] OTHER _____

(Please use ink or typewriter)

Applicant's Name and Address: CITY OF CALIFORNIA CITY, 21000 HACIENDA BOULEVARD, CALIFORNIA CITY, CA 93505-2293

Address of Subject Property: 10835 NELSON DRIVE

Legal Description of Subject Property (attach separate sheet if needed):

Lot # _____ Tract # _____ or SECTION 18, T32S, R38E, M. D. B. & M.

Assessor's Parcel Number 350-040-06 Present Zone: O/RA

Date of Purchase: _____

Existing Land Use of the Property: Controlled Development, Public Parks & Recreation or Public Schools. This site is the Municipal Waste Water Treatment Plant.

I (we), the undersigned, hereby certify that I am (we are) the owner(s) of the property described in this application, or that I am the authorized agent of Jack Stewart, City Manager, City of California City, 21000 Haciend Boulevard, Cal. City, CA
(Owner's name and address)
the undersigned owner of said property, and that this application, to the best of my (our) knowledge and belief, is true and correct. Executed under penalty of perjury this 13 TH day of APRIL, XX 2000.

Jack Stewart
Signature - Owner

Jack Stewart
Signature - Applicant

Telephone No.: (760) 373-8661

Telephone No: (760) 373-8661

PLANNING DEPARTMENT USE ONLY

Filing Fee: $ N/C Received by: _____ Date: _____ Receipt No. _____

PLANNING COMMISSION ACTION: [ ] Approved [ ] Denied Date: _____

CITY COUNCIL ACTION: [ ] Approved [ ] Denied Date: _____

10/7/80
(Rev. 6/86)

CITY OF CALIFORNIA CITY
PLANNING DEPARTMENT

[X] CONDITIONAL USE PERMIT

State fully the precise circumstances or conditions applicable to the land, structure, or use which makes the granting of a use permit necessary for the preservation and enjoyment of a substantial property right, together with any other data pertinent to the findings prerequisite to the granting of a use permit:

The City of California City has a need to expand the Municipal Waste Water Treatment Plant. The City plans to file an Initial Study and Negative Declaration with the State Clearinghouse.

[ ] VARIANCE:

State fully the practical difficulty or unnecessary physical hardship inconsistent with the objectives of the zoning ordinance which would result from a strict or literal interpretation and enforcement of a specified provision of the California City Municipal Code, together with any other data pertinent to the findings prerequisite to the granting of a variance:

[ ] ZONE CHANGE:

Request change from _____ to _____ on the subject property for the following reasons:

[ ] OTHER: _____

State fully the reasons for request:

CERTIFICATION:

I hereby certify that the statements furnished herein and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 4/13/00

Signature: Jack Stewart

City Receipt No: N/C

Title: CITY MANAGER

Fee Collected: $ N/C

Firm: CITY OF CALIFORNIA CITY

INITIAL STUDY FOR

Expansion of the Municipal Waste Water Treatment Plant (WWTP)
from a Capacity of 1.0 mgd to 1.5 mgd

1. What is being done? Construction of improvements to the WWTP to add capacity to the existing system.

2. Identification of Environmental Setting: This project will take place entirely at the existing Municipal Waste Water Treatment Plant. This is an expansion of existing facility.

3. Identification of Environmental Effects: See Initial Study Checklist.

4. Mitigation of Significant Effects: Mitigate erosion of airfield.

5. Zoning and General Plan: O/RA Controlled Development, Public Parks & Recreation or Public Schools

6. Name of Person Preparing Initial Study: Jim M. Schroeter, P.E. City Engineer

ENVIRONMENTAL CHECKLIST FORM

Expansion of the Existing
Municipal Waste Water Treatment Plant (WWTP)

1. Project Title: Expansion of the existing Municipal Waste Water Treatment Plant

2. Lead Agency Name and Address: City of California City, 21000 Hacienda Boulevard, California City, California 93505-2293

3. Contact Person and Phone Number: Jack P. Stewart, City Manager/Planning Director, (760) 373-8661.

4. Project Location: 10835 Nelson Drive, California City, California, more specifically Assessor Parcel Number 350-040-06, a portion of the southeast corner of Section 18, T32S, R38E, M.D.B.&M.

5. Project Sponsor's Name and Address: City of California City, 21000 Hacienda Boulevard, California City, California 93505-2293.

6. General Plan Designation: Controlled Development, Public Parks & Recreation or Public Schools

7. Zoning: O/RA

8. Description of the Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary)

The California City WWTP has a rated capacity of 1.0 mgd average flow. The following improvements/modifications will be required to increase the treatment plant capacity to 1.5 mgd and will therefore form the basis for scope for the required project.

- Replace the existing submersible chopper pumps in the project influent pump station with higher capacity pumps capable of handling peak flows encountered at 1.5 mgd average flow condition. Non-clog submersible chopper pumps will be provided which are similar in design to the existing pumps.

- Upgrade the power sections on the existing 30 hp aerators in the aeration basins to deliver 40 hp and meet the aeration requirements for 1.5 mgd flow condition. The floats of the existing aerators will be utilized to affect cost savings.

- Provide a new 1.5 mgd capacity RAS/WAS pump station in place of the existing submersible RAS/WAS pump station. Three horizontal non-clog pumps will be provided for return activated sludge application and two progressing cavity pumps will be provided which are similar in design to the existing pumps.

- Replace existing non-clog submersible pumps in the filter influent pump station with higher capacity pumps capable of handling peak flows encountered at 1.5 mgd flow conditions. Non-clog submersible pumps will be provided which are similar in design to the existing pumps.

- Provide a hydro-pneumatic tank with the existing utility water pump station

- Provide five (5) additional sludge drying beds out of nine (9) required to handle sludge produced at 1.5 mgd flow condition. This phased approach will be utilized for the construction of the sludge drying beds to match City's capital availability. The sludge drying beds will be similar in design and dimensions to the existing sludge drying beds.

9. Surrounding Land uses and Setting: (Briefly describe the project's surroundings). To the north, east and west the setting is vacant O/RA land controlled development, public parks & recreation or public schools. To the south, the setting is R1 medium density residential.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement). California Regional Water Quality Control Board - Lahontan Region and Kern County Department of Health Services.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:
The environmental factors checked below ( ) would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Hazards & Hazardous Materials		Public Services
-- --	Agriculture Resources		Hydrology/Water Quality		Recreation
	Air Quality		Land Use/Planning		Transportation/Traffic
	Biological Resources		Mineral Resources		Utilities/Service Systems
	Cultural Resources		Noise		Mandatory Findings of Significance
	Geology/Soils		Population/Housing		

DETERMINATION: (To be completed by the Lead Agency). On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	X
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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	-- --
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Jim M. Schroeter
Signature

4/11/00
Date

Jim M. Schroeter, P.E.
Printed Name

City Engineer
Title

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in its explanation following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e. g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e. g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation incorporated, or less than significant. "Potentially Significant Impact' is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (D). In this case, a brief discussion should identify the following:

(a) Earlier Analysis Used. Identify and state where they are available for review.

(b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

(c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address the site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify: (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant.

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?			--- ---	X
--- Explain choice of impact below each item; multiple lines may be entered or Delete this row if no explanation is required ---				
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
2. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

Issues and Supporting Information Sources	Potentially Significant Impacts	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
4. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?				X

Notice of Determination

To: _X_ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

_X_ County Clerk
County of Kern
1115 Truxtun Avenue - First Floor
Bakersfield, CA 93301

From: City of California City
21000 Hacienda Boulevard
California City, CA 93505

FEE RECEIVED
RECEIPT # [illegible]

FILED
KERN COUNTY
DEC 05 2000
JAMES A. RHOADES, CLERK
BY [illegible] DEPUTY

Subject:
Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title: Expansion of the Municipal Waste Water Treatment Plant

2000041075	Jack P. Stewart, City Manager/Planning Director	(760) 373-8661
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	AreaCode/Telephone/Extension

Project Location (include county): 10835 Nelson Drive, California City, County of Kern, California.

Project Description: The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

This is to advise that the City of California Planning Commission has approved the above described project on November 28, 2000 and has made the following determinations regarding the above described project:

1. The project will not have a significant effect on the environment.
2. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were not made a condition of the approval of the project.
4. A Statement of Overriding Considerations was not adopted for this project.
5. Findings were not made pursuant to the provisions of CEQA.

This is to certify that the Negative Declaration with comments and responses and record of project approval is available to the General Public at:

City Hall, City of California City, 21000 Hacienda Boulevard, California City, CA 93505

Jack P. Stewart	Jack P. Stewart, City Manager/Planning Director	12/1/00
Signature	*Title*	*Date*

Date received for filing at OPR:

Notice of Environmental Document
Posted by County Clerk on 12-6-00
and for 30 days thereafter, Pursuant to
Section 21152(C), Public Resources Code

CALIFORNIA DEPARTMENT OF FISH AND GAME

CERTIFICATE OF FEE EXEMPTION

De Minimus Impact Finding

Project Proponent: Jack P. Stewart, Planning Director of the City of California City, 21000 Hacienda Boulevard, California City, CA 93505.

Project Title: Expansion of the Municipal Waste Water Treatment Plant.

Location (including County): 10835 Nelson Drive, California City, County of Kern.

Project Description: The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

Findings of Exemption (attach as necessary):

1. **The expansion of the Municipal Waste Water Treatment Plant consists of adding capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.**

2. **An Initial Environmental Study was prepared to evaluate the potential for adverse environmental impacts which could result from this project.**

3. **The Initial Study indicated that no significant impacts would occur to fish and wildlife resources as a result of this project. Further recommendation that a Negative Declaration be prepared for this project, which was prepared and submitted to the State Clearinghouse (SCH #2000041075), for a 30-day review period prior to Planning Commission approval. (No wildlife related mitigation measures were required for this project).**

4. **The City of California City adopted a Negative Declaration for this project based upon information contained in the Initial Environmental Study.**

Certification:

I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse affect on wildlife resources, as defined in Section 711.2 of the Fish and Game code.

Jack P. Stewart

Name: Jack P. Stewart
Title: Planning Director

12/1/00
Date

Notice of Completion

Appendix F

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

See NOTE below

SCH # _____

Project Title: Expansion of the Municipal Waste Water Treatment Plant

Lead Agency: City of California City

Contact Person: Jack P. Stewart

Street Address: 21000 Hacienda Boulevard

Phone: (760) 373-8661

City: California City Zip: 93505-2293

County: Kern

Project Location

County: Kern

City/Nearest Community: Mojave

Cross Streets: Nelson Drive and Mendiburu Road

Total Acres: 47.36

Assessor's Parcel No. 350-040-06

Section: 18 Twp. 32S Range: 38E Base: MDB&M

Within 2 Miles: State Hwy #: NO

Waterways: NO

Airports: NO

Railways: NO

Schools: NO

Document Type

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

NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☐ Other _____

Local Action Type

- ☐ General Plan Update
- ☐ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☐ Rezone
- ☐ Prezone
- ☐ Use Permit
- ☐ Land Division (Subdivision, 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* _____
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- ■ Wildlife
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- ■ Landuse
- ☐ Cumulative Effects
- ☐ Other _____

Present Land Use/Zoning/General Plan Use

Controlled Development, Public Parks & Recreation or Public Schools/O/RA/Controlled Development

Project Description To add capacity to the existing system from a capacity of 1.0 mgd to 1.5 mgd.

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_____ S.F. Bay Conservation & Development Commission
_____ Water Resources (DWR)

Business, Transportation & Housing
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_____ California Highway Patrol
_____ CALTRANS District #_____
_____ Department of Transportation Planning (headquarters)
_____ Housing & Community Development

_____ **Food & Agriculture**

Health & Welfare
_____ Health Services _____

State & Consumer Services
_____ General Services
_____ OLA (Schools)

Environmental Affairs
_____ Air Resources Board
_____ APCD/AQMD
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_____ SWRCB: Water Rights
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Youth & Adult Corrections
_____ Corrections

Independent Commissions & Offices
_____ Energy Commission
_____ Native American Heritage Commission
_____ Public Utilities Commission
_____ Santa Monica Mountains Conservancy
_____ State Lands Commission
_____ Tahoe Regional Planning Agency

_____ Other _____

Public Review Period (to be filled in by lead agency)

Starting Date 4-13-00 Ending Date 5-16-00

Signature Terry Hitchcock FOR Jack P. Stewart, Planning Director Date 4-13-00

Lead Agency (Complete if applicable):
Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: (____) _____

Applicant: City of California City
Address: 21000 Hacienda Boulevard
City/State/Zip: California City, CA 93505-2293
Phone: (760) 373-8661

For SCH Use Only:
Date Received at SCH _____
Date Review Starts _____
Date to Agencies _____
Date to SCH _____
Clearance Date _____
Notes:

Revised October 1989

REQUEST FOR PROPOSALS
for
ENGINEERING SERVICES

CALIFORNIA CITY WASTEWATER TREATMENT PLANT CONDITION ASSESSMENT AND UPGRADE FEASIBILITY STUDY

California City is soliciting proposals for engineering services to prepare an engineering assessment and feasibility study of its wastewater treatment plant. The available information, scope of work, proposal requirements and schedule are presented below.

I. Proposed Project Description

This project is for a qualified engineering firm(s) to assess the current wastewater system and make recommendations in a report which details the most feasible unit process upgrades. The successful bidder will demonstrate in the proposal experience in providing innovative, cost effective and state of the art design features.

II. Project Location

California City is located in Kern County, California. With nearly 15,000 residents, California City is a master planned community with over 52,000 lots and is the third largest city in land area in California. The sewer treatment plant is located at 107th Street and Nelson Drive in the Northeast portion of the developed city.

III. Project Synopsis & Goals

The California City sewer treatment facilities currently designed to treat and dispose up to 1.5 million Gallons (MGD) of wastewater daily to tertiary levels. The project being considered is to evaluate the current system and provide upgrade options for providing a more efficient sewer treatment facility, and meeting the future demands of the city growth. Future demand needs for this project is to expand the facilities to 3.0 MGD total. Design features shall include treatment loadings from an additional 2,400 new sewer system connections from current septic tank systems in the city, and an upgrade of a private prison with 2,500 additional beds, as well as normal growth in the city from both private and commercial.

IV. Scope of Services

The engineering firm or team selected for this project will be required to provide equipment, materials, and labor to complete the following:

A. Review current flow sources and resulting flow rates at the treatment plant from City records.
B. Review bio-chemical records available from the city.
C. Conduct independent biochemical tests and volumetric measurements of the unit processes to assess process unit efficiency.
D. From both site testing and “text books” analyze current treatment unit processes, and determine flow and treatment capacities.
E. Perform a condition assessment of the current unit processes and develop rehabilitation or replacement criteria including remaining asset design life.
F. Identify deficient treatment practices and provide upgrade or replacement recommendations.
G. Preliminary Design of Selected Alternative
    a. Produce drawings showing the layout of proposed facilities.
    b. Run preliminary sizing calculations for proposed alternative
    c. Propose a design and construction staging schedule.
H. Prepare a detailed cost estimate of the proposed upgrades to include the final engineering, construction, and construction management costs.
I. Deliverables shall also include:

a. Final Engineering Report. The Final Engineering Report shall describe the criteria utilized, summary of results along with recommendations, and conclusions.
b. Monthly synoptic reports on activities related to project scope. These reports will be in the form of PDF files that will be emailed to a distribution list.
c. Copies of all maps and reports in electronic format.
d. Attend kickoff meeting, one workshop, and present at 1 public informational meeting to present the report findings.

V. Proposal Responses

Proposals submitted for this project are to address all requested information. Any additional information that proposing firm wishes to include that is not specifically requested should be included in an appendix to the proposal. Firms are encouraged to keep the proposals brief and to the point, but sufficiently detailed to allow evaluation of the project approach. Responses must include the following:

Cover letter maximum 2 pages

Section 1 Project Understanding and Special Project Considerations (3 page maximum)

Provide a narrative description of the project based on your proposed Scope of Work and information gathered about the project. Include any issues that you believe will require special consideration for this Project. Identify any unique approaches or strengths that your firm may have related to this Project. The City will assess your understanding of all aspects of the project based on the overview.

Section 2 Project Team Qualifications and Experience (6 page maximum)

The project team selection shall provide identification of responsible project personnel and shall identify their role on the team. A project team organizational diagram and a brief resume of each team member shall be included. Any proposed sub consultants shall be listed. Include sub-consultants assigned task(s). and experience. Full resumes may be included in the appendix.

The proposal shall provide a description of projects (minimum five) similar in nature and scope that your firm's team members have completed in the last 5 years. Include a contact list with client names, addresses and telephone numbers.

Section 3 Detailed Work Plan (3 page maximum)

Provide a detailed description of the tasks and duties required to implement the Scope of Work and any recommended additions to the list of tasks. The Detailed Work Plan shall include all necessary equipment, materials, and labor to conduct the Work. Provide a listing of all assumptions made (by work task), including anticipated level of work assistance to be provided by the City. Identify any steps required that have not been specifically identified in the Scope of Work. Also, identify any unique approaches or strengths that your team may have related to this Project.

Section 4 Project Schedule (3 page maximum)

Include a Project Schedule showing all key Project milestones and deliverables. The schedule shall demonstrate the teams ability to meet the designated milestones. List the assumptions used in developing the schedule.

Section 5 Proprietary Information (1/2 page maximum)

Teams submitting a proposal in a response to this RFP must provide a statement that nothing contained in the submitted proposal will be proprietary. All proposals shall become the property of the City once submitted.

Section 6 Insurance (1 page maximum)

Provide a summary of the firm's (and sub-consultant's) insurance coverage. Minimum limits and types of insurance that are required to be maintained throughout the term of the project are identified in Attachment A.

Section 7 Signature

The proposal shall be signed by a representative authorized to bind the team and shall expressly state the proposal is valid for 90 days.

VI. Fee Proposal

The firm/team shall provide a cost proposal to complete the task described in the SCOPE OF SERVICES above. Proposals shall include a schedule of compensation for services with a breakdown of hours that will be allocated for each member of the project team. The cost proposal shall be a time and materials basis and include a maximum not-to-exceed figure.

VII. Selection Criteria

. The City reserves the right to select a firm directly from the written proposals, but may short list a small group of firms for an interview process based upon the proposal evaluations. The award will be made to the most qualified firm whose proposal and interview if held, are deemed most advantageous to the City, all factors considered. Unsuccessful firms will be notified as soon as possible.

Questions and responses should be directed to:
Hazel Munoz, Public Works
21000 Hacienda Blvd
California City, CA 93505
(760)373-7152

VIII. Submittal of Proposal

Five (5) copies of the proposal must be received by 3:00 PM March 25, 2010. Please state "CALIFORNIA CITY WASTEWATER TREATMENT PLANT CONDITION ASSESSMENT and UPGRADE FEASIBILITY STUDY" on the outside of the response package. This solicitation is being offered in accordance with federal and state requirements governing the procurement of professional services. Accordingly, California City reserves the right to negotiate an agreement with the selected firm based on fair and reasonable compensation for the scope of work and services proposed as well as the right to reject any and all responses deemed unqualified, unsatisfactory, or inappropriate, to waive defects or informalities and to offer contact with any firm in response to this RFP. This RFP does not constitute any form of offer to contract. The City will not pay any costs incurred by the firm in preparing or submitting the proposal.

BEACON SOLAR ENERGY PROJECT
BIOLOGICAL RESOURCE ASSESSMENT
MENDIBURU ROAD WATER PIPELINE
CALIFORNIA CITY, KERN COUNTY, CALIFORNIA

08-AFC-02

Prepared for:

Beacon Solar, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared by:

AECOM Technology Corp.
1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone: (619) 233-1454
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May 2010

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1. INTRODUCTION

The proposed Beacon Solar Energy Project (BSEP) would result in the construction of a concentrating solar electric generating facility in eastern Kern County, California (Figure 1). The Project would have a nominal electrical output of 250 megawatts. Major components of the Project would include the plant site, a transmission line, and a pipeline that will supply reclaimed water for the cooling facilities at the Plant. In the Final Staff Assessment of the California Energy Commission (CEC), two options are proposed as sources for this water, a 40 mile pipeline from the Rosamond Water Treatment Plant and a 12 mile pipeline from the California City Wastewater Treatment Plant (CEC 2009). Within these proposed pipeline alignment corridors and associated 1,000 foot buffers, biological resource assessments have been conducted for all areas except an approximately three mile segment situated on Mendiburu Road in California City, extending from Neuralia Road to the entrance gate of the California City Wastewater Treatment Plant off of Nelson Drive (hereinafter referred to as the Study Area).

Mendiburu Road is approximately 115 feet wide and up to 160 feet wide and consists of paved surfaces that appear to have been developed during different time periods and highly disturbed shoulders and center divides. All proposed construction activities along the 3-mile segment would take place within the already disturbed road or road shoulder. Because all construction and maintenance would occur within the existing disturbed road and/or road shoulder, no impacts to existing vegetation communities or associated biological resources would occur. Never-the-less, on May 17, 2010, AECOM biologists Kristin Asmus and Mike Ireland conducted a biological resource assessment of the Study Area. This assessment included a general wildlife survey and vegetation communities and cover mapping. This report summarizes the results of that biological resource assessment.

2. BIOLOGICAL RESOURCE SURVEY METHODOLOGY

Biological resource surveys conducted on May 17, 2010 included a general wildlife survey and vegetation communities and cover mapping. A summary of the Study Area is shown in Figure 2. The center line of the Mendiburu pipeline corridor runs from Neuralia Road to the entrance gate of the California City Wastewater Treatment Plant. The Study Area of this alignment includes a 100 foot wide corridor centered on the alignment and two 1,000-foot buffer areas extending outward on either side of this corridor, per the CEC 2008 Siting Regulations Appendix B, Paragraph (g)(13)(B). Three survey transects were conducted in the study area, one on the pipeline alignment, and two meandering transects within the 1,000 foot buffer areas, one on each side of the alignment. When fenced areas or residences were encountered during the survey, these areas were visually assessed from those boundaries for distinct plant communities and

wildlife habitats. The segment of the Mendiburu Road pipeline corridor immediately west of Neuralia Road, 1,000 feet to the north and south, was surveyed by AECOM in 2008 as part of the assessment of the northern 17.6 mile segment of a water pipeline running from the BSEP to the Rosamond Water Treatment Plant. While this area was windshield-assessed to ensure data consistency across surveys, redundant meandering transects were not conducted in this area.

2.1 VEGETATION COMMUNITIES ASSESSMENT AND MAPPING

Vegetation communities were mapped for the Study Area, including the required 1,000-foot buffer. The proposed 100-foot wide recycled water pipeline alignment along Mendiburu Road was surveyed including a 1,000-foot buffer area extending outward on either side of the pipeline route. The Survey Area is dominated by just a few vegetation/cover types, so no minimum mapping unit[1] was used in the vegetation community analysis. Vegetation mapping was conducted for the Survey Area from strategic vantage points whenever direct access was not feasible.

2.2 GENERAL WILDLIFE SURVEY

General wildlife surveys were conducted along the pipeline alignment and along meandering transects out to 1,000 feet along either side of the pipeline alignment. This survey included general assessments for the Mojave desert tortoise (DT), the western burrowing owl (WBO), and the Mohave ground squirrel (MGS). Surveys for all other special status wildlife species (American peregrine falcon [*Falco peregrinus anatum*], northern harrier [*Circus cyaneus*], loggerhead shrike [*Lanius ludovicianus*], California horned lark [*Eremophila alpestris actia*], Le Conte's thrasher [*Toxostoma lecontei*], and American badger [*Taxidea taxus*]) were incorporated into this survey. The Study Area was surveyed for evidence of wildlife presence or activity, and scanned with binoculars for potential avian nest sites. All wildlife species observed or detected by sign were recorded. Neither focused nor protocol seasonal species-specific wildlife surveys were conducted as part of this reconnaissance level biological resource assessment.

3. RESULTS

This section summarizes results of the biological resource assessment of the Study Area.

[1] Minimum mapping units (MMU) determine the level of accuracy with which an area is mapped. If the MMU is small with respect to the survey area (e.g., 100 square meters for a 10-square-kilometer study area), then data describing the subject matter that is being assessed will be very accurate. In cases where diversity is low and variation within subject matter being studied is not great, the MMU can be increased or, in the case of this Project, not used at all, while still maintaining an accurate account of the constituents of the study area.

3.1 VEGETATION COMMUNITIES ASSESSMENT AND MAPPING

The Study Area was mapped for vegetation communities and other cover types. A total of two types of native-dominated vegetation communities, and three other cover types (developed, fallow agricultural, and unvegetated wash) were mapped within the Study Area during the surveys (Figure 3; see Appendix B for representative photos). One of the two main vegetation communities (Mojave creosote bush scrub) had variations in its composition either due to historical and/or recent anthropogenic disturbances. For example, patches of Mojave creosote bush scrub that had a dominant shrub other than creosote bush (*Larrea tridentata*) were so named by their dominant shrub. Vegetation communities and other cover types identified during the survey are summarized in Table 1 and described in more detail below.

Table 1
Vegetation Communities and Other Cover Type Acreage Mapped

Vegetation Communities and Other Cover Types	2010 Mendiburu Survey Area
Atriplex scrub – *Atriplex polycarpa* dominant	21.79
Mojave creosote bush scrub	170.87
Mojave creosote bush scrub – *Ambrosia dumosa* dominant	23.34
Disturbed Mojave creosote bush scrub	85.61
Unvegetated wash	5.98
Fallow agricultural - ruderal	30.63
Developed[1]	371.17
Total Acreage	**709.4**

[1] The cover type "Developed" includes dirt/paved roads, dirt/paved road shoulders, the California City Wastewater Treatment Plant, and residential properties with structures, or impenetrable surfaces.

Atriplex Scrub

Atriplex Scrub is dominated with allscale (*Atriplex polycarpa*), spinescale (*Atriplex spinifera*), and shadscale (*Atriplex confertifolia*) shrubs up to approximately 6 feet in height. Other shrubs occurring in this community include winter fat (*Krascheninnikovia lanata*), horsebrush (*Tetradymia canescens*), and creosote bush. The herbaceous ground layer is generally fairly sparse in Atriplex Scrub habitat. Total cover is often low, as the shrub species are often widely spaced, with large bare areas between the shrubs. This vegetation community occurs on fine-textured, poorly drained soils with high alkalinity and/or salinity, usually surrounding playas on slightly higher ground (Holland 1986). It was mapped near the intersection of Neuralia Road and Mendiburu Road. A small patch of very dense atriplex scrub was mapped immediately northeast of the waste-water treatment plant.

Mojave Creosote Bush Scrub

Mojave creosote bush scrub is an open shrub community dominated mainly by creosote bush. Other shrubs commonly found in this vegetation community include white bursage (*Ambrosia dumosa*), box thorn (*Lycium andersonii*), silver cholla (*Cylindropuntia echinocarpa*), and occasional Joshua trees (*Yucca brevifolia*). While dominated by shrubs (approximately 18 percent shrub cover), this vegetation community also has an herbaceous layer, which during surveys included species such as Mojave sun cups (*Camissonia campestris*), freckeled milkvetch (*Astragalus lentiginosus* var. *fremontii*), brittle spineflower (*Chorizanthe brevicornu*), gilia (*Gilia* sp.), California goldfields (*Lasthenia californica*), and desert dandelion (*Malacothrix glabrata*). This community typically occurs on well-drained soils in alluvial fans, bajadas, and upland slopes. It is one of the most widely distributed desert plant communities in the Mojave Desert from the desert floor up to about 3,500 feet, extending into northwestern Arizona and southern Utah. It is the primary habitat type within the Study Area. Near the intersection of Neuralia Road and Mendiburu Road and south of Mendiburu Road this habitat type is lower in diversity due to human disturbance and has been mapped as Disturbed Mojave creosote bush scrub. An area of white bur-sage dominated Creosote bush scrub was mapped near the intersection of Neuralia Road and Mendiburu Road where Disturbed Mojave creosote bush scrub transitions to undisturbed Mojave creosote bush scrub.

Fallow Agricultural – Ruderal

The fallow agricultural-ruderal vegetation community was mapped to the west of the waste water treatment plant and north of Mendiburu Road. The land was formerly used for agricultural purposes and is dominated by ruderal nonnative plants. This plant community occurs in areas that are now unable to effectively retard soil loss through wind and water erosion. Vegetation cover within this community ranges from 0 to 2 percent. The dominant plant species are Russian thistle, Saharan mustard (*Brassica tournefortii*), and Mediterranean schismus (*Schismus arabicus*).

Developed

The areas mapped as developed include dirt/paved roads, dirt/paved road shoulders, the California City Wastewater Treatment Plant, and residential properties with structures, or impenetrable surfaces. The wastewater treatment plant site includes several support buildings, four treatment containers, eight earthen detention basins, 10 lined solid waste basins, and unused areas at the western and eastern edges of the site. All of the containers and basins are surrounded by levees on all sides. A total of approximately 371 acres of developed land was mapped within the Study Area.

Unvegetated Wash

Three channels of unvegetated wash were mapped across the Study Area. Two of the channels, one toward the east end of the Study Area and a second near the center are channelized and dissipate in sheet flow to the north after exiting developed areas. The third wash mapped just west of the waste water treatment plant is channelized south of and culverted under Mendiburu Road then transitions to a natural wash north of Mendiburu Road as it exits a development.

Sensitive Vegetation Communities

There were no sensitive vegetation communities detected within the Study Area.

Additional Botanical Surveys Recommended

This report is based on a single reconnaissance level survey. Special-status plant species such as Red Rock tarplant (*Deinandra arida*), Mojave tarplant (*Deinandra mojavensis*), Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmanii*), creamy blazing star (*Mentzelia tridentate*), and Charlotte's phacelia (*Phacelia nashiana*) may have potential to occur within the vegetation communities present. Background research to identify all species with potential for occurrence within the Study Area and focused surveys timed to capture the blooming periods for those species would be necessary to further evaluate presence or absence on site.

3.2 GENERAL WILDLIFE SURVEY

During the biological resource assessment of the Mendiburu Road pipeline corridor, 26 wildlife species were observed, including 3 reptiles, 20 birds, and 3 mammals (Appendix D). No federally listed and/or state-listed wildlife species were detected in the Study Area.

Federally Listed Wildlife Species

The DT, known to occur in the region, is listed as endangered under the Federal Endangered Species Act (ESA) and as threatened under the California Endangered Species Act (CESA). No DT, no active or suitable DT burrows, no DT carcasses, and no DT scat were observed in the Study Area along the pipeline alignment or meandering transects. A total of approximately 222 acres of Atriplex scrub – *Atriplex polycarpa* dominant, Mojave creosote bush scrub, Mojave creosote bush scrub – *Ambrosia dumosa* dominant, and unvegetated waters detected in the Study Area are considered to be suitable DT habitat. At the wastewater treatment plant, a chain link perimeter fence with additional DT exclusion fencing to a height of 24 inches surrounds the

entire site with the exception of the entrance road gate. Further, all activities associated with the pipeline will occur only in developed areas, and thus will have no impact on vegetation or habitat.

State-Listed Wildlife Species

No state-listed wildlife species were detected during the biological resource assessment of the Mendiburu Road pipeline corridor. Concurrent with the biological resource assessment, the corridor was assessed for habitat suitable for DT and MGS. DT is discussed as a federal species above. Approximately 194 of the 709 acres assessed are Mojave creosote brush scrub suitable for MGS, though the habitat is of low quality. Specifically, these areas are characterized by expanses of flat terrain that support only widely spaced, monotypic creosote bushes with very few herbaceous annuals, no desert washes other than the area immediately surrounding the wastewater treatment plant, little or no buildup of fine soil around the bases of the creosote bushes, and extremely sandy soils where rodent burrows are virtually absent. However, at the wastewater treatment plant, no rodent borrows of any size were detected on any of the levees surrounding the detention basins or any of the surrounding lands. Further, all activities associated with the pipeline will occur only in developed areas, and thus will have no impact on vegetation or habitat.

Nonlisted, Special Status Wildlife Species

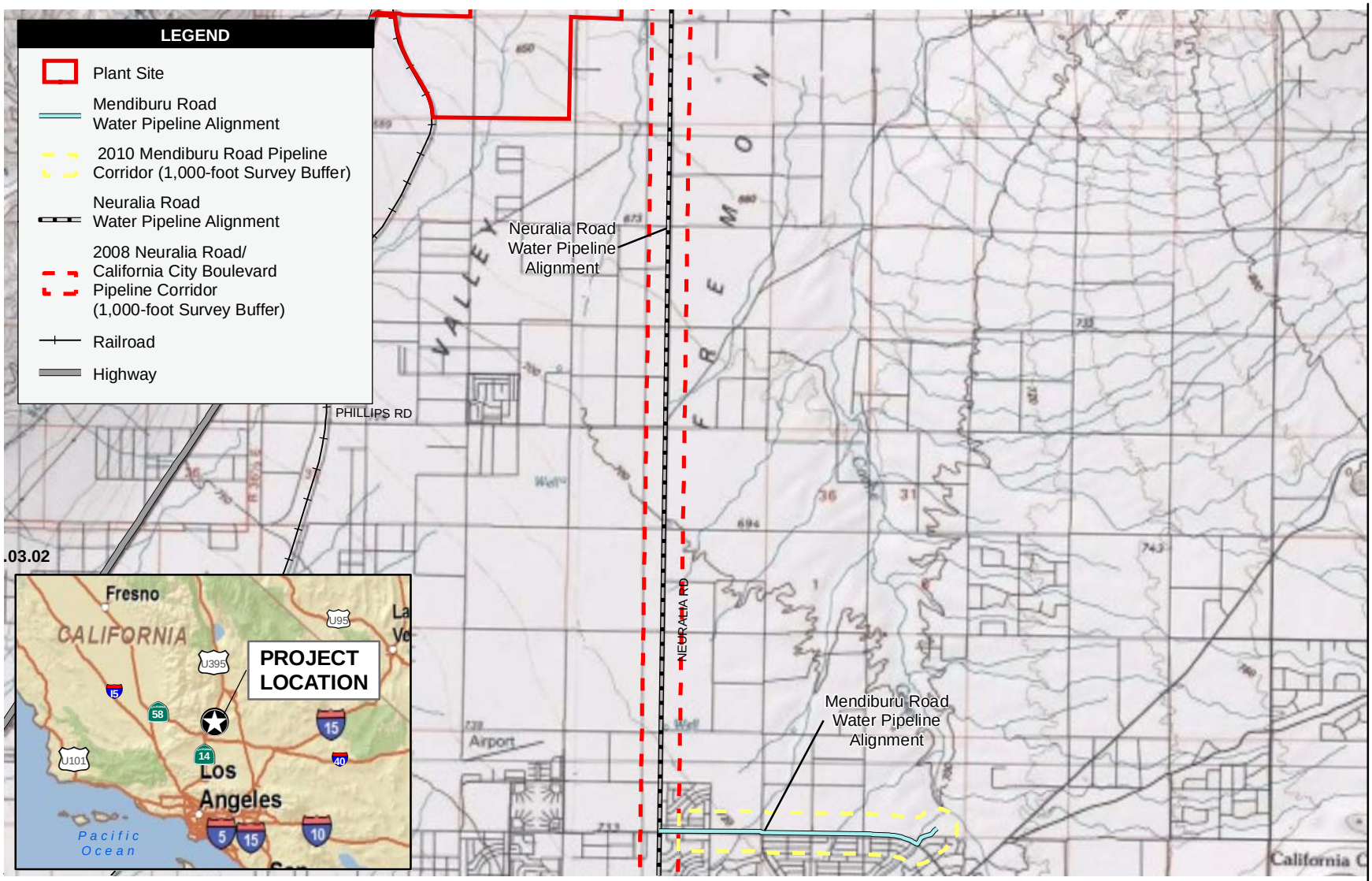
No unlisted special status wildlife species were observed during the biological resource assessment of the Mendiburu Road pipeline corridor. Only five burrows suitable for WBO occupation were observed, though no WBO sign (wash, feathers, pellets, etc.) was present. Further, ground squirrel activity was virtually nonexistent in the Study Area, with only one white-tailed antelope squirrel observed. Levees, such as those associated with the wastewater treatment plant, are frequently used by WBO where rodent populations are left unabated; making the wastewater treatment plant highly suitable for WBO occupation should a rodent incursion occur; however, no rodent borrows of any size were detected on any of the levees surrounding the detention basins or any of the surrounding lands. Outside the wastewater treatment plant, all activities associated with the pipeline will occur only in developed areas, and thus will have no impact on vegetation or habitat.

The presence of migratory birds was noted during the assessment, with numerous shorebirds and waterfowl observed at the wastewater treatment plant. The predominant species observed were the mallard *(Anas platyrhynchos)* and American avocet *(Recurvirostra americana)*, with two female mallards observed rearing young on the plant site. Other special status wildlife species

with the potential to occur, but not detected during the biological resource assessment of the Study Area, are defined in the previous Biological Technical Reports (EDAW 2007abc; 2008ab; 2009; AECOM 2010).

4. SUMMARY

No special status species were identified during the survey of the Mendiburu Road Study Area. The proposed recycled water pipeline would occur entirely within existing disturbed areas and would not result in direct impacts to existing vegetation communities. Construction impacts would be temporary and minimized by measures already identified for the BSEP. Operation of the recycled water line is not anticipated to have any affects on biological resources as the pipeline would be located below ground.



Source: Tetra Tech 2007; Kern County 2007; Worley Parsons 2007; USGS 7.5' Topo Quad Mojave NE 1994, Cinco 1994; Cantil 1973; California City North 1973; AECOM 2010

1.5 0 1.5 Miles

Scale: 1:95,040; 1 inch = 1.5 miles

Figure 1
Regional Location and Project Vicinity

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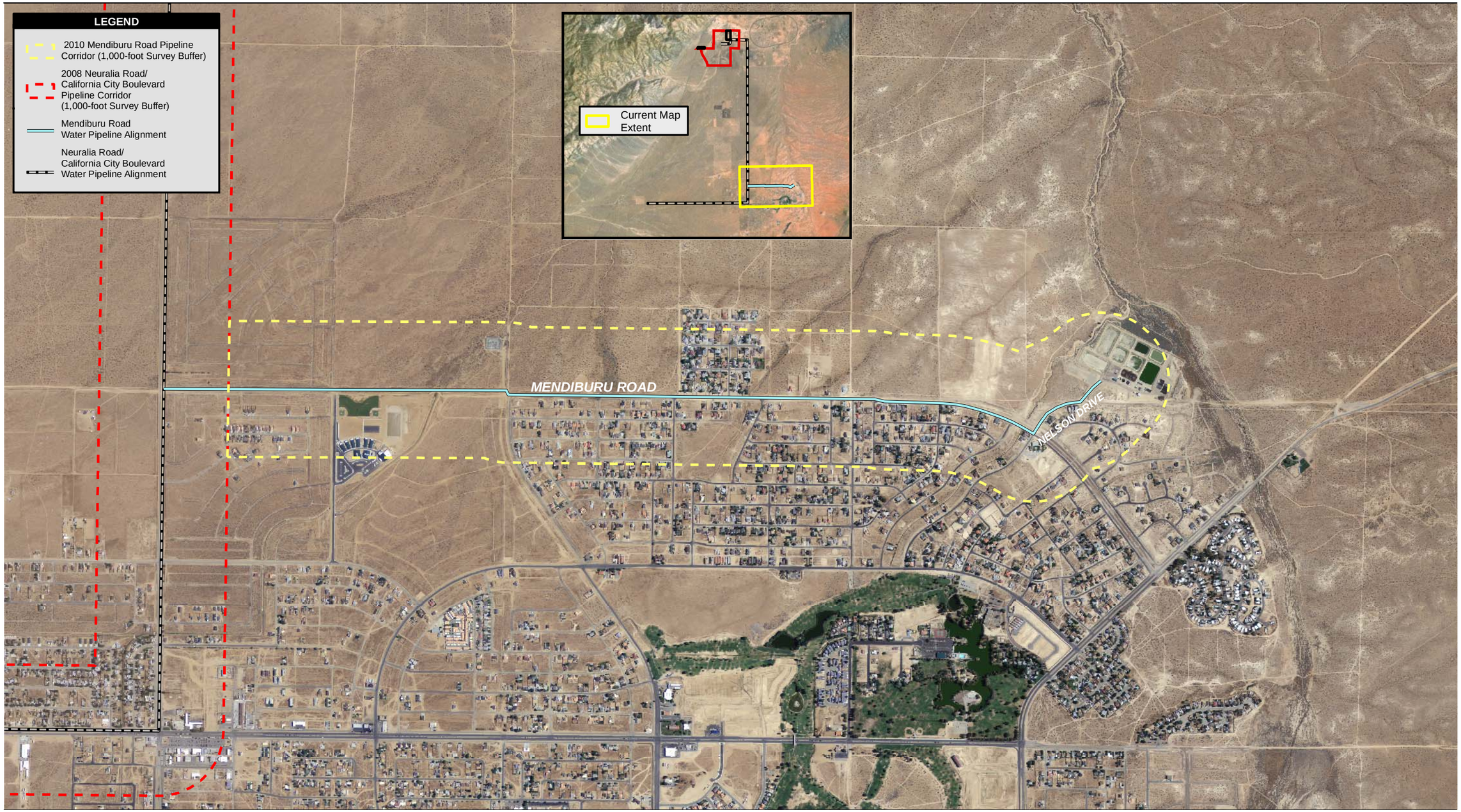

Source: NAIP 2009; AECOM 2007-2008, 2010; TetraTech 2007; WorleyParsons 2007; Kern County 2007

1,500 750 0 1,500 Feet

Scale: 1:18,000; 1 inch = 1,500 feet

Figure 2
Mendiburu Road Water Pipeline Study Area

Path: OAK P:\2008\08080001 FPLE Proj Beacon Solar\5GIS\MXD\2010 Mendiburu Rd\Survey_area.mxd, 5/19/10, IrelandM

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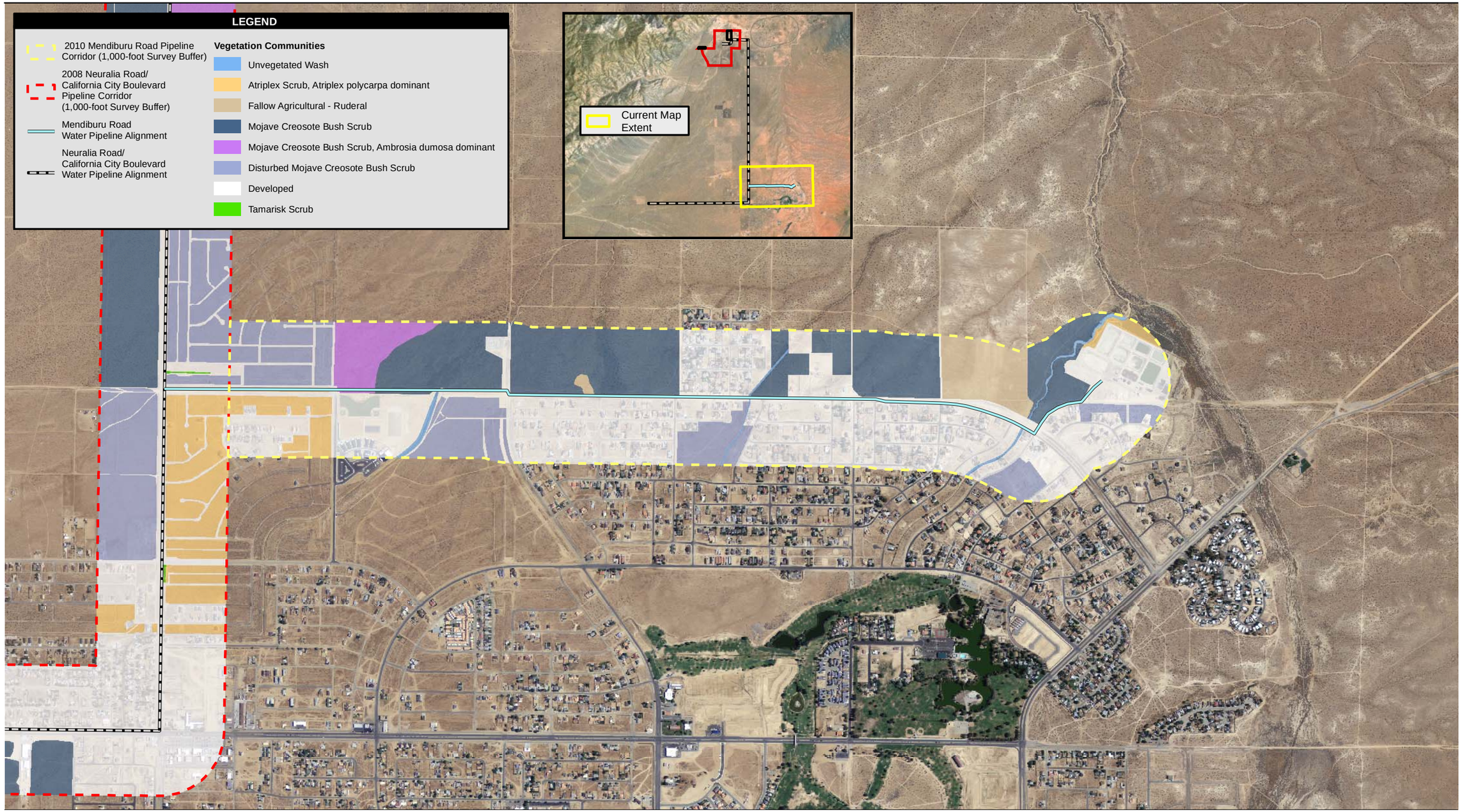

Source: NAIP 2009; AECOM 2007-2008, 2010; TetraTech 2007; WorleyParsons 2007; Kern County 2007

1,500 750 0 1,500 Feet

Scale: 1:18,000; 1 inch = 1,500 feet

Figure 3
2010 Mendiburu Road Water Pipeline Corridor Vegetation Communities

Path: OAK P:\2008\08080001 FPLE Proj Beacon Solar\5GIS\MXD\2010 Mendiburu Rd\Veg_communities_map.mxd, 5/19/10, IrelandM

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5. REFERENCES

AECOM

2010 Beacon Solar Energy Project Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Winter 2010 Burrowing Owl Presence/Absence Surveys, Kern County, California. January 2010.

California Burrowing Owl Consortium (CBOC)

1993 Burrowing Owl Survey Protocol and Mitigation Guidelines. April 1993.

California Energy Commission (CEC)

2008 California Energy Commission – Siting Regulations Appendix B.

2009 California Energy Commission – Final Staff Assessment – Beacon Solar Energy Project (Draft, October 22, 2009).

EDAW, Inc. (EDAW)

2007a Project Beacon Botanical Survey Report, Kern County, California. August 2007.

2007b Report Summarizing Results of the Proposed Project Beacon Desert Tortoise Presence/Absence Surveys. August 2007.

2007c Report Summarizing Results of the Proposed Project Beacon Burrowing Owl Presence/Absence Surveys. August 2007.

2008a Beacon Solar Energy Project Biological Technical Report, Kern County, California. February 2008.

2008b Beacon Solar Energy Project Botanical And Wildlife Special Status Species 2008 Spring Survey Report, Kern County, California. October 2008.

2009 Beacon Solar Energy Project Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, Kern County, California. June 2009.

Holland, R.

1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame Heritage Program, State of California Department of Fish and Game.

U.S. Fish and Wildlife Service (USFWS)

1992 Field Survey Protocol for Any Non-Federal Action That May Occur within the Range of the Desert Tortoise.

APPENDIX A

MENDIBURU ROAD WATER PIPELINE SURVEY DETAILS

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2010 BIOLOGICAL RESOURCE ASSESSMENT SURVEY DETAILS

Date		Start	Temp (F°)	Wind (mph)	Wind Max (mph)	% Clouds	Pcp.	Surveyors Present	Notes
5/17/2010	**Start**	10:15 am	68.9	15.1	19.7	100%	No	K. Asmus	Mendiburu Road
	End	5:30 pm	65.3	11.8	14.3	90%	No	M. Ireland	1,000 ft. Corridor

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APPENDIX B

MENDIBURU ROAD WATER PIPELINE SITE PHOTOGRAPHS

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Atriplex Scrub (near development)

Channelized Unvegetated Wash

Developed (unpaved roads)

Developed (wastewater treatment plant)

Wastewater Treatment Plant Detention Basin Waterfowl & Shorebird Use

Wastewater Treatment Plant Perimeter Fence Including DT Exclusion

Wastewater Treatment Plant Unused Disturbed Land (western area)

Wastewater Treatment Plant Unused Disturbed Land (fenced; eastern area)

Wastewater Treatment Plant Levee

APPENDIX C

PLANTS DETECTED DURING THE MENDIBURU ROAD WATER PIPELINE SURVEY

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Family	Scientific Name	Common Name
Asteraceae		
	Ambrosia dumosa	white bursage
	Chrysothamnus nauseosus ssp. *mohavensis*	rubber rabbitbush
	Chrysothamnus viscidiflorus	sticky rabbitbush
	Gutierrezia microcephala	sticky snakeweed
	Hymenoclea salsola	Cheesebush
	Lasthenia californica	California goldfields
	Malacothrix glabrata	desert dandelion
Boraginaceae		
	Amsinkia tessellata var. *tortifolia*	bristly fiddleneck
	Heliotropium curassavicum	salt heliotrope
	Plagiobothrys arizonicus	Arizona popcorn flower
Brassicaceae		
	*Brassica tournefortii**	Sahara mustard
	Descurainia pinnata	western tansymustard
Cactaceae		
	Cylindropuntia echinocarpa ssp. *echinocarpa*	silver cholla
Chenopodiaceae		
	Atriplex canescens	four-wing saltbush
	Atriplex polycarpa	allscale
	Grayia spinosa	spiny hopsage
	Krascheninnikovia lanata	winterfat
	Salsola tragus *	Russian thistle
Euphorbaceae		
	Chamaesyce albomarginata	whitemargin sandmat
Fabaceae		
	Astragalus layneae	Layne's milkvetch
	Astragalus lentiginosus var. *fremontii*	freckled milkvetch
	Lupinus microcarpus var. *horizantalis*	chick lupine
Geraniaceae		
	Erodium cicutarium *	redstem stork's bill
Lamiaceae		
	Salvia columbariae	chia
Liliaceae		
	Dichelostemma capitatum	blue dicks
Malvaceae		
	Sphaeralcea ambigua	desert apricot mallow
Nyctaginaceae		
	Mirabilis bigelovii	wishbone bush
Onagraceae		
	Camissonia campestris	Mojave sun cups
	Camissonia claviformis ssp. *claviformis*	brown eyes
Papaveraceae		
	Eschscholzia californica	annual poppy
Poaceae		
	Acnatherum hymenoides	indian ricegrass
	Bromus madritensis ssp. *rubens* *	foxtail chess
	Bromus tectorum *	cheat grass
	Hordeum murinum ssp. *leporinum* *	hare barley
	*Schismus arabicus**	split grass
Polemoniaceae		
	Gilia sp.	gilia
Polygonaceae		

Family	Scientific Name	Common Name
	Chorizanthe brevicornu	brittle spineflower
	Eriogonum inflatum	desert trumpet
	Eriogonum sp.	buckwheat
Solanaceae		
	Datura wrightii	thorn apple
	Lycium cooperi	box thorn
Zygophyllaceae		
	Larrea tridentata	creosote bush

* Nonnative plant species.

APPENDIX D

WILDLIFE DETECTED THE MENDIBURU ROAD WATER PIPELINE SURVEY

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Scientific Name	Common Name
Reptiles	
Order Squamata	**Lizards and Snakes**
Family Phrysonomatidae	
Callisaurus draconoides	zebra-tailed lizard
Uta stansburiana	side-blotched lizard
Family Viperidae	
Crotalus scutulatus scutulatus	Mojave (green) rattlesnake
Birds	
Order Anseriformes	**Shorebirds, Gulls, and Relatives**
Family Anatidae	
Anas platyrhynchos	Mallard
Bucephala clangula	Common Goldeneye
Order Charadriiformes	**Shorebirds, Gulls, and Relatives**
Family Recurvirostridae	
Recurvirostra americana	American avocet
Charadrius vociferus	killdeer
Family Scolopacidae	
Numenius americanus	long-billed curlew
Order Ciconiiformes	**Herons, Egrets, Storks, etc.**
Family Ardeidae	
Nycticorax nycticorax	black-crowned night heron
Family Cathartidae	
Cathartes aura	turkey vulture
Order Columbiformes	**Pigeons, Doves, Solitaires and Dodos**
Family Columbidae	
Columba livia	rock dove (feral pigeon)
Zenaida macroura	mourning dove
Order Galliformes	**Perching Birds**
Family Odontophoridae	
Callipepla californica	California quail
Order Passeriformes	**Perching Birds**
Family Alaudidae	
Eremophila alpestris	horned lark
Family Corvidae	
Corvus corax	common raven
Family Emberizidae	
Amphispiza belli	sage sparrow
Chondestes grammacus	lark sparrow
Passerculus sandwichensis	savannah sparrow
Passerella iliaca	fox sparrow
Family Fringillidae	
Carduelis psaltria	lesser goldfinch
Family Hirundinidae	
Hirundo rustica	barn swallow
Family Sturnidae	
Sturnus vulgaris	European starling
Family Tyrannidae	
Sayornis saya	Say's phoebe
Mammals	

Scientific Name	Common Name
Order Lagomorpha	**Rabbits, Hares, and Pikas**
Family Leporidae	
Sylvilagus audubonii	desert cottontail
Lepus californicus	black-tailed jackrabbit
Order Rodentia	**Squirrels, Rats, Mice, and Relatives**
Family Sciuridae	
Ammospermophilus leucurus	white-tailed antelope squirrel

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Memorandum

Date:	May 28, 2010
To:	Jane Luckhardt
From:	Jennifer Guigliano, AECOM
Subject:	California City WWTP Upgrade and Recycled Water Pipeline Cumulative Impacts Summary for the Beacon Solar Energy Project
Distribution:	Kenny Stein, Beacon Frank Chetalo, Beacon Sara Head, AECOM

AECOM has prepared the following cumulative impacts summary for the California City Waste Water Treatment Plant (WWTP) Expansion project as it relates to the Beacon Solar Energy Project and the associated potential recycled water pipeline.

In its Reply Brief dated May 3, 2010 (IV.B.2, pp 33-41), CURE claims that cumulative impacts related to the Wastewater Treatment Plant (WWTP) Expansion projects have not been sufficiently analyzed. With respect to the California City Municipal WWTP expansion project, construction and operation of the expanded plant would not result in any new, not analyzed impacts that would be cumulatively significant when considered in combination with the Beacon Solar Energy Project (BSEP). An initial study/mitigated negative declaration (MND) was prepared in 1993 and again in 2000 for the planned California City WWTP upgrades, and indicated that no significant impacts would occur as a result of the project. As noted in Staff's Reply Brief dated May 3, 2010 (Assertion Five, pp 15-16), distance is generally an element in determining what projects are considered in the cumulative analysis, and the WWTP at over 10 miles away from the BSEP power plant site[1] is considered outside of the range for cumulative impacts with BSEP.

The California City WWTP proposal includes upgrades to their facility that would occur within the current facility footprint, entirely within disturbed areas. The recycled water pipeline to the BSEP would also be placed entirely within developed and disturbed areas, primarily developed road and road shoulders. A reconnaissance survey of the biological resources in the vicinity of the previously unsurveyed portion of approximately three miles of the reclaimed water pipeline route east of Neuralia Road along Mendiburu Road and Nelson Drive to the WWTP was conducted in May 2010. The biological resources and vegetation communities along this portion of the pipeline route were found to be entirely consistent with the resources along the rest of the route (surveyed in 2008). As such, the mitigation measures proposed by Staff in the Final Staff Assessment are sufficient to mitigate the BSEP biological impacts to insignificance. When combined with the insignificant impacts (i.e., no loss or degradation of habitat)

[1] Although the reclaimed water pipeline would be a component of the BSEP, the construction of a pipeline would only have temporary, localized impacts which were determined to be insignificant.

from the construction and operation of the expanded WWTP within a disturbed footprint, the projects would not lead to significant cumulative impacts.

The proposed conversion of existing septic systems to sewer systems has been within the City of California City's proposed plan of development and general plan and is not a new proposal. The planned conversion from septic to sewer system is expected to improve water quality in the area and hence would provide an environmental benefit. The use of this reclaimed water would not have a cumulative effect.

There would be air quality impacts associated with the construction of the WWTP expansion project, however, as noted above, the MND for the WWTP determined that these impacts would not be significant. Further, as discussed under "Localized Cumulative Impacts" in the Air Quality Section in the BSEP FSA (pp. 4.1-33 – 4.1-35), Staff's approach to assessing air quality impacts is to review the potential air quality impacts from other projects within 6 miles. The BSEP plant site and the WWTP in California City are over ten miles apart, and hence would not be found to have cumulative impacts.

Similarly, no significant cumulative impacts could occur to other resources (e.g., traffic, cultural resources, soils, waste management, hazardous materials, visual resources, etc.) due to the construction and operation of the BSEP and the WWTP expansion project. This finding is apparent based on:

- The environmental analyses for both projects individually were found to have no significant impacts after mitigation (except for the disputed findings regarding visual resources for BSEP);
- The distance of over ten miles between the two projects;
- Both projects are to be constructed on previously disturbed land, with the WWTP expansion being done within an existing facility's disturbed footprint.

Due to the developed and disturbed nature of the WWTP facility and potential pipeline route, and based on previous environmental analyses indicating no significant impacts, no significant project or cumulative impacts are anticipated as a result of these proposed projects and no changes to the conclusions in the BSEP environmental documents are expected.

STATUS CONFERENCE

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for Certification	)	Docket No.
Beacon Solar Energy Project by	)	08-AFC-2
Beacon Solar, LLC	)	
_____	)	

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

TUESDAY, DECEMBER 1, 2009

10:08 A.M.

Reported by: Peter Petty, CER**D-493
Transcribed by: Margo D. Hewitt, CET**00480
Contract No. 170-08-001

1 coming back? Because I would like him to be here
2 when we talk about scheduling.
3 MR. BABULA: Well, the note I got is, "I
4 feel ill. If I don't come back, bring my books."
5 So that might be a no.
6 (Laughter.)
7 HEARING OFFICER CELLI: I hope I wasn't
8 a part of that.
9 MR. BABULA: Hopefully he won't read the
10 record.
11 MR. BEVINS: My name is Mike Bevins; I'm
12 the Public Works Director for the City of
13 California City. What's being passed out to you
14 now is a map of California City.
15 I'd like to take just a minute to kind
16 of introduce our city, because our city is
17 exceptionally different than any other city in
18 California.
19 We are the third largest geographic city
20 in California. We're 203.4 square miles. Only
21 San Diego and Los Angeles are bigger than we are.
22 And the reason that's important is that we are a
23 subdivided city created in the '60s and '70s.
24 Almost all of California subdivision law is an
25 effort to prevent another California City.

1 And so a lot of things you see on this
2 map, and some of the things that you'll see in
3 this project, directly relate to the structure of
4 our city.
5 Currently California City has 23,000
6 unbuilt lots that are residentially zoned that are
7 one acre or less. The majority of those lots are
8 6000 square feet.
9 So when Lahontan says that we have a
10 little problem, we actually have a large problem
11 in California City with septic tanks. Our city
12 was allowed to be built on septic tanks, and you
13 will find no other city, to my knowledge, in the
14 world, that has the kind of density of septic
15 tanks that California City has.
16 If you look at the map that's been given
17 to you, the grey areas are actual homes. They are
18 currently connected -- the vast majority of them
19 are currently connected to septic tanks.
20 If you notice the places where you see
21 the little green lines and the red lines and the
22 purple lines, and there's not a lot of them, that
23 is our current sewer system. And the reason --
24 you'll see that they're mostly in the north of the
25 big blue line, where it says California City

1 Boulevard.

2 Our system, currently, basically is

3 north of California City Boulevard. And it

4 impacts only 1400 homes. Currently I have 2754

5 nonsewer-connected homes that are on septic tanks

6 right now.

7 So our contamination to the aquifer is

8 significant. It's not a little arrangement. Most

9 times you see septic tanks you have -- when he

10 said we're not very dense, we have a density

11 limit. And the majority of what's called first

12 community, which you are seeing here, this is

13 about 15 percent of my total city square mileage,

14 but it encompasses about 95 percent of the

15 population of my city. Okay.

16 In first community we are at a situation

17 where we are approaching a moratorium level based

18 on groundwater saturation from the use of too many

19 septic tanks per acre, per zone.

20 I have approximately 50-some-odd zones

21 insite first community, which were contractually

22 set up with Lahontan under agreement in 1988,

23 which was modified in 2007, to correspond to

24 subdivision tracts inside my city. So, for us,

25 it's a significant problem.

1 We've been working since 2007 in an
2 effort to create independent sewer districts
3 inside this zone to be able to piece together a
4 transition from septic tanks over. That is a very
5 expensive process to do. And it's not one -- Kern
6 County, as a whole, is not a city with a large
7 median income. And it's a very difficult -- and
8 due to proposition 218 it's a very stressful, I
9 guess is the word I want to use, process involved
10 because people have to accept that kind of
11 expense.
12 This project for our city is
13 tremendously beneficial. What we've asked our
14 engineers to do in response to this project is
15 prepare the map that you have in front of you.
16 And essentially it's a dot-to-dot connection. We
17 had all the dots, which was all the existing
18 houses.
19 All we had to do was draw in the lines
20 in the shortest possible path to be able to
21 connect the dots together and bring these people
22 from septic tank away from groundwater
23 contamination into a community sewer system.
24 You'll look at it and the map shows you
25 different zone areas. When Mr. Busa mentioned the

1 fact that phasing this project in over a period of
2 time would be a benefit to the community, I think
3 if you look at the map you get a sense for just
4 how many streets are going to be impacted in our
5 primary residential community.
6 This is not a minor impact for our city.
7 It's a major transition for us. And the
8 opportunity to take an environmentally negative
9 situation and turn it into a very environmentally
10 positive situation.
11 The phasing in for us is -- one of the
12 original requirements was bringing this in in a
13 very short period of time. And we looked at how
14 short a period of time this could be. The shorter
15 the period of time the more painful this is, just
16 to the citizens of the community.
17 If you'll just look at any of those
18 phases. For example, phase one where you see
19 basically no large transmission lines but you see
20 only small neighborhood lines. And if you could
21 imagine the difficulty of those people in getting
22 in and out of their homes.
23 If we can do it in a way that takes out
24 one block or two blocks at a time, we wind up with
25 a much smoother process.

1 However, our council is committed to
2 this process. While it will be inconvenient for
3 our citizens, our citizens would also like to
4 participate in this process because we don't want
5 to be in the situation of having our community
6 closed to future growth and development.
7 With 23,000 unbuilt lots, obviously
8 there's a lot of room to grow. We have 15,000 --
9 14,000 people, excuse me, in the City of
10 California City. And with 23,000 unbuilt lots we
11 have a lot of room to grow. And, in fact, we were
12 one of California's fastest growing cities in the
13 last boom, the last high boom period, because
14 we're one of the few places where you can actually
15 afford to buy a lot and build a house.
16 Houses for sale at the peak of the boom
17 were selling for $160,000. I don't know that you
18 could find one in Sacramento or in the surrounding
19 area, much less in L.A. or Los Angeles County
20 that's going to go for that kind of price. So the
21 proposal here is for us, on an environmental
22 level, very very important.
23 We also have, and it does not show on
24 our map, a 2500-bed private prison in California
25 City. We are the only private prison in

1 California. There are 2250, I believe it is,
2 federal prisoners currently housed in that
3 facility. And they provide wonderful amounts of
4 sewer discharge into our system.
5 HEARING OFFICER CELLI: They're on a
6 sewer system?
7 MR. BEVINS: They are on the sewer
8 system, yes. Yes. That's one of the reasons that
9 we have such a large flow rate, and one of the
10 reasons that we're able to handle, relative to
11 other areas, we're able to handle the peak issues.
12 Is because we have this inherent base.
13 There's a couple of other issues that
14 were brought up. When our city was first
15 developed the original developers really wanted to
16 convince people that the desert was a very green
17 and growy place. And so they planted trees that
18 would just grow really wonderful in the desert.
19 The Tamarisk tree was their tree of choice.
20 (Laughter.)
21 MR. BEVINS: So when he says that we're
22 supportive of removing Tamarisk trees, that's a
23 complete understatement. Just inside my part of
24 the Fremont Basin we can pull out a significant
25 number of Tamarisk trees and be quite happy with

1 that project.

2 It, for us, represents an environmental

3 nightmare. It's very difficult for us to be able

4 to just walk in and yank out a tree, because

5 people say, oh, you're killing a tree. But if you

6 actually come to the desert, take a look at what

7 they are, they're an overgrown bush. And they're

8 a water hog.

9 There are other trees that draw less

10 water. The Tamarisk just loves the desert. It

11 seems to be able to suck water from wherever it

12 winds up seeding.

13 One of the other questions that came up,

14 and this generally is the functioning of emergency

15 water. Can we go back to any one of the last

16 pictures of the area?

17 (Pause.)

18 MR. BEVINS: Anyone that shows -- well,

19 I just need to see some of the faults in the area.

20 MR. SPEAKER: That's right there. It's

21 hard to see because --

22 MR. BEVINS: They're on there? Okay.

23 If you look at the faults in the area, our area is

24 an earthquake nightmare. Our wastewater treatment

25 plant would produce water consistently as Mr.

1 Curtis from Lahontan has pointed out.
2 But when you're talking about our main
3 pipeline from our wastewater treatment plant
4 follows this path along Mendiburu Road, along the
5 north side, you can see where that -- there's a
6 red line that runs across kind of three-quarters
7 of the way up on the map.
8 Our wastewater treatment plant is over
9 there where it says S-19 over on the right-hand
10 side. And coming out of that plant is a main
11 sewer line that runs along Mendiburu Road over to
12 Neuralia, which is about a third of the way over
13 on the left.
14 Neuralia is the path road for the
15 recycled waterline up to the Beacon project,
16 either for us or for Rosamond. That path is an
17 already-existing road. The pipeline would be
18 built on the shoulder.
19 Mendiburu is where we put our current
20 sewer line. And so the environmental impact is
21 simply to lay this line within the zone already
22 defined within the Mendiburu sewer line
23 environmental arrangement.
24 All the rest of the environmental issues
25 through our city are simply impacting already-

1 existing roadlines. And our environmental people
2 have told us that the process will be very very
3 nonpainful because we're staying in existing
4 roadways as we expand out and cut in. So that on
5 a whole this project, for us, is exceptionally
6 environmentally positive.
7 Lahontan -- not Lahontan, but the Water
8 Quality Control Board, has recently required that
9 every water basin inside the state identify salt
10 and -- produce a salt and nitrate plan. And in
11 many basins that's not a problem because salts and
12 nitrates, which go hand-in-hand with recycled
13 water, the more you recycle it the more you add to
14 that salt and nitrate issue from human use of the
15 water.
16 In most basins those constituents, I
17 guess is the proper word -- we don't want to call
18 them contaminants, do we? I think constituents is
19 the right word -- flow out of the basin.
20 In the case of the Fremont Basin there
21 is no natural salt exit. For us, recycled water
22 and continued use of recycled, pump it out and
23 recycle it again, will continue to add to the salt
24 concentration of our basin.
25 So while we've been doing recycled water

since 1994, we've realized under this new plan that we need to find a salt exit for our basin. The Beacon project provides a first class salt exit for our basin.

We don't have a natural one. This is an artificial one, which basically we could never afford to put in if we continued and expanded our recycled water.

So, -- make sure I've touched all the questions that you've had. The plan we've put together and have submitted to Beacon is a very straightforward plan.

The main pipelines, just to review with you, are going to stay in already-existing roadways or in places where we already have, the environmental work is already done.

The construction connection time is endorsed by our city. And something that our citizens are very much looking forward to. Now, when we actually get to individual citizens' streets I can guarantee you they will have cause to rethink their particular decision for a short period of time, but we do have the capacity to do it.

And our plan functions very nicely with

a five-year phase in. It actually is -- the only word I can think of is a real godsend to our community, which faces some very very unaffordable and very painful options should this not happen.

Lastly, I would also like to make one other comment. Our plan does not require purchasing of groundwater from Beacon. But I will also tell you that our basin has a capacity of -- I don't remember what your number is, but our estimate is of about 16,000 acrefeet of annual recharge.

If our city continues to grow, and it will -- we are the only incorporated city in the basin -- if our city continues to grow, we will, at some point, be needing additional water beyond that which our current wellfields produce. We will be looking to purchase water from wherever we can. And we would hope that you would not restrict our ability in the future to deal with water purchases from whatever source are available.

That's something that will happen regardless of whether or not this plant is built in whatever format it happens. We will be seeking water from a broad variety of sources.

1 Do you have any questions? Is there
2 anything that I've left untouched?
3 ASSOCIATE MEMBER BYRON: I found that to
4 be very helpful. I thank you very much for coming
5 today.
6 HEARING OFFICER CELLI: Thank you very
7 much, Mr. Bevins.
8 MR. BABULA: I just have one quick
9 question.
10 HEARING OFFICER CELLI: Staff.
11 MR. BABULA: On the phase in, then, I
12 notice on this map so your plan would be then to
13 just go with phase one -- the timing --
14 MR. BEVINS: Yeah, that's kind of the
15 rotation we were looking at.
16 MR. BABULA: What would be -- if you
17 went with the phase three first, because that
18 seems to be a larger quantity of water available,
19 it seems to be a bigger -- would there be an
20 advantage to try to --
21 MR. BEVINS: What we were looking at
22 doing with this, the biggest --
23 MR. BABULA: Try to get more water
24 upfront --
25 MR. BEVINS: -- the biggest challenge in

1 this particular project is going to be aligning up
2 the design with the construction. So we're
3 planning this project to be a design/build
4 concept.
5 In the first year we also were going to
6 be increasing our wastewater treatment plant
7 capacity. We're upgrading it. And so in the
8 first year while we're going through the
9 application process of upgrading the plant and
10 changing the point of diversion for our
11 wastewater, and including in, basically dealing
12 with our Lahontan issues.
13 That first one would require the least
14 amount of engineering in the first year. And then
15 the other -- what has to happen is all that, the
16 design/build concept you'd -- yeah, you'd wind up
17 designing all the main trunklines through. And we
18 kind of just extended it out.
19 Now, what undoubtedly would happen is
20 that in the first phase the main trunklines would
21 be designed. So exactly how that would be phased
22 in, that would certainly be open to negotiation.
23 I mean that's one where we could figure out what
24 would work the best.
25 And those lines, by the way, aren't rock

1 solid. They were actually created awhile back,
2 and I took a pencil and kind of went down and said
3 this is where we think it will go. And we did not
4 actually count out the homes to make sure we have
5 the 300 acrefeet per year.
6 MR. BABULA: Okay.
7 MR. BUSA: But, Mike, you currently
8 today have 300 acrefoot available, so --
9 MR. BEVINS: Oh, yeah, yeah. We could
10 do 300 acrefeet, yeah. Yes. We can do that right
11 now.
12 HEARING OFFICER CELLI: Three hundred
13 acrefeet is available right now.
14 MR. BEVINS: Yes, it is.
15 HEARING OFFICER CELLI: So, the phasing
16 doesn't -- right now at least 300 acrefeet is
17 already going into your --
18 MR. BEVINS: Yes. Into our lake.
19 HEARING OFFICER CELLI: Okay. So this
20 phasing has nothing to do with Beacon's phasing?
21 MR. BEVINS: Right.
22 HEARING OFFICER CELLI: Okay.
23 MR. BEVINS: Well, I won't say it
24 doesn't have anything to do. We tried to break it
25 up engineering-wise to see how we could, with the

1 contractor in mind, how we could easiest to bring
2 something online. But, no, we do have the
3 capacity right now to bring that on.
4 HEARING OFFICER CELLI: Very clear. Any
5 questions from CURE?
6 MS. GULESSERIAN: Yes, I have a
7 clarification or question. When is your year one?
8 Is it, you know, next year, or is it three years
9 from now? When does the five year begin?
10 MR. BEVINS: That kind of depends on the
11 applicant, I think. For us, we don't have a fixed
12 year one. What we are going to start doing, and
13 what we have planned to do is start moving forward
14 with our application process to Lahontan
15 immediately. And so we would be starting year one
16 for us immediately.
17 Once we get to the point where you've
18 all decided that we're worth the time and energy
19 to, you know, more forward with this option. So
20 we can start year one whenever is appropriate. By
21 the process.
22 In other words, if you delay --
23 MS. GULESSERIAN: And so how --
24 MR. BEVINS: -- it for two years, that's
25 not a problem.

1 MS. GULESSERIAN: -- and when do you
2 anticipate? I mean, if you submitted your
3 application to Lahontan, when would you anticipate
4 getting a permit so that we can --
5 MR. BEVINS: Lahontan right now, in
6 speaking with our office of Lahontan -- Lahontan,
7 I don't know if you're aware, is quite a large
8 district. And the Victorville Office has asked us
9 to hold off our application process until May,
10 simply because of the state funding budget issues
11 that the office has. They're as hard hit
12 financially as every other governmental entity in
13 the state, and they've asked us to hold off.
14 The expectation for us is we would have
15 the permitting completed by November of '10.
16 However, as soon as the request was made to begin,
17 at any point we could actually start because we do
18 have current treatment plant capacity.
19 And the process for operating without
20 our current capacity, as long as we say inside the
21 current capacity which phase one would allow us to
22 do, we could begin construction of that within 90
23 days, as far as beginning goes.
24 There's two parts to the process. One
25 is expanding plant capacity; the other part is

1 change in point of use or, you know, the change in
2 use. We can add the change in use before we
3 actually do the change in use. They will allow us
4 to do that, which was not only surprising to me,
5 but very pleasantly surprising to me.
6 So we can begin that process quite
7 quickly, and actually use it under our current
8 capacity. So we could be ready to deliver water
9 actually as early as November -- excuse me,
10 September of '10.
11 So the timeclock could start quite soon,
12 or it can be delayed. It doesn't have to be. I
13 mean it's -- we have some flexibility in this,
14 which is quite, for us, positive.
15 MS. GULESSERIAN: So, do --
16 HEARING OFFICER CELLI: So -- I'm sorry,
17 go ahead.
18 MS. GULESSERIAN: Just to clarify then.
19 So for phase one of this plan you could begin
20 construction and have 300 acrefeet of water to
21 deliver to the Beacon Project by September 2010?
22 MR. BUSA: -- pipeline to --
23 MS. LUCKHARDT: Yeah, we need to have a
24 pipeline --
25 MR. BEVINS: The pipeline is going to be

1 the problem because --

2 (Parties speaking simultaneously.)

3 MS. LUCKHARDT: -- to the project which

4 we can't build --

5 MR. BEVINS: -- yeah, because you're

6 talking -- I'm looking back at our engineer to

7 remember if that's it.

8 MS. LUCKHARDT: Yeah.

9 MR. BEVINS: There's a parallel

10 construction project that happens from the

11 pipeline from the wastewater treatment plant of

12 Neuralia, and then up Neuralia nine miles, is it,

13 Scott?

14 MR. BUSA: Yeah, nine or ten.

15 MR. BEVINS: Yeah, nine or ten miles up.

16 That project would have to be running

17 simultaneously. And that one could take a little

18 longer, a little less longer, but the bottomline

19 is that they basically run about the same time.

20 MS. GULESSERIAN: Do you know whether

21 you would be building that pipeline, or whether

22 Beacon would be building the pipeline to the

23 Beacon site?

24 MR. BEVINS: We haven't discussed that

25 one yet. It could be either way. We don't have

1 any particular problem with being the contractor
2 on the -- the lead on that at all. That would be
3 a positive for us.
4 MS. GULESSERIAN: Okay. Yeah, so we're
5 just trying to see if we can get some facts while
6 you're here.
7 MR. BEVINS: That's not a problem.
8 MS. GULESSERIAN: And then I guess the
9 question was when would the next phases occur. It
10 sounds like you would submit your application
11 concurrently with -- you could be --
12 MR. BEVINS: That's right.
13 MS. GULESSERIAN: -- constructing phase
14 one --
15 MR. BEVINS: That's correct.
16 MS. GULESSERIAN: -- and then by maybe
17 permitting completed by November 2010. So when
18 would construction of -- would construction of
19 phase two then begin --
20 MR. BEVINS: As soon as the final
21 permitting has happened for --
22 MS. GULESSERIAN: Um-hum.
23 MR. BEVINS: -- the upgrade of the
24 capacity of the treatment plant. Currently the
25 treatment plant's at 1.8 mgd. And we would be

1 looking to bring the plant to approximately 3.0
2 mgd.
3 Now, for us that sounds like a big deal.
4 But a lot of the pieces of the plant -- our plant
5 was built to be expanded. And so we would be --
6 as soon as we had the permitting in place, we
7 would begin the actual work on the plant.
8 We can begin the design on the plant
9 much before that. But it's -- because we have to
10 have that plant design in place before we apply
11 for the application. So once we have that in
12 place, we'll go.
13 We have actually a proposed schedule.
14 It's a little misleading from one regard. Because
15 what it is, it's a absolute minimum, if-you-put-a-
16 gun-to-my-head schedule. Okay?
17 Which isn't at all what the applicant's
18 proposing. They're looking at a very reasonable
19 schedule, which is what the map represents. But I
20 do have a crushed-it-down, sun-and-the-moon-and-
21 the-stars-aligned- together and everything-work-
22 perfectly schedule if you'd like to see that.
23 Which gives you some of the how we could overlap
24 certain things.
25 I don't know if the Commission would

1 like to see that schedule.
2 MS. GULESSERIAN: I would like to see
3 it. I mean, I want to know what is feasible --
4 MR. BEVINS: What is possible.
5 MS. GULESSERIAN: -- what is possible.
6 And you know, it speaks to whether water could be
7 available for construction of the project. Or
8 whether we need to, you know, talk about really
9 relying on groundwater during project
10 construction.
11 I mean that's a large portion of the
12 groundwater that's being proposed to be used. And
13 if it is feasible to get water to the project site
14 sooner, then that feasibility would be something
15 that would be helpful to know.
16 MR. BEVINS: Actually, that wouldn't
17 happen.
18 HEARING OFFICER CELLI: You know,
19 actually -- and that might be a good discussion in
20 a workshop, I think. I don't know that a status
21 conference is the best place to accomplish that.
22 I would say though, that as far as your
23 client is concerned, it sounds like there's a lot
24 of work for pipefitters.
25 MR. BEVINS: Well, there's -- yeah. And

one of the things that you have to bear in mind is, is that water would only be available onsite for site construction once the line was completed.

And we expect that line is not going to be a done-next-week project. Even if you look at this list you'll see it has its own time schedule just for the line.

So it wouldn't even be possible for them to use it for, I wouldn't think for most of the construction period, if not all the construction period.

I don't know what their construction period is, I don't know what their timeframe is, but no, I wouldn't think it would be used for construction water.

HEARING OFFICER CELLI: Thank you. Anything further from any of the parties? Thank you, Mr. Bevins.

MR. BEVINS: Thank you.

HEARING OFFICER CELLI: It was very very helpful to hear from you.

Lastly we have the City of Rosamond who's present. Let's hear from the City of Rosamond about this.

And then we'll talk about the project

1 schedule. And then we will have public comment.
2 MR. LaMOREAUX: Thank you. I'm Dennis
3 LaMoreaux, the Assistant General Manager and
4 District Engineer for Rosamond Community Services
5 District. It's not an incorporated area at this
6 point.
7 I have distributed kind of a one-page
8 summary of the highlights of our proposal to
9 provide water.
10 MR. BABULA: Do you have that one, Ken?
11 That's what you sent me back --
12 HEARING OFFICER CELLI: No. Oh, I see.
13 Okay. Please go ahead.
14 MR. LaMOREAUX: Early on, after your
15 staff approached us, we looked at several
16 different alignments. And then with some input
17 from California City, we did pick an alignment
18 that went through California City versus one that
19 might have been about five miles shorter,
20 paralleling a state road or railroad because of
21 potential benefits to both agencies.
22 And just going down through some of
23 these, it's pretty straightforward as has been
24 summarized before. Rosamond has the flow
25 available but not the treatment facilities at this

1 point in time. And then we would have to move it
2 approximately the 40-mile pipeline to the site.
3 What we have done is by the end of this
4 month we'll have completed mgd activated sludge
5 tertiary treatment plant. We have a proposal in
6 hand for a design/build contract for a 2 mgd plant
7 expansion, which we would be ready to go with if
8 we were to have an agreement with Beacon to
9 provide the rest of the tertiary treatment that we
10 would need.
11 The good thing about that proposal is
12 it's what's called a deep lagoon treatment system.
13 Very little mechanics, energy usage; very
14 reliable.
15 And as far as another point that's been
16 brought up, a long pipeline with earthquake
17 faults. That can be planned for. In a prior life
18 I was a general manager of a water district in
19 Palmdale on both sides of the San Andreas Fault.
20 And if you look at that water district today
21 you'll see that there's a huge inventory of pipe
22 there based on analysis of potential breaks due to
23 faults. That's the kind of thing that you can
24 plan for and deal with in a pretty straightforward
25 way.

1 HEARING OFFICER CELLI: And that went to
2 the question of the interruptibility of the
3 service that we'd asked earlier. So, there are
4 ways, there's work-arounds for that, you're
5 saying?
6 MR. LaMOREAUX: Yeah, you can prepare
7 yourself to some extent for that. At least to
8 have the materials available that you think you
9 might need. You know, there's still going to be
10 down times, but you can minimize the down times.
11 One piece of news I heard just today is
12 the peak storage that the applicant has
13 anticipated. In our analysis we thought it would
14 be up to three times as much storage would be
15 needed onsite for the peak flow.
16 With what they've said today, it would
17 cut in a third what we thought the cost would be
18 for that onsite impoundment. And the size of that
19 would be roughly 600 by 600 feet on the bottom,
20 two-to-one slopes, 25 foot deep. Lined and
21 covered with plastic, or some sort of plastic
22 commercially available.
23 I've kind of wound it around here, but
24 I'd be happy to answer any questions you have
25 about our proposal.

1 HEARING OFFICER CELLI: Thank you.
2 Chairman Douglas? Commissioner Byron?
3 ASSOCIATE MEMBER BYRON: Again, thank
4 you for being here. It's very helpful to have
5 this information.
6 HEARING OFFICER CELLI: And you said
7 that this month you are finishing your tertiary
8 treatment plant?
9 MR. LaMOREAUX: Yeah, as Mr. Bevins
10 stated, we've also had the same request from
11 Lahontan about permitting. So we're not going to
12 actually start that plant up until probably
13 sometime next summer, because of the delay in
14 being able to get the permits for it. But it's
15 ready to be started.
16 HEARING OFFICER CELLI: Thank you.
17 Parties, any questions? Seeing none, --
18 MR. BUSA: Actually just a quick one.
19 HEARING OFFICER CELLI: Oh, --
20 MR. BUSA: You mentioned capacity of 2
21 million gallons per day. Do you actually
22 anticipate a through-put of that?
23 MR. LaMOREAUX: No. That would -- half
24 of that would go towards meeting the Beacon needs;
25 and the other half would be funded by Rosamond for

1 future growth in the community.

2 MR. BUSA: So the availability to Beacon

3 would be 1 million gallons per day?

4 MR. LaMOREAUX: Of the new expansion,

5 plus the half-million-gallon tertiary plant that's

6 just completed.

7 MR. BUSA: For 1.5 million.

8 MR. LaMOREAUX: The 1.5. And we would

9 have the option of running those in different

10 combinations which would further increase

11 reliability.

12 HEARING OFFICER CELLI: Thank you, Mr.

13 LaMoreaux.

14 MR. BABULA: I have a quick question.

15 What was the original size of the impoundment then

16 that you had in mind?

17 MR. LaMOREAUX: We were looking at three

18 ponds of the size I just mentioned. Each of them

19 would have a rough surface area of about 12 acres.

20 MR. BABULA: Okay. So it might be

21 actually smaller basin?

22 MR. LaMOREAUX: It would be, yeah, a

23 third smaller -- or two-thirds smaller based on

24 the numbers I've heard today.

25 MR. BUSA: Yeah, I guess we need to get

1 together because we're kind of going circular
2 here. We're going circular, making a circular
3 argument. Because we actually used their numbers
4 to calculate the pond size, so we kind of need to
5 talk about that. I don't know if we agree with
6 that or not.
7 MR. BABULA: Right. I mean that would
8 be something to look at. The staff's just kind of
9 interested in getting this out. Things like this
10 are good so that we can figure out where there
11 might be some questions still that we could do
12 further --
13 MR. LaMOREAUX: Certainly.
14 MR. BABULA: -- research.
15 HEARING OFFICER CELLI: Well, thank you
16 very much for being here, Mr. LaMoreaux. We
17 appreciate it.
18 MS. GULESSERIAN: May I ask one quick
19 question.
20 HEARING OFFICER CELLI: Oh, I'm sorry,
21 go ahead.
22 MS. GULESSERIAN: I'm sorry. Once you
23 have a -- if you have a signed agreement how long
24 would construction of the expansion take?
25 MR. LaMOREAUX: Based on the

CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Status Conference; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing, nor in any way interested in outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of December, 2009.

PETER PETTY

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I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

December 6, 2009

Margo D. Hewitt,

AAERT CET**00480

Rosamond Community Services District

Recycled Water Facilites Plan
Final Report

State Water Resources Control Board

Rosamond Community Services District Recycled Water Facilities Planning Study

Water Recycling Funding Program Project No. WRFP-3609-010

July 2008

RMC
Water and Environment

Rosamond Community Services District
Recycled Water Facilities Plan
Draft Final Report

Prepared by:

RMC
Water and Environment

July 28, 2008

State Water Resources Control Board; Rosamond Community Services District Recycled Water Facilities Planning Study; Water Recycling Funding Program Project No. WRFP-3609-010

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Appendix B - Demand Calculations and Peaking Factors
Appendix C - Storage Analysis
Appendix D - Storage Tank Location Evaluation Technical Memorandum
Appendix E - Cost Estimates
Appendix F - Recycled Water User Schedule
Appendix G - Draft Recycled Water Use Ordinance
Appendix H - Construction Financing Plan Cash Flow Projections

List of Abbreviations

AFY	Acre-feet/year
AVEK	Antelope Valley East Kern Water Agency
CIMIS	California Irrigation Management Information System
gpd	Gallons per day
gpm	Gallons per minute
Hcf	Hundred cubic feet
hp	Horsepower
LF	Linear foot
MG	Million gallons
mgd	million gallons per day
mg/L	Milligrams per liter
ppb	Parts per billion
psi	Pounds per square inch
PVC	Polyvinyl chloride
RCSD	Rosamond Community Services District
RW	Recycled water
RWTF	Recycled water treatment facility
SWP	State Water Project
TDS	Total dissolved solids
WWTP	Wastewater treatment plant

Chapter 1 Introduction

Rosamond Community Services District (RCSD or the District) is pursuing the use of recycled water in the Town of Rosamond to offset increased demand on its potable water supply. RCSD currently retails potable water from the Antelope Valley Groundwater Basin and treated imported water from the State Water Project through Antelope Valley-East Kern Water Agency (AVEK). The ability of RCSD to reliably meet future water demand solely with groundwater and State Water Project water is not certain. The Antelope Valley Groundwater Basin is severely over-drafted and is currently in the process of adjudication, which will limit and possibly decrease the District's ability to produce groundwater. The reliability of State Water Project water is also in question due to environmental concerns, including pending litigation that threatens to the shut down of the Delta export pumps until the Department of Water Resources complies with the California Endangered Species Act for endangered fish populations.

RCSD is conducting this study to evaluate the use of recycled water as part of a process to identify and develop alternative water resource management opportunities. This Recycled Water Facilities Plan documents the results from the study which includes:

- Characterization of the project setting;
- Assessment of the recycled water market in the District;
- Development and evaluation of recycled water project alternatives
- Development of a basis to calculate and administer fees for recycled water infrastructure installation and utilization;
- Documentation of recycled water market assurances; and
- Preparation of a construction financing plan and implementation plan for the recommended facilities.

1.1 Background

Rosamond Community Services District was formed in 1966 to provide public services to the unincorporated community of Rosamond. RCSD provides the following services: potable water for domestic, irrigation, and industrial use, parks and recreation, collection and treatment of wastewater, street lighting, and graffiti abatement (Integrated UWMP, 2005). Rosamond's population is expected to double over the next twenty years (Integrated UWMP, 2005). In response to the expected population growth, RCSD is developing alternative water resources including recycled water facilities to help meet its water supply needs. Developing recycled water use in RCSD's service area would:

- **Reduce Dependence on Groundwater and State Water Project Supplies.** Groundwater supplies represent nearly sixty percent and State Water Project supplies represent the remaining forty percent of water used within the District. Untreated surface water may be blended with recycled water for groundwater banking. Recycled water use within the District's service area will help reduce dependency on these sources.
- **Improve Water Supply Reliability.** Recycled water supply is generally not affected by hydrologic conditions; therefore, it provides additional dry-year reliability for irrigation.
- **Preserve Potable Water Supplies.** Using recycled water to serve non-potable demands such as irrigation will preserve high-quality drinking water supplies for potable needs.

The District will be adding a tertiary treatment facility at the Rosamond Wastewater Treatment Plant to produce recycled water in accordance with Department of Health Services (DHS) Title 22 requirements (Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60301). Design of the Rosamond Recycled Water Treatment Facility (RWTF) was completed by Boyle Engineering in March

2003. The plant is designed for tertiary treatment of 0.5 mgd with provisions for expansion to 1.0 mgd in the future. Construction of the plant upgrades began in late 2007.

1.2 Report Organization

This Recycled Water Facilities Plan consists of five chapters and is organized as follows:

Chapter 1 – Introduction.

Chapter 2 – Project Setting. This section characterizes the RCSD study area including climate, hydrologic features, land use, water supply and use, wastewater treatment and disposal, and existing recycled water facilities.

Chapter 3 – Market Assessment. This section identifies potential recycled water users within the RCSD service area, providing estimates of recycled water demand.

Chapter 4 – Project Alternative Analysis. This section discusses the methodology for developing and evaluating various recycled water project alternatives for RCSD. It defines design criteria and assumptions and provides a detailed description of each project alternative, including a "No Project Alternative".

Chapter 5 – Recommended Project. This section describes the recommended facilities, including project phasing and implementation plan.

Chapter 6 – Construction Financing Plan and Revenue Program. This chapter provides a preliminary financing plan for implementing the recommended project.

The following appendices can be found at the end of the report.

Appendix A – 2006 Annual Water Quality Report, Antelope Valley-East Kern Water Agency

Appendix B – Demand Calculations and Peaking Factors

Appendix C – Storage Analysis

Appendix D – Storage Tank Location Evaluation Technical Memorandum

Appendix E – Cost Estimates

Appendix F – Recycled Water User Schedule

Appendix G – Draft Recycled Water Use Ordinance

Appendix H – Construction Financing Plan Cash Flow Projections

Chapter 2 Project Setting

This section provides a characterization of the District study area, including information on climate, population, land use, water supply and use, wastewater treatment and disposal.

2.1 Study Area Characteristics

The following provides general characteristics of the District's study area:

Location. The unincorporated community of Rosamond is located fifty miles north of the Los Angeles metropolitan area and seventy-five miles southeast of Bakersfield in Kern County at an elevation of 2,000 to 3,000 feet above mean sea level. The study area is the RCSD Sphere of Influence which is bounded by Alice Street on the north, Avenue A to the south, Lone Butte Road to the east and 140th St. West to the west. The majority of potential recycled water customers identified in this study are located in the southeastern portion of the Sphere of Influence. The study area is shown in **Figure 2-1**.

Climate. Rosamond is located in a high desert climate, characterized by hot dry summers and cool dry winters. The average annual rainfall is 7.26 in/year which occur mostly during winter from December to March. (CIMIS, 2006) There is little precipitation during summer from June to September.

Soils and Topography. Rosamond lies within the Antelope Valley, a broad alluvial-filled valley. Soil conditions vary considerably within the valley with more fertile conditions in the southwesterly parts of the parts of the District. A portion of these lands were in agriculture previously and in most areas permeable soils are present. In the easterly part of the District, surface soils consist of mostly clay which has relatively low permeability. The northerly part of the District is generally hilly with mostly consolidated rock that is very non-water bearing. (RCSD, 1995) The southern third of the Rosamond area is located within the 100-year flood plain. Areas south and southeast of Tropico Hill are prone to flooding from the Oak and Joshua Creek watersheds.

Hydrologic Features. RCSD is located in the Antelope Valley Groundwater Basin, a hydrologically enclosed watershed bounded by the Tehachapi Mountains on the northwest, San Gabriel Mountains and Sierra Pelano Mountains to the south, and low-lying buttes of San Bernardino County to the east. The Antelope Valley Groundwater Basin is comprised of two primary aquifers; the principal aquifer and the deep aquifer. The principal aquifer is unconfined. Separated from the principal aquifer by clay layers, the deep aquifer is generally considered to be confined. Groundwater recharge in the District is principally by deep percolation of precipitation and runoff from the mountains to the north. The amount of recharge is unknown and only occurs during very wet years. Very little or no recharge results from rainfall on the valley floor as such rainfall is lost through transpiration and evaporation. (RCSD, 1995)

2.2 Land Use Trends and Population Projections

2.2.1 Land Use

Existing land use within the RCSD sphere of influence is shown in **Figure 2-2**. The largest percentage of land, approximately forty-eight percent is zoned as agriculture. Another forty-six percent of land use is zoned residential. Rosamond has a small amount of land zoned as industrial and commercial, only about two percent, with the remaining three percent as open space. Rosamond has a lot of room to grow depending on how land use is converted from agricultural to other uses.

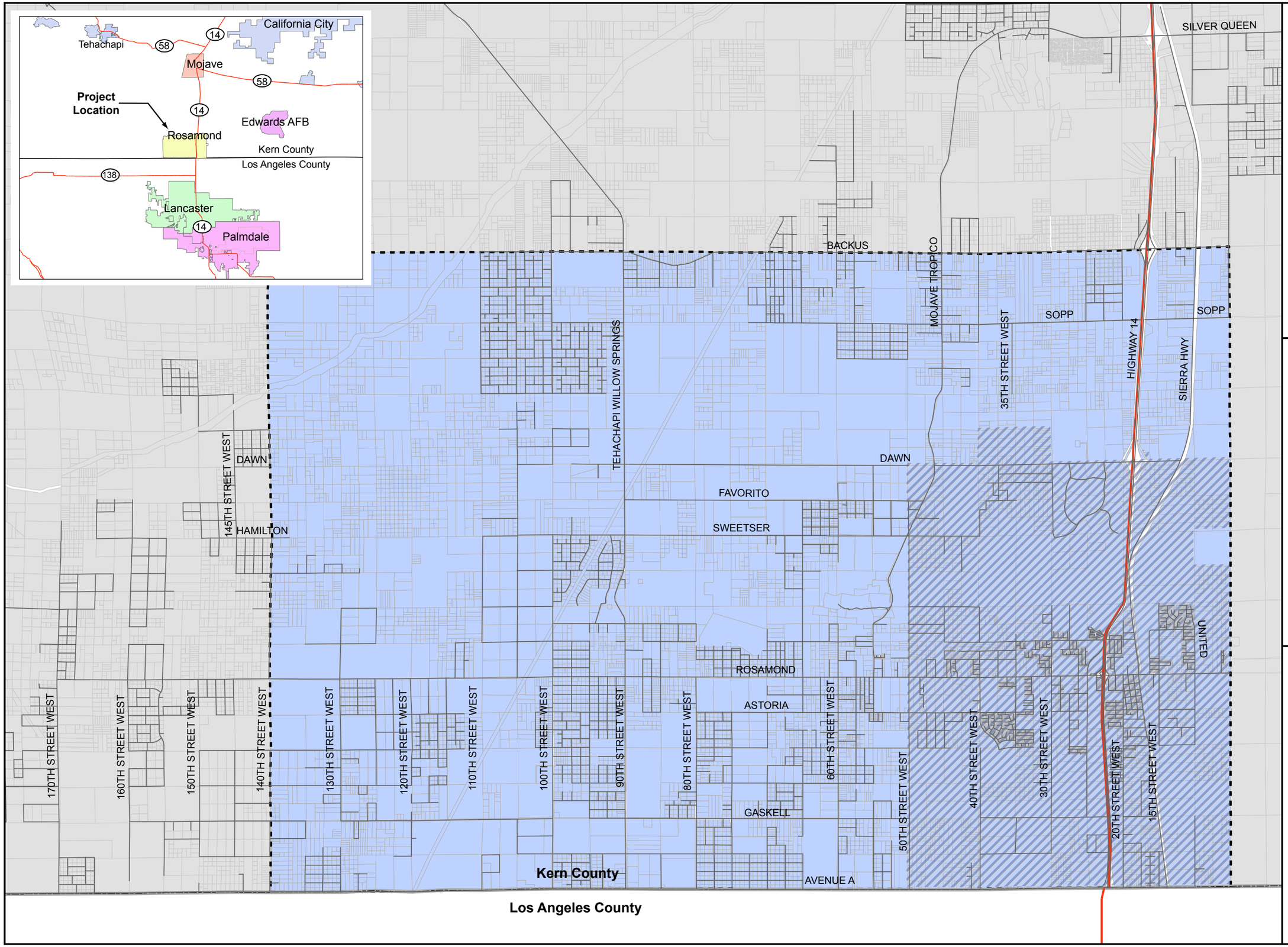
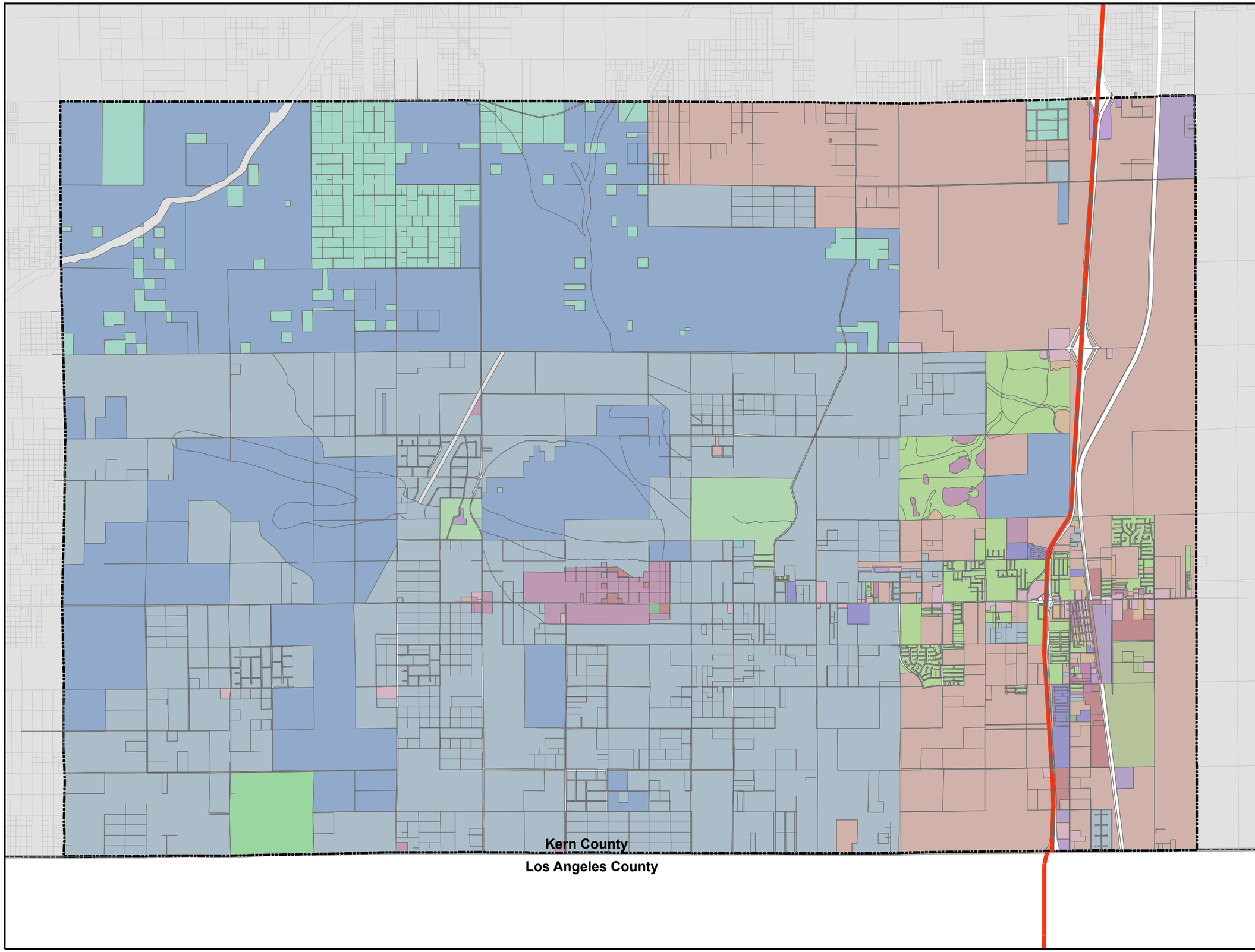


Figure 2-1
Rosamond CSD Service Area Map

Rosamond Community Services District Recycled Water Facilities Plan



Legend

- Roads
- State Highway 14
- Sphere of Influence
- Kern County
- Parcels

Kern County Land Use

- Estate Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mobile Home Park
- Platted Land (Residential)
- General Commercial
- Light Manufacturing
- Neighborhood Commercial
- Medium Industrial
- Heavy Industrial
- Highway Commercial
- Exclusive Agriculture
- Limited Agriculture
- Recreation Forestry
- Open Space
- Natural Resources
- Floodplain
- Special Planning

Figure 2-2
Land Use Map

Rosamond Community Services District
Recycled Water Facilities Plan

N

0 0.5 1 2
Miles
1 inch equals 1.1 miles

2.2.2 Population Projections

Table 2-1 provides a summary of population projections for the RCSD service area. As shown in this table the population for the study area is expected to more than double between 2005 and 2030.

Table 2-1: Population Projections

Year	2005	2010	2015	2020	2025	2030	% Increase from 2005 to 2030
Population [a]	15,510	17,980	20,857	24,194	28,065	32,555	210%

Footnotes:

a. Los Angeles County Department of Public Works, Rosamond Community Services District, Quartz Hill Water District, Los Angeles County Sanitation Districts. *2005 Integrated Urban Water Management Plan for the Antelope Valley.*

2.3 Water Supply and Use

This section describes various water supplies used by the District, major water facilities, current rates, and water use trends.

2.3.1 Water Supply Characteristics and Facilities

RCSD produces water from two sources: the Antelope Valley Groundwater Basin and imported State Water Project water contracted through the Antelope Valley-East Kern (AVEK) Water Agency. Additional detail about the quantity, quality, and reliability of water from these sources is provided below.

Water Supply Sources

Groundwater from Antelope Valley Groundwater Basin. Groundwater makes up approximately sixty percent of the total water supply for the District. Historically RCSD has pumped approximately 2,000 AF annually. Groundwater levels dropped two to three feet per year through the early 1980's. In the late 1980's through the mid 1990's groundwater levels raised as more imported surface water was used by the District. Then in the late 1990's, farming increased west of the District leading to increased pumping. As a result, groundwater levels began to drop again, and continue to drop presently. (Integrated UWMP, 2005)

Groundwater quality is very good within the principal aquifer but degrades toward the northern portion of the dry lakes area. The total dissolved solids concentration ranges from 200 to 800 milligrams per liter (mg/L). This is considered to be generally suitable for domestic, agricultural, and industrial uses. Hardness ranges from 50 to 200 mg/L and high fluoride, boron, and nitrates are problematic in some areas of the basin. An emerging contaminant of concern is arsenic. The US EPA drinking water regulation for arsenic includes a maximum contaminant level (MCL) of 0.010 mg/L (10 ppb). RCSD has observed levels of arsenic in the range of 11 to 14 ppb in three of its wells. To manage arsenic levels, RCSD is undergoing a partial abandonment process of wells with high arsenic levels that restricts flow from areas containing arsenic and allows pumping in arsenic free zones. (Integrated UWMP, 2005)

State Water Project - Antelope Valley-East Kern Water Agency (AVEK). The State Water Project (SWP) provides the remaining forty percent of water supply for the District. SWP is operated by the Department of Water Resources (DWR) and includes 660 miles of aqueduct and conveyance facilities from Lake Oroville in the north to Lake Perris in the south. AVEK is contractually allowed to receive 141,400 AFY of SWP water. Over the last five years RCSD has imported an average of 1,197 AF of AVEK water annually. Availability of SWP water varies from year to year, depending on precipitation, regulatory restrictions, legislative restrictions, and operational conditions. It is especially unreliable during dry years. (Integrated Urban Water Management Plan, 2005) Environmental issues also cast doubt on the reliability of SWP supplies, including pending litigation that threatens to shut down the Delta export pumps until the Department of Water Resources complies with the California Endangered Species Act for endangered fish populations.

State Water Project supplies are treated at the Rosamond Water Treatment Plant before being distributed to RCSD customers. A copy of the 2006 Annual Water Quality Report, Antelope Valley-East Kern Water Agency is provided as Appendix A.

Water System Facilities

The District's water system serves 4,800 connections. The connection type can be broken down to 97% residential, 2% commercial, and <1% landscape irrigation/non potable use. The water system is comprised of the following components.

- *Groundwater Production Wells*. RCSD operates six wells for a total maximum capacity of 3,050 gpm (4,920 acre-feet per year).
- *Distribution System.* The District's 86-mile distribution system ranges from 6 to 24 inches in diameter
- *Storage Reservoirs.* The District has five storage tanks situated in the northern portion of Rosamond. The combined capacity of the tanks is 6.5 million gallons (MG).

In addition to RCSD facilities, AVEK operates the 14 mgd Rosamond Water Treatment Plant which provides water to Rosamond, Mojave, California City, Edwards Air Force Base and Boron. The treatment plant is capable of providing water for approximately 60,000 people. AVEK charges $265/acre-foot (AF) in the winter months and $335/AF in the summer months for treated water from this facility.

2.3.2 Water Use Trends

Water usage in the District has increased relatively slowly over the last ten years. Average water usage was approximately 3,000 AFY in 2004. **Table 2-2** presents an estimate of water demand through 2030. Demand projections from the 2005 UWMP are based on service connection increases from the 2000 UWMP. New customers are expected to increase at a rate of two percent per year. Estimated population growth for the District is expected to exceed the rate of new customer connections. Therefore it is believed that water demand is underestimated. (Integrated Urban Water Management Plan, 2005)

Table 2-2: RCSD Water Demand Projections

	2005 [a]	2010	2015	2020	2025	2030
Water Demand (AFY)	3,076	3,200	3,600	4,000	4,000	4,900

Footnotes:

a. Actual water demand from RCSD, Integrated Urban Water Management Plan, 2005

2.4 Wastewater Collection and Treatment

RCSD provides wastewater collection and treatment for the town of Rosamond. The total wastewater service area covers approximately 122 square miles and serves approximately 15,000 people.

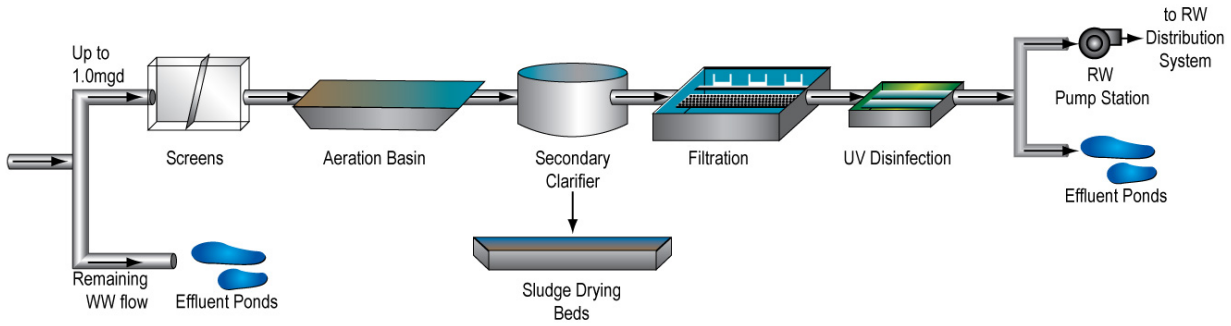
2.4.1 Wastewater Treatment Facilities

The existing RCSD Wastewater Treatment Plant (WWTP) is a secondary treatment plant with a permitted capacity of 1.3 mgd consisting of fifteen treatment ponds, and evaporation disposal ponds. Disposal is primarily accomplished through evaporation ponds (disposal or effluent ponds). The District discharges periodically to non-food bearing trees located at the treatment plant site.

A tertiary treatment facility has been designed to produce 0.5 mgd of disinfected tertiary treated water meeting Title 22 standards. RCSD is currently soliciting construction bids for the treatment plant. Construction began in late 2007, and the plant is expected to be operational in 2009. The tertiary treatment facility will consist of a mechanical bar screen, influent grinder, aeration basin, clarifier,

coagulation, flocculation, filters, and ultraviolet disinfection. Effluent from the tertiary treatment facility will be pumped at the recycled water pump station through the distribution system to the customers. Flow coming to the plant in excess of the tertiary treatment facility capacity will be routed to existing treatment and effluent ponds. Tertiary treated effluent that is not sent to the recycled water distribution system would also be disposed of in the existing effluent ponds. A schematic of the proposed treatment process is shown in **Figure 2-3**.

Figure 2-3: Rosamond Proposed Recycled Water Treatment Facility Schematic



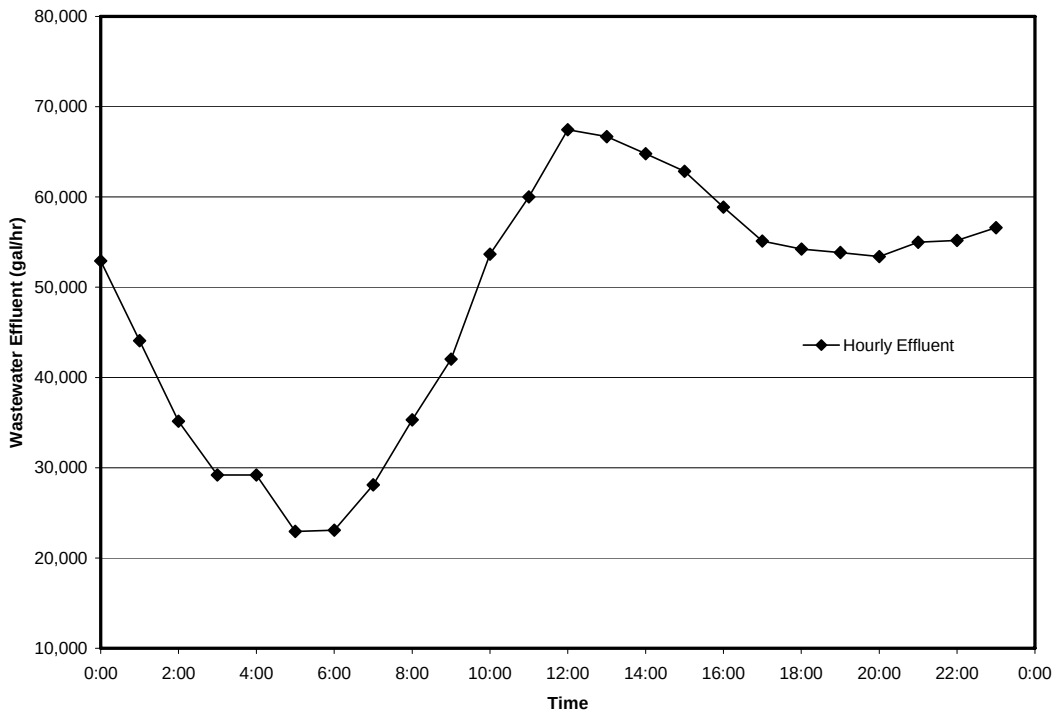
2.4.2 Influent/Effluent Quality

Wastewater influent to the Rosamond WWTP is primarily from residential uses with roughly two percent from commercial sources. Wastewater effluent is currently sent to disposal ponds, but after the tertiary treatment plant is constructed, recycled water meeting Title 22 standards will be produced. There are no existing rights to use treated effluent after discharge.

2.4.3 Wastewater Flows

The 2006 average annual wastewater flow to the plant was 1.2 mgd. There is slight seasonal fluctuation in wastewater generation. There is about a five percent variation throughout the year. Wastewater flow varies on an hour by hour basis typical of the average diurnal curve. Wastewater effluent data was collected per hour for a two week period in July to estimate the fluctuation in recycled water generation. The wastewater diurnal curve is shown in **Figure 2-4**. Based on discussions with RCSD, the average annual wastewater flow is expected to increase to 1.8 mgd by 2010 and to 2.3 mgd by 2018. The tertiary treatment facility will produce 0.5 mgd of recycled water by end of 2009 and 1.0 mgd by 2018.

Figure 2-4: Rosamond Wastewater Average July Day Diurnal Curve



2.5 Recycled Water Facilities

Recycled water pipelines were installed between 1994 and 1995 during the installation of sewer pipelines along two main corridors. The first, a 12-inch polyvinyl chloride (PVC) recycled water pipeline begins at the Rosamond Wastewater Treatment Plant, runs west along Patterson Road, crosses Highway 14 and ends on the west side of the highway. The second, a 12-inch ductile iron (DI) recycled water pipeline also begins at the Rosamond RWTF and runs west along Patterson Road. The pipeline heads north along Sierra Highway, crosses Highway 14 approximately 1.4 miles north of Rosamond Blvd, and ends on the west side of Highway 14. There are no existing recycled water storage facilities; however the need for storage is evaluated in Section 4.2.3.

There are no existing recycled water users within the District since the tertiary treatment facility has not been constructed. Potential recycled water market within the District, including parks, schools, residential developments and other irrigation customers is evaluated in Section 3.2.

Chapter 3 Market Assessment

This section presents an assessment of the market for recycled water use within the RCSD sphere of influence (study area).

3.1 Methodology

The goals of the recycled water market assessment are to identify near- and long- term uses of recycled water within the District. The market assessment included a detailed examination within the study area of potential users and demands, supply availability, implementation challenges and develop basis of calculating and implementing fees for recycled water infrastructure, installation, and utilization. The methodology used for the market assessment is described below.

3.1.1 Identify Potential Users

Identifying potential recycled water customers was the first step in the recycled water market assessment. This involved reviewing the District's Park System Master Plan (Foothill Associates, 2006) to identify existing parks and schools, and planned parks within the study area. Geographic Information System (GIS) data from Kern County and aerial images were used to identify other locations currently being irrigated. The study is focused on urban use of recycled water. Agricultural irrigation and groundwater recharge was not specifically evaluated for recycled water demand because there are limited agricultural users and groundwater recharge opportunities are in the early stages of development.

3.1.2 Determine Potential Recycled Water Demands

After a list of potential recycled water users within the District was compiled, the next step was to determine the recycled water demand for each user. Recycled water demands for each user are presented in Section 3.2. The market assessment examined only urban irrigation demands since no significant industrial users are located in the District. Demands were determined using the following methodology.

Annual average demands were calculated using evapotranspiration (ET) rates and estimated acres of landscaping. Appendix B provides detailed information on the calculation of irrigation demands and peaking factors. Water records were available only for United Street Park. The records were used as a comparison to calculated evapotranspiration rates on an average day basis and average day of the peak month (June). The United Street park water use is 40% less than the calculated demand using evapotranspiration rates. Since this is the only water use record to compare with, it was deemed appropriate to continue to use evapotranspiration rates.

3.1.3 Confirm Availability of Recycled Water Supply

Once the recycled water demands were identified and quantified, they were compared to the available recycled water supply to be generated at the Rosamond RWTF. The tertiary treatment facility is scheduled to produce 0.5 mgd in 2009, with an expansion to 1.0 mgd by 2018. The need for operational storage at the RWTF or at another location was evaluated using hourly effluent data and proposed irrigation periods.

3.1.4 Evaluate Other Implementation Considerations

The final component of the market assessment was to examine recycled water quality issues, particularly associated with using recycled water in urban areas and to identify water quality concerns for end users in this study. Potential issues are discussed in Section 3.4.

Implementation considerations such as customer retrofit needs, public perception, and environmental impacts are discussed in Section 5.3.

3.2 Potential Recycled Water Market

Table 3-1 includes a list of potential recycled water users allowed by the State of California Department of Health Services (DHS) for disinfected tertiary recycled water meeting Title 22 standards. This Recycled Water Facilities Plan focuses on urban irrigation users.

Table 3-1: Title 22 Allowed Uses for Disinfected Tertiary Recycled Water

Use of Recycled Water	Disinfected Tertiary Recycled Water
Food crops - contact with edible portion of the crop, including all root crops.	Allowed
Parks and playgrounds.	Allowed
School Yards.	Allowed
Residential landscaping.	Allowed
Unrestricted access golf courses.	Allowed
Food crops where edible portion is produced above ground and not contacted by recycled water.	Allowed
Cemeteries.	Allowed
Freeway Landscape.	Allowed
Restricted access golf courses.	Allowed
Ornamental nursery stock and sod farms where access by the general public is not restricted.	Allowed
Pasture for animals producing milk for human consumption.	Allowed
Any non-edible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.	Allowed
Orchards where the recycled water does not come into contact with the edible portion of the crop.	Allowed
Vineyards where the recycled water does not come into contact with the edible portion of the crop.	Allowed
Non food-bearing trees (no irrigation with recycled water for 14 days prior to harvesting or allowing general public access).	Allowed
Fodder crops (e.g. alfalfa) and fiber crops (e.g. cotton).	Allowed
Seed Crops not eaten by humans.	Allowed
Food crops that undergo commercial pathogen-destroying processing before consumption by humans.	Allowed
Ornamental nursery stock and sod farms provided no irrigation with recycled Water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.	Allowed
Industrial or commercial cooling.	Allowed
Flushing toilets and urinals	Allowed
Groundwater Recharge.	Allowed under special case by case permits with the RWQCB

Note: This table does not represent an all-inclusive list of recycled water uses. The reader is referred to *the California Health Laws Related to Recycled Water, "The Purple Book"*, dated June 2001 for requirements for impoundment, cooling, and other uses.

Recycled water would initially be used for landscape irrigation and potentially for groundwater recharge and other uses in the future. The potential for groundwater recharge is briefly discussed below, but will be considered in depth at later phase of recycled water use development. The following sections describe the customers identified in the market assessment.

3.2.1 Phase 1

The Recycled Water Facility Plan will focus on implementing projects in Phase 1. Phase 1 includes recycled water customers that have been identified for near term implementation. Recycled water will be used for urban landscape irrigation. Customers are broken into two groups: *existing facilities to be connected*, and *future recycled water customers*.

Existing Facilities

Existing facilities are defined as entities that currently exist or will exist before project construction is complete and would be expected to use potable water if recycled water were not made available, per Water Recycling Funding Program Guidelines (SWRCB, 2004). These customers, shown in **Figure 3-1**, include parks managed by Kern County Parks and Recreation Department and RCSD and schools in the Southern Kern Unified School District. It should be noted that United Street Park was not included, as the park site will be used by the Southern Kern Unified School District for construction of a school building within the next two years, per RCSD. At this time it is unknown whether the new facility would include landscaping or a park area.

Description of Existing Facilities

Rosamond Park. Rosamond Park is a 10-acre neighborhood park located south of Alexander Avenue and east of Glendower Street. The park provides a mixture of active recreation (playgrounds and sports facilities) and picnic/gathering areas. It is the community's oldest and largest developed park site. Located adjacent to Rosamond Elementary School, there are no public streets separating the two. Recycled water would be used to irrigate turf grass and additional landscaping at the park. (Rosamond Community Services District Park System Master Plan, Foothill Associates, 2006)

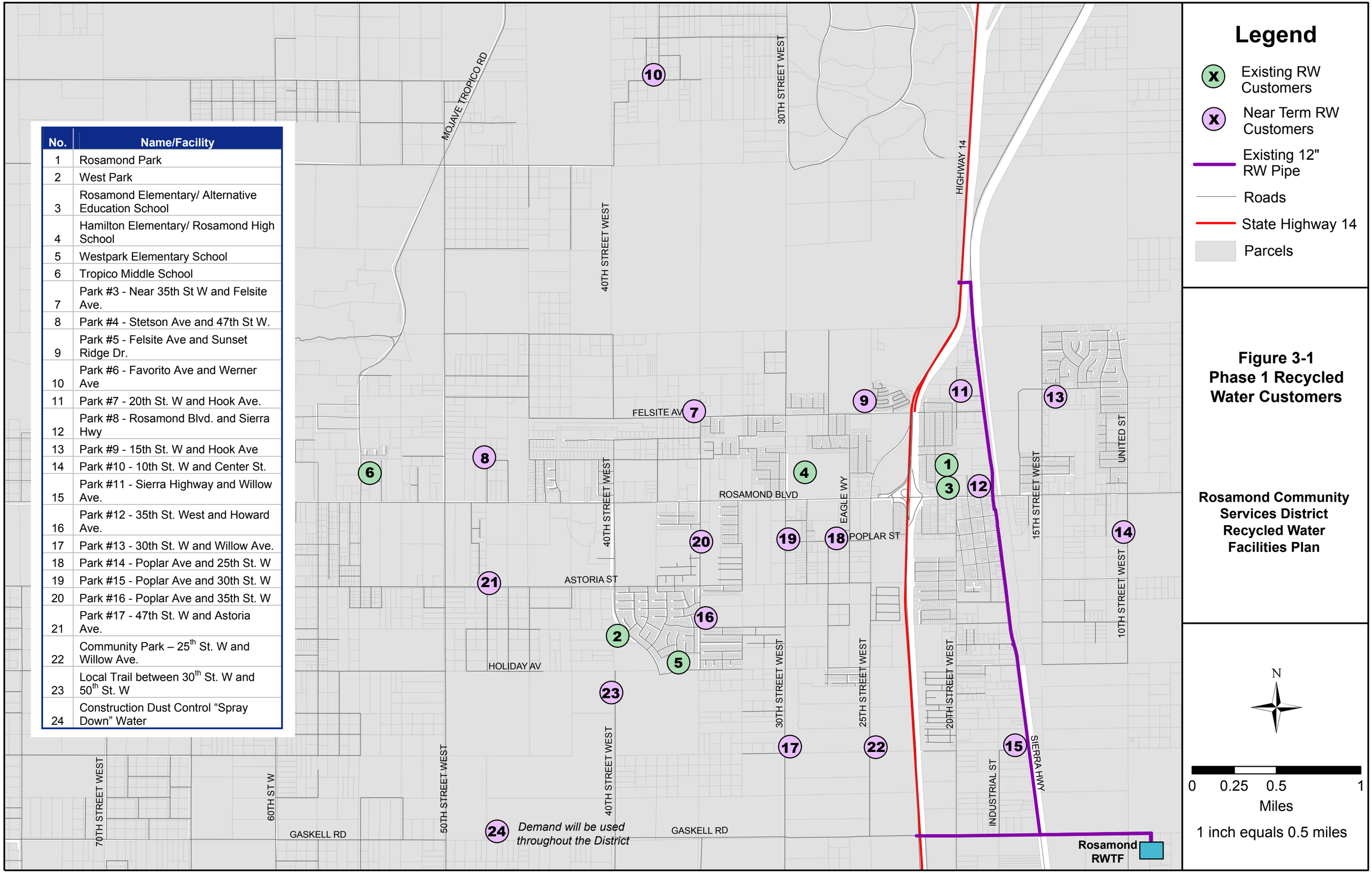
West Park. West Park is a 4.5-acre neighborhood park located along 40th Street West halfway between Holiday Avenue and Orange Avenue. It was recently acquired by RCSD from Kern County and will be managed by RCSD. It offers lighted tennis and basketball courts, restrooms, picnic/BBQ area, and a play area. Recycled water would be used to irrigate turf grass and other landscaping at the park. (Rosamond Community Services District Park System Master Plan, Foothill Associates, 2006)

Rosamond Elementary School/Alternative Education School. These two schools are located north of Rosamond Boulevard and east of Glendower Street. The schools have grass play areas and landscaping around the school grounds. There are approximately five acres available for irrigation with recycled water.

Hamilton Elementary/Rosamond High School. These two schools are located north of Rosamond Blvd. and east if 30th Street West. The high school has multiple fields (soccer, football) that can be irrigated with recycled water. Between the two schools there is approximately 11.5 acres available for irrigation with recycled water.

Westpark Elementary School. Westpark Elementary School is located north of Holiday Avenue and east of 40th Street West, the elementary school does not have a grass play area, but a 5-acre play area is planned and could be irrigated with recycled water. If artificial turf is used (as is being considered), recycled water could be used for cooling of the turf. For the purposes of the Facilities Plan it is assumed that turf grass will be installed.

Tropico Middle School. The middle school is located about a ¼ mile north of Rosamond Boulevard and east of Mojave-Tropico Road. There is a grass area available for irrigation with recycled water, approximately 1.4 acres.



No.	Name/Facility
1	Rosamond Park
2	West Park
3	Rosamond Elementary/ Alternative Education School
4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
15	Park #11 - Sierra Highway and Willow Ave.
16	Park #12 - 35th St. West and Howard Ave.
17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water

Figure 3-1
Phase 1 Recycled Water Customers

Rosamond Community Services District Recycled Water Facilities Plan

A summary of irrigated area, annual average water demand, average day of the peak month demand, and flow rate during the irrigation period for existing facilities to be connected as Phase 1 customers is presented in **Table 3-2**. It is assumed that these customers would not have on-site operational storage; therefore, recycled water demand is distributed evenly over a 9-hour irrigation period (from 9:00 PM to 6:00 AM).

Table 3-2: Phase 1 Customers – Existing Facilities

No.	Name/Facility	Irrigated Acres	Annual Average Water Demand (AFY) [a]	Average Day of the Peak Month (gal/day) [b]	Flow rate during Irrigation Period (gpm) [c]
1	Rosamond Park	7	30	49,848	92
2	West Park	4	17	27,933	52
3	Rosamond Elementary/ Alternative Education School	5	21	35,890	67
4	Hamilton Elementary/ Rosamond High School	11	47	79,438	147
5	Westpark Elementary School	6	25	41,633	77
6	Tropico Middle School	1	6	9,970	19
	Totals	**35**	**146**	**244,711**	**454**

Footnotes:

a. Annual average water use calculated using an evapotranspiration value of 4.14 ft/acre/year
b. See Appendix B for demand calculations and peaking factors. Average Day of the Peak Month demand based on a peaking factor of 1.88.
c. Flow rate during irrigation period calculated by multiplying Average Day of the Peak Month demand by 2.67 (24 hours per day/9 irrigation hours per day)

Near Term Recycled Water Customers

Near term customers are entities that are not currently developed but can be described as existing customers in accordance with the Water Recycling Funding Program Guidelines (SWRCB, 2004). *Near Term Recycled Water Customers* are listed in **Table 3-3** and are also included in **Figure 3-1**. *Near Term Recycled Water Customers* include proposed parks identified in the RCSD Park System Master Plan (Foothill Associates, 2006).

Description of Near Term Customers

Park #3 – 35th Street West and Felsite Ave. This is a proposed 10-acre park near Rosamond High School and Hamilton Elementary is located in an area of projected growth. The park also has the potential to serve as an access point to trails in the hills to the North.

Park #4 – Stetson Ave. and 47th Street West. This is a proposed 4.2-acre park designed to provide connectivity between the park, trail system, and Tropico Middle School.

Park #5 – Felsite Ave. and Sunset Ridge Drive. This is a proposed 6-acre park in close proximity to Rosamond High and Hamilton Elementary. It would provide developed park amenities as well as access to proposed trails and open space in the Rosamond Hills to the north.

Park #6 – Favorito Ave. and Werner Ave. This is a proposed 5-acre park serving a newer area of development.

Park #7 – 20th Street West and Hook Ave. This is a proposed 10-acre park that would provide a connection to the proposed Sierra Highway trail corridor.

Park #8 – Rosamond Blvd. and Sierra Highway. This is a proposed 10-acre park that will provide multiple benefits.

Park #9 – 15th Street West and Hook Ave. This is a proposed 10-acre park that will provide access to the United Street Park site.

Park #10 – 10th Street West and Center Street. This is a proposed 5-acre park located in an area of expected growth to provide basic recreational opportunities for surrounding residential neighborhoods.

Park #11 – Sierra Highway and Willow Ave. This is a proposed 5-acre park that would be easily accessible to the proposed trails system and possibly provide opportunities to incorporate natural resource features into the park.

Park #12 – 35th Street West and Howard Ave. This is a proposed 5-acre park expected to serve the development growth in the area.

Park #13 – 30th street West and Willow Ave. This is a proposed 8.3-acre park that will provide basic recreation facilities for the community.

Park #14, 15, and 16 – 25th Street West, 30th Street West, and 35th Street West and Poplar Ave. All three parks are located along the proposed major east-west trail that follows Poplar Avenue. Parks #14 and #15 are proposed as 5-acre parks located at intersections with other trail segments. Park #16 is proposed as a 10-acre park.

Park #17 – 47th Street West and Astoria Ave. This is a proposed 7.2-acre park that will provide facilities for growth in the area.

Local Trail from 30th St. W to 50th St. W. A large network of trails is planned in Rosamond to connect parks and provide a venue for various forms of recreation like mountain biking and hiking. This 2.66 mile stretch of trail will be landscaped with native vegetation to incorporate in the natural surroundings.

Construction Dust Control Water. Recycled water can be used as spray down water for dust control during construction. Potable water has been used for this in the past and recycled water can be substituted. This demand can be used during daylight hours (typically 8:00 am to 5:00 pm), rather than at night like the other recycled water customers. The fill station for the dust control water will most likely be at the Rosamond RWTP.

Table 3-3: Phase 1 – Near Term Customers

No.	Name/Facility	Irrigated Acres	Annual Average Water Demand (AFY) [a]	Average Day of the Peak Month (gpd) [b]	Flow rate during Irrigation Period (gpm) [c]
7	Park #3 - Near 35th St W and Felsite Ave.	10	31	52,113	97
8	Park #4 - Stetson Ave and 47th St W.	4	13	21,887	41
9	Park #5 - Felsite Ave and Sunset Ridge Dr.	6	19	31,268	58
10	Park #6 - Favorito Ave and Werner Ave	5	16	26,056	48
11	Park #7 - 20th St. W and Hook Ave.	10	31	52,113	97
12	Park #8 - Rosamond Blvd. and Sierra Hwy	10	31	52,113	97
13	Park #9 - 15th St. W and Hook Ave	10	31	52,113	97
14	Park #10 - 10th St. W and Center St.	5	16	26,056	48
15	Park #11 - Sierra Highway and Willow Ave.	5	16	26,056	48
16	Park #12 - 35th St. West and Howard Ave.	5	16	26,056	48
17	Park #13 - 30th St. W and Willow Ave.	8	26	43,254	80
18	Park #14 - Poplar Ave and 25th St. W	5	16	26,056	48
19	Park #15 - Poplar Ave and 30th St. W	5	16	26,056	48
20	Park #16 - Poplar Ave and 35th St. W	10	31	52,113	97
21	Park #17 - 47th St. W and Astoria Ave.	7	22	37,521	70
22	Community Park – 25th St. W and Willow Ave. [d]	8	33	55,587	103
23	Local Trail from 30th St. W to 50th St. W [e]	3	10	17,937	33
24	Construction Dust Control – Spray Water [f]	n/a	85	79,758	n/a
	Total	**91**	**457**	**704,116**	**1,158**

Footnotes:

a. Annual average water use calculated using an evapotranspiration value of 4.14 ft/acre/year.
b. See Appendix B for demand calculations and peaking factors. Average Day of the Peak Month demand based on a peaking factor of 1.88.
c. Flow rate during irrigation period calculated by multiplying the Average Day of the Peak Month demand by 2.67 (24 hours per day/9 irrigation hours per day)
d. Irrigated acres calculated assuming 20% of 80-acre park is developed and of the 20% developed 50% is irrigated (80-acres x 0.2 = 16 acres, 16 acres x 0.5 = 8 irrigated acres). Assumptions made from Lancaster Recreation Park and Open Space Guidelines, 1990.
e. See Appendix B for demand calculations and peaking factors. Average Day of the Peak Month demand based on a peaking factor of 1.95.
f. Construction dust control water use records received from RCSD between 2005 and 2007. The average demand is the yearly average of the data and the peak demand is estimated as the larger demand. Water demand will be during the non irrigation period since construction activities generally occur during daylight hours. Water data comes during a period high construction period and demand would likely be lower if development is slower. Similarly, Average Day of the Peak Month demand could be higher if there is increased development.

3.2.2 Phase 2

Phase 2 consists of customers or projects that may be implemented in the future, but will not be reviewed in depth in this Facilities Plan. These projects are being discussed in this plan to identify potential opportunities to maximize the benefits of recycled water. Multiple potential projects have been identified by RCSD for Phase 2 recycled water use. These projects are shown in **Figure 3-2**, but are not included in

demand evaluation, market assessment and costs because they are either in preliminary stages of development or they have complex challenges that must be evaluated prior to implementation. A summary of potential future Phase 2 projects are listed below.

- Recycled water to Tropico Park, a 250-acre open space park for a permanent water feature or potential groundwater recharge facility.
- Recycled water for groundwater recharge at a Regional Park site located at 90th Street W. and Astoria Road. This site was identified by AVEK as a potential groundwater banking area.
- Recycled water to Edwards Air Force Base for groundwater injection to mitigate ongoing land subsidence issues.
- Recycled water to Desert Highlands residential development located at Desert Highlands Parkway and Sweetser Road. The development is expected to occur in the near future; however, details of the proposed development and irrigation uses are not available.
- Recycled water for Capital Pacific Development housing tract, located north of Gaskell Road near 40th Street West. The development is expected to occur in the near future; however, details of the proposed development and irrigation uses are not available.
- Recycled water to supplement potable water at a nature preserve/hunting area located north of Avenue A between 30th Street. West and 40th Street West. The area was a former hunting club and the landowners have inquired about water availability to restore the area to its former use. No information was available for this development.
- A network of trails is planned throughout Rosamond in accordance with the RCSD Parks Master Plan. Recycled water could be used to irrigate landscape along parkways in addition to the stretch of trail listed as a future customer. One stretch of the trail system was included in Phase 1 demands, as described above.
- Recycled water for irrigation of Caltrans right of way or Highway 14 frontage road. Currently there is no maintained landscaping along Highway 14 or the frontage road along the highway. RCSD may form an agreement with the State, by submitting a proposal for the work to Caltrans.
- Recycled water to Lands of Promise, a residential development located in the northern portion of the service area near Favorito Road and 40th St. W. The development is expected to occur in the near future; however, details of the proposed development and irrigation uses are not available.
- Recycled water to William Fischer Memorial, located north of Montiverde Road, east of 70th St. W. The development is expected to occur in the near future; however, details of the proposed development and irrigation uses are not available.
- Recycled water used as cooling water for Anex Co. 180 MW solar power plant. The power plant would require 1.5 mgd tertiary treated water. Located near the Western Development groundwater recharge facility, it is expected that the power plant will be operational in 2010
- Recycled water to Antelope Valley College expansion. No specific plans had been developed at the time of writing this report, however expanding to Rosamond has been stated as a long term goal of the college.
- Recycled water to potential Cal State University. No information was available for this development.
- Recycled water for Cope de Oro Development. No information was available for this development.
- Recycled water fro McRae Development. No information was available for this development.
- Recycled water for Rosamond Hills Senior Community. No information was available for this development.

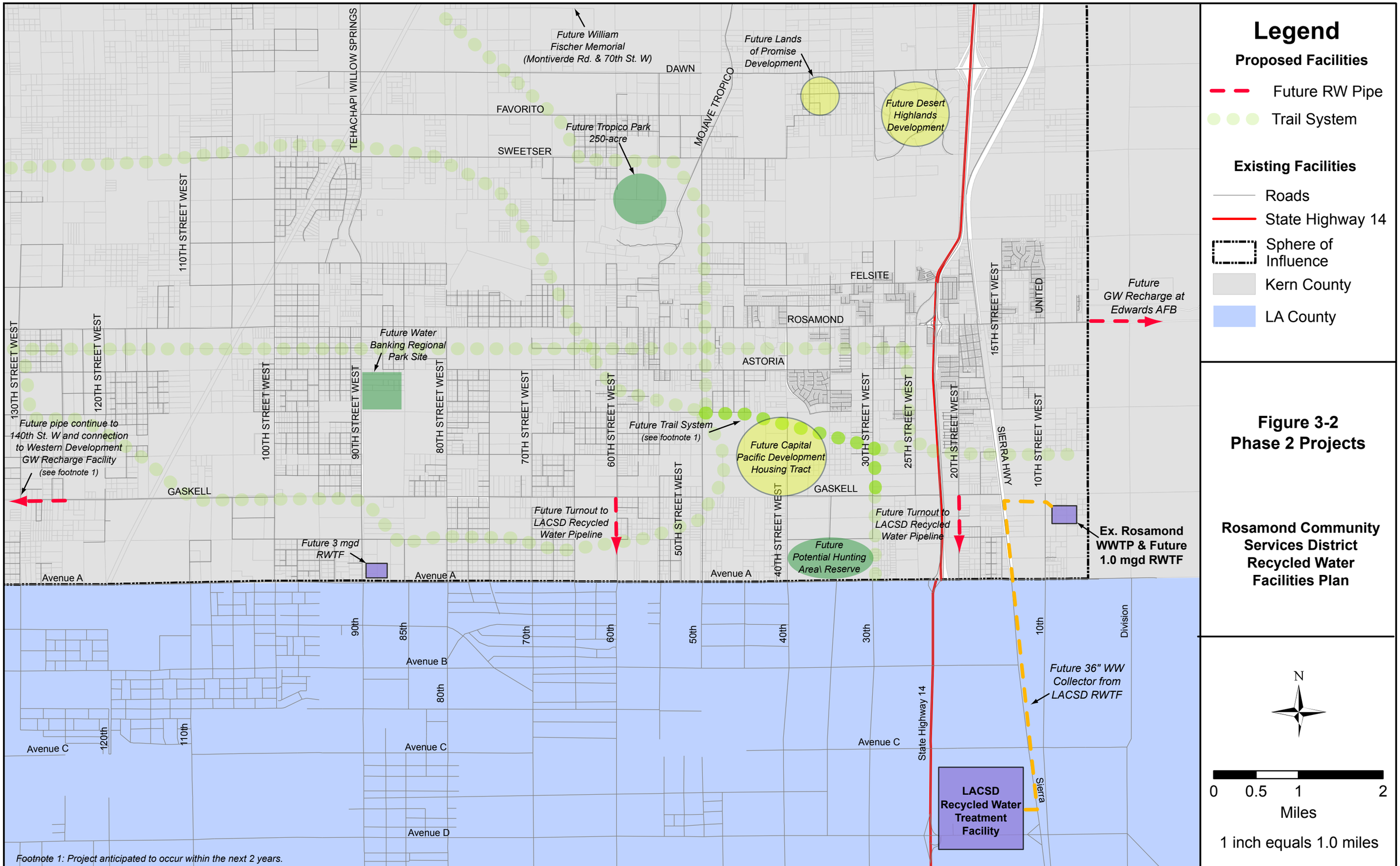


Figure 3-2
Phase 2 Projects

Rosamond Community Services District Recycled Water Facilities Plan

3.3 Recycled Water Supply

The Rosamond RWTF will provide recycled water to customers described in the previous section. The tertiary treatment facility will provide 0.5 mgd of recycled water upon completion in 2009 and 1.0 mgd of recycled water after the next plant upgrade expected to occur by 2018. **Table 3-4** compares the amount of available supply with customer demands on a yearly, daily, and hourly basis.

Table 3-4: Recycled Water Supply Availability

	Annual Average (AFY)	Average Day of the Peak Month (gal)	Peak Hour [a] (gal/hr)	Average Day of the Peak Month Demand as a Percentage of Supply
Supply				
Total RW Supply	1,120	1,000,000	41,666	--
Phase 1 Demand				
Existing Facilities	146	244,700	27,240	--
Near Term Customers [b]	457	704,116	69,480	--
Total Demand	602	948,827	94,680	--
Surplus Supply	**518**	**51,173**	**(55,054)** [c]	**95%**

Footnotes:

a. Peak hour flow is the recycled water demand during the irrigation period (9:00 PM to 6:00 AM)
b. Near term customers can be described as existing customers in accordance with the Guidelines (SWRCB, 2004)
c. The negative value indicates there more demand than supply during the peak hour. The peak hour is during the irrigation period (9:00 PM – 6:00 AM). Storage will be required to provide supply during the irrigation period.

Results from the analysis above indicate there is sufficient daily supply to meet customer needs; however storage would be required to supply demands during the irrigation period. A storage analysis can be found in Section 4.2.3.

3.4 Recycled Water Quality

This section examines the following:

- Summary of water quality issues associated with using recycled water for irrigation of urban areas
- Identifications of water quality concerns for the end users identified in this study

3.4.1 Constituents of Concern

Recycled water generally has a higher salinity content (reported as total dissolved solids or TDS) than potable water. Plants irrigated with recycled water that has high salinity can cause reduced soil aeration, water infiltration and percolation. Other constituents of concern like sodium, chloride, chlorine and nutrients can cause problems ranging from plant toxicity resulting in leaf burn to the plugging of sprinkler head openings. However, high salinity content in recycled water is not anticipated to be an issue.

3.4.2 Recycled Water Quality Data

RCSD is not currently producing recycled water. The recycled water that will be generated at the Rosamond RWTF will have similar TDS concentrations to the water produced at the Lancaster WRP. The TDS concentration of secondary effluent at the Lancaster WRP is 546 mg/L (RMC, 2006). This is water quality is categorized as Fair, as shown in **Table 3-5**.

Table 3-5: Projected Recycled Water Quality vs. Interpretative Guidelines for Landscape Irrigation

Customer Concern	Related Constituent	Units	Good	Fair	Poor	Secondary Effluent from Lancaster WRP
Plant Salt Tolerance [a]	TDS	mg/L	< 450	450 – 2,000	> 2,000	546 [b]

Footnotes:

a. Pettygrove and Asano, 1985; does not consider differences in tolerance among plant species, irrigation frequency, or specific site conditions such as soil texture, drainage, and chemical characteristics.

b. ESA, 2004. Undisinfected Secondary Effluent and Tertiary Effluent Monitoring Results from 20022. The values shown are yearly averages from 2002 sampling data. Concentrations of the constituents TDS, sodium, chloride, boron, and the dissolved ions used to calculate the SAR ratio are generally not changed significantly by the tertiary treatment process, typical effluent quality from LWRP can be used as an approximation of recycled water quality.

When the Rosamond RWTF becomes operational a recycled water monitoring program should be implemented to include the following constituents as a good management practice as well as to evaluate the quality of water over time:

- pH
- Total Dissolved Solids (TDS)
- Electrical Conductivity (EC)
- Calcium
- Magnesium
- Sodium
- Carbonate
- Bicarbonate
- Chloride
- Boron
- Total Nitrogen
- Nitrate-Nitrogen
- Ammonium-Nitrogen
- Phosphorus
- Potassium

3.4.3 End-User Requirements/Impacts

It is unknown if the parks and schools would need additional treatment or blending to reduce the amount of salts in the root zone because the TDS concentration in the recycled water is unknown. If the plant health becomes an issue, multiple mitigations measures are available to reduce salt buildup. Granulated gypsum can be added to turf grasses to keep salinity levels soils at acceptable levels. Recycled water could also be blended with potable or raw water to reduce salt buildup. Salt buildup can be a problem for many kinds of foliage; however problems are most prevalent at golf courses.

3.5 Market Assessment Summary

The following bullets summarize key findings from the recycled water market assessment for the District

- The potential demand for recycled water associated with Phase 1 existing and planned parks and schools within the Rosamond Sphere of Influence is estimated to be approximately 603 AFY, with peak month demand of 0.95 mgd.
- Landscape irrigation would be primary use of recycled water under Phase 1.
- Multiple potential future customers and beneficial uses were identified for Phase 2 including landscape irrigation at potential developments and groundwater recharge. Recycled water demands were not quantified for these uses due to a lack of information for developments and a need for further evaluation of groundwater recharge opportunities.
- Water quality is not expected to be a significant concern for the users identified; however, it is recommended to implement a water quality monitoring plan for key constituents including TDS.

Chapter 4 Project Alternatives Analysis

This chapter presents the development and analysis of alternatives for recycled water facilities within the District to serve Phase 1 users identified in the Market Assessment.

4.1 Project Alternative Definition

Each alternative is defined as the combination of the treatment, storage, pumping, and distribution options necessary to serve targeted users located in the defined service area. Alternatives for delivering recycled water were hydraulically evaluated using H_2OMap hydraulic modeling software.

4.1.1 Objectives

The development of alternatives involved defining the following components for each alternative:

- **Service Area:** Where would recycled water be used?

  Recycled water would be used within the current and future RCSD Sphere of Influence which is bounded by Alice Street on the north, Avenue A to the south, Lone Butte Road to the east and 140th St. West to the West. The majority of identified Phase 1 recycled water customers are located in the southeastern portion of the Sphere of Influence.

- **Treatment:** Where would recycled water be produced?

  Recycled water could be produced at the proposed Rosamond Recycled Water Treatment Facility (RWTF) or at potential satellite treatment facilities.

- **Storage:** How much recycled water would need to be stored and where?

  The need for operational storage will be evaluated. Multiple potable water storage tanks operated by RCSD ranging in size from 0.5 MG to 2 MG are located in the northern portion of the Sphere of Influence (north of Felsite Road). The feasibility of constructing a recycled water storage tank at one of those locations will be examined.

- **Pumping:** Where would booster pump stations be required to deliver recycled water to customers at minimum pressure?

  Hydraulic analysis will determine optimal locations for transmission and booster pump stations under each alternative.

- **Distribution:** How would recycled water be distributed to the users?

  In general, pipelines will be installed in major corridors (roadways or along property boundaries), but there is flexibility in the specific alignment. Alignments will be developed based on location of users, cost and impact to the public during construction.

4.1.2 Approach

The following approach was adopted to meet the objectives described above:

- Develop conceptual alternatives (including preliminary pipeline sizing and alignment, pumping requirements and storage requirements)
- Obtain input from RCSD staff to refine alternatives
- Develop conceptual level cost estimates for each alternative
- Evaluate the advantages and disadvantages of each conceptual alternative
- Recommend an alternative based on advantages, disadvantages and cost

4.2 Alternatives Development

This section will examine the treatment (centralized RWTF and decentralized Satellite Treatment systems) and pipeline distribution system alternatives of the Facilities Plan.

4.2.1 Treatment Alternatives

Two concepts are available for producing recycled water in RCSD: centralized treatment and satellite treatment. Centralized treatment is a process where wastewater is collected and treated to tertiary levels at one location, then redistributed throughout the community. Satellite treatment facilities offer an alternative to centralized treatment and distribution of recycled water under circumstances where the centralized treatment plant is a substantial distance from the nearest recycled water customer. Satellite treatment facilities would treat wastewater from local trunk sewers to tertiary standards at decentralized locations and return the solids to the trunk sewer for delivery to the central plant for treatment. Recycled water would be available for use in the vicinity of each satellite plant. Satellite treatment facilities would take advantage of natural terrain by collecting, treating and reusing wastewater before flowing further downhill to the centralized treatment plant, saving energy costs associated with pumping the water up to higher elevations from the centralized plant.

Satellite facilities are not recommended for the project at this time. Satellite treatment is typically a competitive alternative for recycled water production and delivery to remote areas; generally 5 to 10 miles beyond the central RWTF and other recycled water customers. From the Market Assessment it has been determined that recycled water customers are in close proximity (within 5 miles) to the RRWTF. As the District continues to expand outward from the plant, satellite treatment could be reconsidered.

For this plan, it is assumed centralized treatment will occur at the proposed Rosamond RWTF. Design of the Rosamond RWTF was completed by Boyle Engineering in March 2003. The plant is designed for tertiary treatment of 500,000 gpd with provisions for expansion to 1.0 mgd in the future. Construction of the treatment facility began in late 2007. A potential future RWTF has been identified by RCSD and is shown on **Figure 3-2**. This plant is shown for conceptual purposes only and is not considered in this evaluation of alternatives.

4.2.2 Hydraulic Analysis and Design Criteria

A hydraulic analysis using H_2OMap Water modeling software was performed to determine the pipelines, pump stations and storage facilities needed to serve the identified customers. The hydraulic criteria shown in **Table 4-1** were used as a basis for the model. Hydraulic analysis was conducted for facilities identified to serve Phase 1 users only. Additional pump stations and storage facilities would likely be required to provide the pressure and operational flexibility to provide water to users outside of Phase 1.

Table 4-1: Hydraulic Design Criteria for Model Development

System Component	Criteria	Notes
Average Day of the Peak Month Demand	1.88 x Average Annual Demand	Based on CIMIS ETo data and crop evapotranspiration calculations
Peak Hour Demand	2.67 x Average Day of the Peak Month	Criteria for sizing pipeline (unless storage is utilized)
Minimum Design Pressure at Customer Connections During Irrigation Period [a]	60 psi	Required pressure for typical irrigation systems.
Maximum System Design Pressure	120 psi	
System Test Pressure	1.25x Working Pressure or 150 psi, minimum	
Proposed Pipe Material	PVC pipe, C900 Class 150 or Ductile Iron Class 350	
Available Pipe Sizes	4, 6, 8, 10, 12 inches	Pipe sizes larger than 12 inches were not needed given recycled water demand
Maximum Head Loss	10 feet per 1000 feet of pipe	
Allowable Velocity Range	2 – 8 feet per sec	
Hazen-Williams Coefficient for Headloss Calculation	130 for PVC pipe 140 for DI pipe	

Footnotes:

a. This pressure is for customers without a recycled water storage/pumping facility.

4.2.3 Storage Analysis

Due to hourly irrigation patterns and diurnal fluctuations of wastewater effluent, an hour-by-hour analysis was conducted to determine the storage requirement to optimize recycled water distribution. Diurnal fluctuations in recycled water generation produce a challenge in supplying customers during the irrigation period from 9:00 PM to 6:00 AM for the following reasons: the highest demand for recycled water comes during the period of lowest generation and none of the customers have storage on-site. RMC's analysis, presented in Appendix C, demonstrated that 60,000 gallons of operational storage is necessary to serve *existing facilities* and 500,000 gallons of operational storage is needed to serve all Phase 1 customers. This result was confirmed using the State Water Resources Control Board "Tri Stor Full" spreadsheet analysis. Both spreadsheets are presented in Appendix C.

The required storage volume under the three distribution system alternatives would be 500,000 gallons. RCSD is looking to maximize the use of the land as well as maximizing the amount of recycled water storage; therefore a 2 million gallon (MG) tank will be evaluated in each alternative instead of a 500,000 gallon tank. Three possible tank locations were evaluated based on input from RCSD:

- Mojave Tropico Road Tank – located approximately ½ miles west of Mojave Tropico Road, located on the north side of the hill.
- United Street Tank – located approximately ½ mile north of potable water Tank No. 4 near United Street.
- Rosamond RWTP Tank – located adjacent to the treatment plant property, west of the existing recycled water pipe stubs

These three tank locations described in the following sections were evaluated in depth in a supplemental technical memorandum in Appendix D.

Mojave Tropico Road Tank

A 2 MG tank would be located on the north side of the hill approximately ½ mile west of Mojave Tropico Road. Approximately 3,200 linear feet of 12" pipe would be installed from Mojave Tropico Road to connect the tank to the distribution system.

A 100 hp booster pump station (two-50 hp pumps, one duty and one standby) would be required to boost water to the tank during the non-irrigation period from 6:00 AM to 9:00 PM. The booster station should be located along Mojave Tropico Road north of the Tropico Middle School. The storage tank in conjunction with the Rosamond Recycled Water Treatment Facility (RRWTF) pump station would provide supply to customers in the system from two different sources during the irrigation period, thus increasing reliability of the system. The tank must be constructed with a minimum water surface elevation of 2,550 feet to provide the required minimum pressure of 60 psi to recycled water customers. The location of the tank at the western end of town would allow service west of the currently planned service area using the elevation head of the tank.

United Street Tank

A 2 MG tank would be located approximately ½ mile north of potable water Tank No. 4 near United Street. The tank would be constructed with a minimum water surface elevation of 2,600 feet based on information provided by RCSD about the tank site. A 12" ductile iron (DI) or polyvinyl chloride (PVC) pipe would connect to the existing 12" DI pipe on Sierra Highway and head east to Tank No. 4 site. The pipe would then travel north along a dirt road to the United Street tank location. RCSD would have to obtain right of way along the northern border of a subdivision near United St. for this pipeline. A recycled water pipe would also need to be installed on the west side of Highway 14 along Frontage Road to Felsite Road and would connect to the proposed recycled water pipe on Felsite Rd.

Recycled water would be sent to the United Street tank during the non-irrigation period. A 150 hp booster station (2-75 hp pumps, one duty and one standby) would be needed near Sierra Highway and the south side of Rosamond Blvd to raise the hydraulic head to reach the tank. During the irrigation period recycled water would be supplied from the tank as well as from the Rosamond RWTF to serve customers, providing two sources of supply, thus increasing reliability of the system. The elevation of the tank would provide the hydraulic head required for customers to receive a minimum pressure of 60 psi.

Rosamond RWTF Tank

The 2 MG tank would be located adjacent to the treatment plant property, west of the existing recycled water pipe stubs. A buried tank was deemed the best tank option at the treatment plant site because recycled water could flow via gravity from Distribution Box No. 4 to the tank, rather pumping to the tank, then pumping again out of the tank. Above ground and elevated tank options are discussed below.

A buried tank would be approximately 165' long x 110' wide and 20' deep. The bottom of the tank will be 20 feet below grade. Under this alternative, the RRWTP recycled water pump station should be located adjacent to the tank rather than its currently planned location. Proposed recycled water piping as shown on the treatment plant upgrade drawings should also be modified; but no net increase in new pipe would be required. If the RRWTF pump station and recycled water plant piping were already installed before this project moved forward, the facilities would have to relocated as part of this project, or a second pump station would need to be installed near the tank to pump out of the tank to the distribution system, or back to the RRWTF pump station.

Evaluation Results

The location off of Mojave Tropico Road appears to be the best location for the following reasons: the tank is at a higher elevation than most of the recycled water customers and gravity could be utilized to

maintain pressure, the tank is in an area of future growth and development, and it is currently sited for two RCSD 2 million gallon (MG) potable water tanks. RCSD would have more operational flexibility if the customers are served from two locations. An environmental review is being conducted to evaluate the impacts of placing the tank at this location.

An analysis was performed to determine the required storage volume to allow the tertiary treatment plant to be shut down on weekends to reduce operating costs. When existing customers are connected to the system there would be sufficient recycled water supply, when stored at the 2 MG storage tank, to irrigate during the weekends. Therefore, the tertiary treatment facility would not have to operate on weekends. However, when the near term customers are connected, there will not be enough recycled water stored to meet demands over the weekend; therefore, the tertiary treatment portion of the facility would need to operate every day to meet recycled water demand.

4.2.4 Distribution System Alternatives

Alternatives 1, 2, and 3 represent options for delivering recycled water from Rosamond RWTF to Phase 1 customers. Each option would utilize existing recycled water pipelines installed by RCSD in 1994-1995 along Gaskell Road and Sierra Highway.

Alternative 1

Alternative 1 is shown in **Figure 4-1**. The major corridors of this alignment are Rosamond Boulevard and Gaskell Road. The pipeline along Rosamond Boulevard would serve the majority of the customers. This alternative would require a new crossing of Highway 14 at Rosamond Boulevard. This crossing would require trenchless installation of the pipeline within a casing.

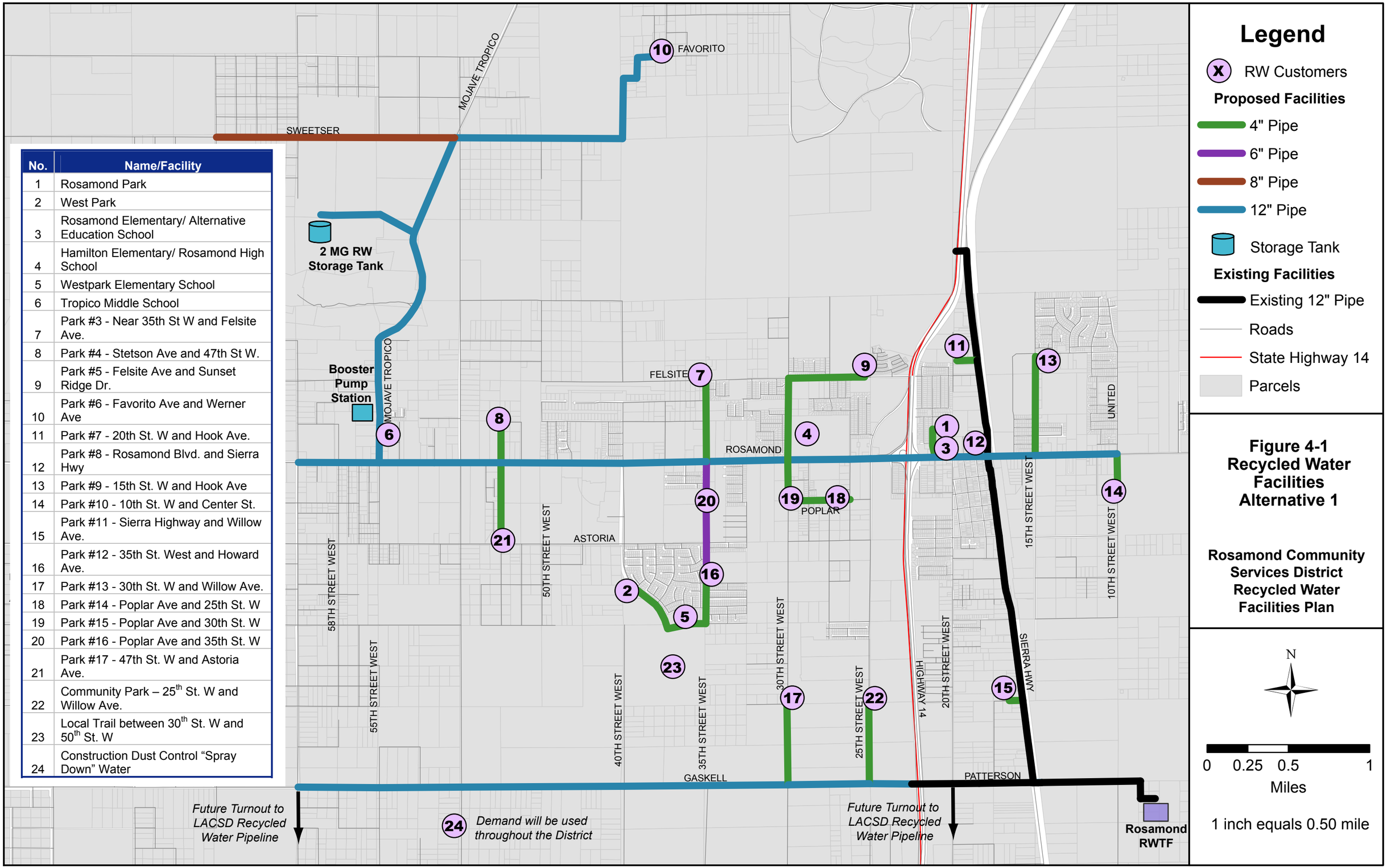
A 2 MG storage facility would be required to store recycled water during the non-irrigation period of 6:00 AM to 9:00 PM. A booster pump station would also be required to boost the total dynamic head to reach the storage tank.

Alternative 2

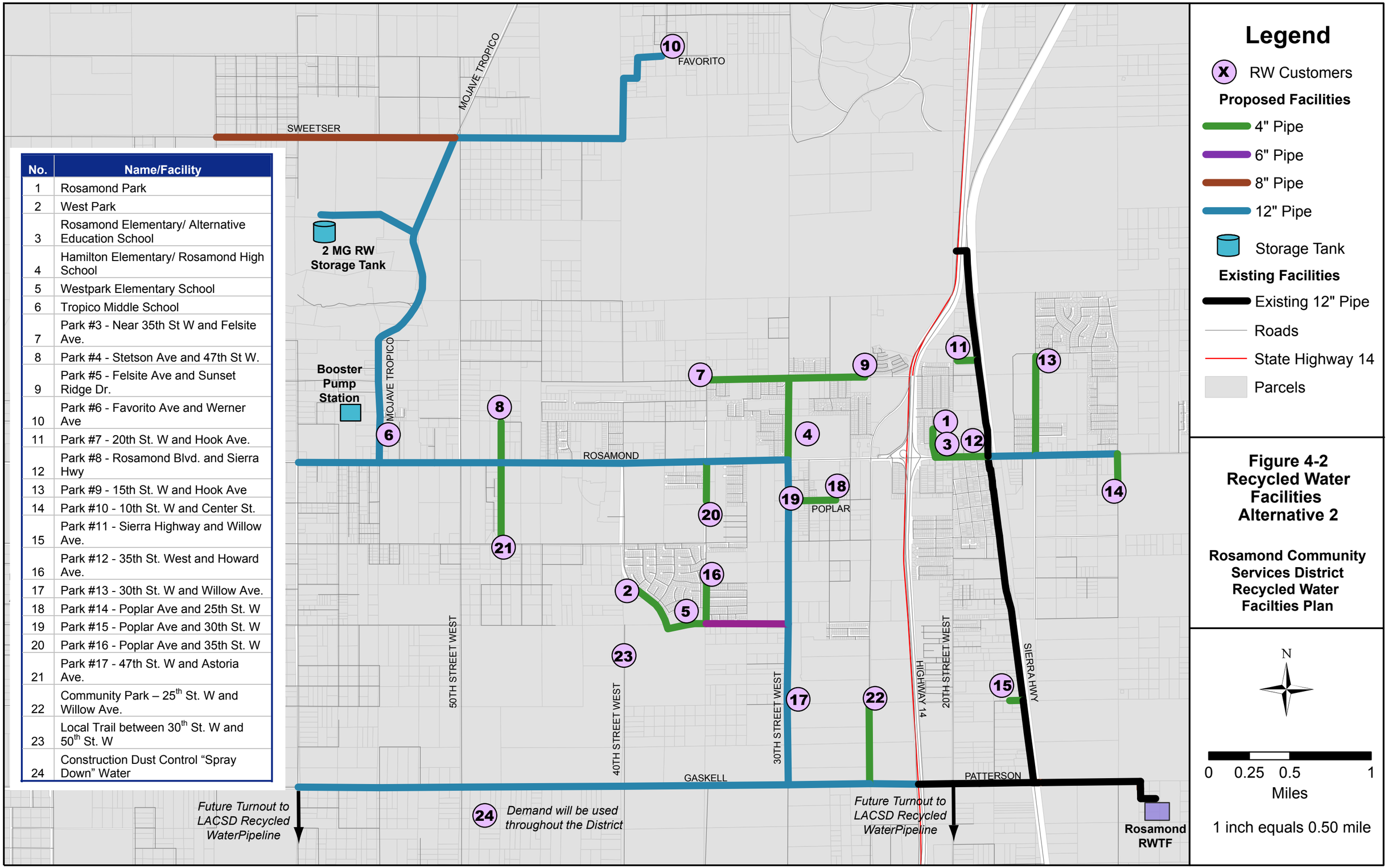
Alternative 2 is shown in **Figure 4-2**. The major corridors of this alignment are Gaskell Road, 30th St. West, and Rosamond Boulevard. This alignment avoids crossing Highway 14 at Rosamond Boulevard, which is an advantage over Alternative 1. Similar to Alternative 1, a 2 MG storage facility would be required because of the low RW generation during the irrigation period and a booster pump station to boost the total dynamic head to reach the storage tank.

Alternative 3

Alternative 3 is shown on **Figure 4-3**. The major corridors of this alignment are Gaskell Road, from Highway 14 to 60th Street West, 50th Street West from Gaskell Road to Astoria Road, and Astoria Road from 30th St. West to 60th St. West. Similar to Alternative 1, a 2 MG storage facility would be required because of the low RW generation during the irrigation period and booster pump station to boost the total dynamic head to reach the storage tank.



No.	Name/Facility
1	Rosamond Park
2	West Park
3	Rosamond Elementary/ Alternative Education School
4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
15	Park #11 - Sierra Highway and Willow Ave.
16	Park #12 - 35th St. West and Howard Ave.
17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water



No.	Name/Facility
1	Rosamond Park
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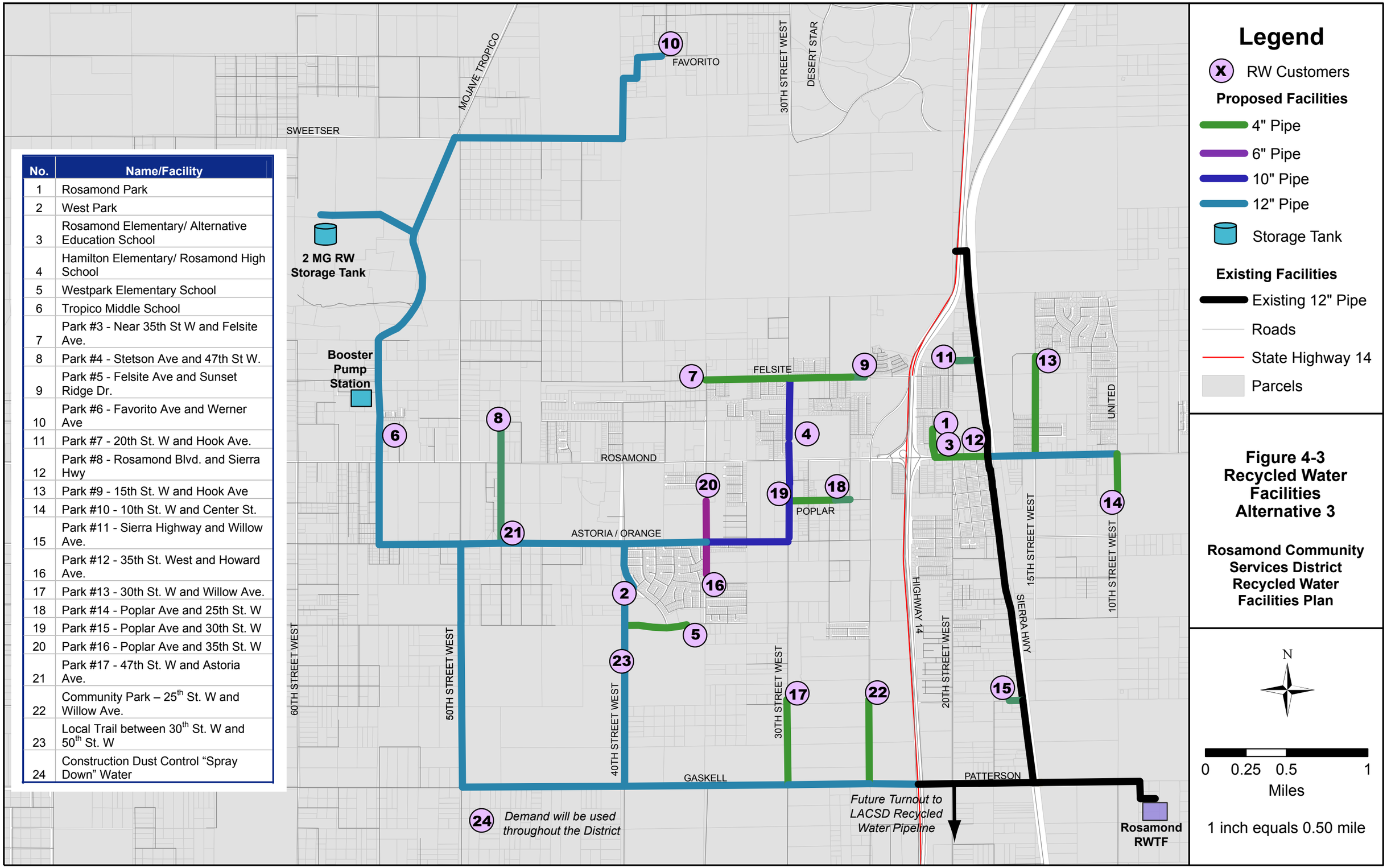
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
15	Park #11 - Sierra Highway and Willow Ave.
16	Park #12 - 35th St. West and Howard Ave.
17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water

Figure 4-2
Recycled Water Facilities Alternative 2

Rosamond Community Services District Recycled Water Facilties Plan



No.	Name/Facility
1	Rosamond Park
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3	Rosamond Elementary/ Alternative Education School
4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
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17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water

4.3 Alternatives Assessment

This section presents the results of the assessment of each alternative identified for the RCSD Recycled Water Facility Plan.

4.3.1 Alternative Facility Description

This section summarizes the facility requirements based on the hydraulic study using the H_2OMap Water model, for each alternative. **Table 4-2** summarizes the required facilities for each alternative.

Table 4-2: Summary of Facilities for Each Alternative

	Proposed Pipe Diameter (inches)	Length of Proposed RW Pipe (feet)	Storage Facility and Pump Station
Alternative 1	12”	74,600	2 MG storage tank with 100 hp pump station (2-50 hp pumps)
	8”	7,700	
	6”	3,700	
	4”	31,300	
	Total	**117,300**	
Alternative 2	12”	78,600	2 MG storage tank with 100 hp pump station (2-50 hp pumps)
	8”	7,700	
	6”	2,700	
	4”	30,100	
	Total	**119,100**	
Alternative 3	12”	71,800	2 MG storage tank with 100 hp pump station (2-50 hp pumps)
	10”	8,000	
	6”	2,400	
	4”	33,300	
	Total	**115,500**	

Alternative 1

- *Rosamond RWTF Improvements:* To deliver flow to the proposed storage tank off of Mojave-Tropico Road, RCSD would need to operate one 40-hp pump at the Rosamond RWTF during the non irrigation period. Both 40-hp pumps would need to operate during the irrigation period. The two 40-hp pumps proposed for the RWTF would be sufficient plus an additional pump on standby.
- *Pipelines:* The alternative would require approximately 75,000 linear feet (LF) of 12” PVC pipe, 7,700 LF of 8” PVC pipe, 3,700 LF of 6” PVC pipe and 31,000 LF of 4” PVC pipe. See Appendix E for detailed information. This alternative would utilize the existing 12” PVC pipeline along Sierra Highway and Gaskell Road. A 12” x 12” tapping cross and three 12” gate valves will be required at the intersection of Rosamond Blvd. and Sierra Highway to connect the proposed pipe to existing pipe.
- *Storage:* A 2 MG storage tank would be required at a location approximately 0.5 miles west of Mojave Tropico Road. Centralized storage would be required because none of the recycled water customers have storage on site. Recycled water could be supplied by gravity to customers and maintain a minimum of 60 psi pressure when the water surface elevation of the tank is at 2,550

feet. Park #6 – Favorito Ave. and Werner Ave. (customer No. 10 on Figure 3-1) is the only customer that will not have a minimum pressure of 60 psi. It is recommended to install an onsite booster pump station at this customer location. However, if Rosamond is looking to expand the recycled water system in the future in that direction, a booster pump station should be installed on Mojave Tropico Road near Sweetser Road rather than onsite to boost pressure within the system and allow water to be delivered further away from the currently planned area of service. The design parameters of an in-system booster station at this location must be further evaluated if this option is chosen.

- *Booster Pump Stations:* A 100-horsepower (hp) booster pump station consisting of two 50 hp pumps (one duty and one standby) would be required near the storage tank to provide enough total dynamic head to reach the storage tank. The recommended location of the booster station is on Mojave Tropico Road north of Tropico Middle School.
- *Implementation Considerations:* In addition to the traffic impact considerations, implementation of this alternative will require an evaluation of potential user retrofit needs. For example, if users do not have a dedicated irrigation system, a separate recycled water system may be required. Specific information as to which existing recycled water customers will need retrofits is limited until meetings are held, but it is assumed that all existing customers will require retrofits. Future recycled water customers are assumed to have recycled water infrastructure installed, and not require additional retrofits. Recycled water assurances will need to be secured and an expanded recycled water outreach program will need to be developed to educate both the public and the users on the benefits of recycled water use and address any safety concerns.

Alternative 2

- *Rosamond RWTF Improvements:* To deliver flow to the storage tank off of Mojave-Tropico Road, RCSD would need to operate one 40-hp pump at the Rosamond RWTF during the non irrigation period. Both 40-hp pumps would need to operate during the irrigation period. The two proposed 40-hp pumps for the RWTF would be sufficient plus an additional pump on standby
- *Pipelines:* The alternative would require approximately 79,000 linear feet (LF) of 12” PVC pipe, 7,700 LF of 8” PVC pipe, 2,700 LF of 6” PVC pipe and 30,000 LF of 4” PVC pipe. See Appendix E for detailed information. This alternative will utilize the existing 12” PVC pipeline along Sierra Highway and Gaskell Road. A 12” x 12” tapping cross and three 12” gate valves will be required at the intersection of Rosamond Blvd. and Sierra Highway to connect the proposed pipe to existing pipe.
- *Storage:* A 2 MG storage tank would be required at a location approximately 0.5 miles west of Mojave Tropico Road. Centralized storage would be required because none of the recycled water customers have storage on site. Recycled water could be supplied by gravity to customers and maintain a minimum of 60 psi pressure when the water surface elevation of the tank is at 2,550 feet. Park #6 – Favorito Ave. and Werner Ave. (customer No. 10 on Figure 3-1) is the only customer that will not have a minimum pressure of 60 psi. Similar to Alternative 1, it is recommended to install an onsite booster pump station at this customer location. However, if Rosamond is looking to expand the recycled water system in the future in that direction, a booster pump station should be installed on Mojave Tropico Road near Sweetser Road rather than an onsite booster station.
- *Booster Pump Stations:* A 100-horsepower (hp) pump station consisting of two 50 hp pumps (one duty and one standby) would be required near the storage tank to provide enough total dynamic head to reach the storage tank. The recommended location of the booster station is on Mojave Tropico Road north of Tropico Middle School.
- *Implementation Considerations:* In addition to the traffic impact considerations, implementation of this alternative will require an evaluation of potential user retrofit needs. For example, if users

do not have a dedicated irrigation system, a separate recycled water system may be required. Specific information as to which existing recycled water customers will need retrofits is limited until meetings are held, but it is assumed that all existing customers will require retrofits. Future recycled water customers are assumed to have recycled water infrastructure installed, and not require additional retrofits. Recycled water assurances will need to be secured and an expanded recycled water outreach program will need to be developed to educate both the public and the users on the benefits of recycled water use and address any safety concerns.

Alternative 3

- *Rosamond RWTF Improvements:* To deliver flow to the storage tank off of Mojave-Tropico Road, RCSD would need to operate one 40-hp pump at the Rosamond RWTF during the non irrigation period. Both 40-hp pumps would need to operate during the irrigation period. The two proposed 40-hp pumps for the RWTF would be sufficient, plus an additional pump on standby
- *Pipelines:* The alternative would require approximately 63,800 linear feet (LF) of 12” PVC pipe, 10,000 LF of 10” PVC pipe, 7,700 LF of 8” PVC pipe, 2,400 LF of 6” PVC pipe and 35,000 LF of 4” PVC pipe. See Appendix E for detailed information. This alternative will utilize the existing 12” PVC pipeline along Sierra Highway and Gaskell Road. A 12” x 12” tapping cross and three 12” gate valves will be required at the intersection of Rosamond Blvd. and Sierra Highway to connect the proposed pipe to existing pipe.
- *Storage:* A 2 MG storage tank would be required at a location approximately 0.5 miles west of Mojave Tropico Road. Centralized storage would be required because none of the recycled water customers have storage on site. Recycled water could be supplied by gravity to customers and maintain a minimum of 60 psi pressure when the water surface elevation of the tank is at 2,550 feet. Park #6 – Favorito Ave. and Werner Ave. (customer No. 10 on Figure 3-1) is the only customer that will not have a minimum pressure of 60 psi. Similar to Alternative 1, it is recommended to install an onsite booster pump station at this customer location. However, if Rosamond is looking to expand the recycled water system in the future in that direction, a booster pump station should be installed on Mojave Tropico Road near Sweetser Road rather than an onsite booster station.
- *Booster Pump Stations:* A 100-horsepower (hp) pump station consisting of two 50 hp pumps (one duty and one standby) would be required near the storage tank to provide enough total dynamic head to reach the storage tank. The recommended location of the booster station is on Mojave Tropico Road north of Tropico Middle School.
- *Implementation Considerations:* In addition to the traffic impact considerations, implementation of this alternative will require an evaluation of potential user retrofit needs. For example, if users do not have a dedicated irrigation system, a separate recycled water system may be required. Specific information as to which existing recycled water customers will need retrofits is limited until meetings are held, but it is assumed that all existing customers will require retrofits. Future recycled water customers are assumed to have recycled water infrastructure installed, and not require additional retrofits. Recycled water assurances will need to be secured and an expanded recycled water outreach program will need to be developed to educate both the public and the users on the benefits of recycled water use and address any safety concerns.

4.3.2 Cost Estimates

Planning level cost estimates were developed for each alternative. The cost estimates are summarized in **Table 4-3**. Detailed cost estimates for each alternative are presented in Appendix E.

Table 4-3: Summary of RCSD Recycled Water Costs

Alternative	Potential Demand (AFY)	Cost [a]			$ /AF
		Capital ($M)	O&M ($/ yr)	Annual ($M/ yr)	
Alternative 1	603	25.21	226,000	2.02	3,342
Alternative 2	603	25.25	227,000	2.02	3,348
Alternative 3	603	24.32	221,000	1.95	3,227

Footnotes:

a. Costs based on a Los Angeles Area December 2007 ENR CCI of 8,979.

Cost estimates are based on the following key assumptions

- Raw Construction Costs:
  - Proposed pipe is Class 150, AWWA C900 PVC pipe
  - A unit cost of $11/LF-inch was used for open trench construction of recycled water pipe. Costs developed from Lancaster Division Street Recycled Water Distribution System Bid Results. Contractor's overhead and profit contingencies are included in the unit costs.
  - A 12" x 12" tapping cross and three 12" gate valves will be required at the intersection of Rosamond Blvd. and Sierra Highway to connect the proposed pipe to existing pipe.
  - Estimates include the installation of water meter, vault, and butterfly valve, however do not include user retrofit costs to connect to distribution system
  - Costs developed using the lower limit on the Pump Station Cost Graph from Sanks Figure 29-3 and updated to Los Angeles area December 2007 ENR CCI of 8,979
  - Pump station costs include one duty pump and one standby pump
  - Recycled water retrofits at existing customer connection is assumed to cost $5,000
- Planning Contingency was estimated to be 25% of the sum of the raw construction cost
- Engineering/Construction Management was estimated to be 20% of the sum of the raw construction cost and the planning contingency cost
- Legal/Administration contingency was estimated to be 10% of the sum of the raw construction cost and the planning contingency cost
- Annualized costs developed based on a 5% interest rate over 25 year period

Chapter 5 Recommended Project

The recommended project is Alternative 3. This project is recommended for the following reasons:

- **Minimal Impacts.** Alternative 3 would maximize the use of existing infrastructure and avoid crossing Hwy 14 at Rosamond Blvd. The majority of pipeline would be installed on streets that have not been recently improved or are unpaved, thus minimizing environmental impacts and construction costs.
- **Cost effectiveness.** Alternative 3 would have the lowest capital cost ($24.3M) and cost per AF of recycled water ($3,227) of the project alternatives.
- **Connectivity with Future Projects.** Alternative 3 alignments would also interconnect well with future Phase 2 opportunities such as the proposed solar power plant on Gaskell Road, the proposed 250-acre open space park with groundwater recharge on Mojave Tropico Road and other identified development areas.

5.1 New Source of Water Alternative

As an alternative to developing a recycled water program, Rosamond could find new sources of water to use. The following options for Rosamond to obtain more fresh water are summarized below.

- **Buy more treated water from Antelope Valley East Kern Water Agency (AVEK).** State Water Project supplies are limited because of the timing of the demand; there is more supply in the winter months when demand is lower. The reverse is true in the summer months. This success of this option depends on the availability of water. The cost of treated water is approximately $330/AF and RCSD estimates costs for water from AVEK will increase three to five times the current cost (up to $1,650/AF) when the groundwater basin adjudication process is complete. As discussed previously, environmental concerns may also reduce the reliability of SWP water in the future.
- **Groundwater banking in Antelope Valley**. Agencies in the Antelope Valley are examining the option of banking water when imported water supplies are available and pumping the banked water when supplies are limited. This option is in the preliminary stages and limited information is available. It is estimated that the capital costs for the infrastructure to put water in and take water out of the ground is $1,000/AF, per Bob Neufeld at RCSD. The raw water cost is about $800/AF. The total cost for the distribution facilities and water is about $1,800/AF. In the near future groundwater recharge may make the most economical sense. It is recommended RCSD develop an overall Water Management Plan or an Integrated Water Management Plan with other agencies in the Antelope Valley.

5.1.1 No Project (No Action) Alternative

In addition to the project alternatives discussed above, as part of this Plan a “No Project Alternative” was also considered. For the No Project Alternative, potable water from AVEK, and private groundwater wells would continue to be used for landscape irrigation by existing customers and planned landscape irrigation demands would require the acquisition of new potable water supplies.

As discussed in Section 2.3.1, potable water consists approximately of 40 percent imported water from AVEK and 60 percent groundwater. Continued groundwater pumping would exacerbate basin overdraft conditions and would likely be reduced or become more expensive once the adjudication process is complete. Assuming no new groundwater supplies are probable, the new demands would require AVEK to acquire new SWP supplies and potentially require expansion of existing imported water facilities.

Overall, if all Phase 1 demands were not served with recycled water:

- 361 afy of existing potable water supplies from groundwater would need to be acquired

- 241 afy of new imported water supply would need to be acquired.
- 1,120 afy of recycled water would be disposed in Rosamond RWTF ponds.

Although the No Project Alternative would avoid potential short-term environmental impacts, such as traffic impacts from construction activities and noise impacts from operation of equipment and vehicles, there would be several major long-term consequences associated with failing to implement any of the alternatives identified as part of this study:

- **Groundwater supplies would not be offset:** Rosamond CSD customers would continue to use groundwater for landscape irrigation, contributing to further basin overdraft.
- **Dry-year reliability would not be improved:** Rosamond CSD customers would continue to depend on SWP supplies that are limited in dry years.
- **Available recycled water would not be put to highest beneficial use:** Recycled water would continue to be disposed in Rosamond RWTF ponds. The tertiary treated water would not be used to benefit the community (i.e. irrigation of parks and schools)
- **Additional stress on SWP and Bay-Delta:** Increased use on imported water from the SWP creates additional capacity (i.e. pumping) constraints on SWP facilities and increases the export of water from the ecologically-stressed Sacramento Bay-Delta.

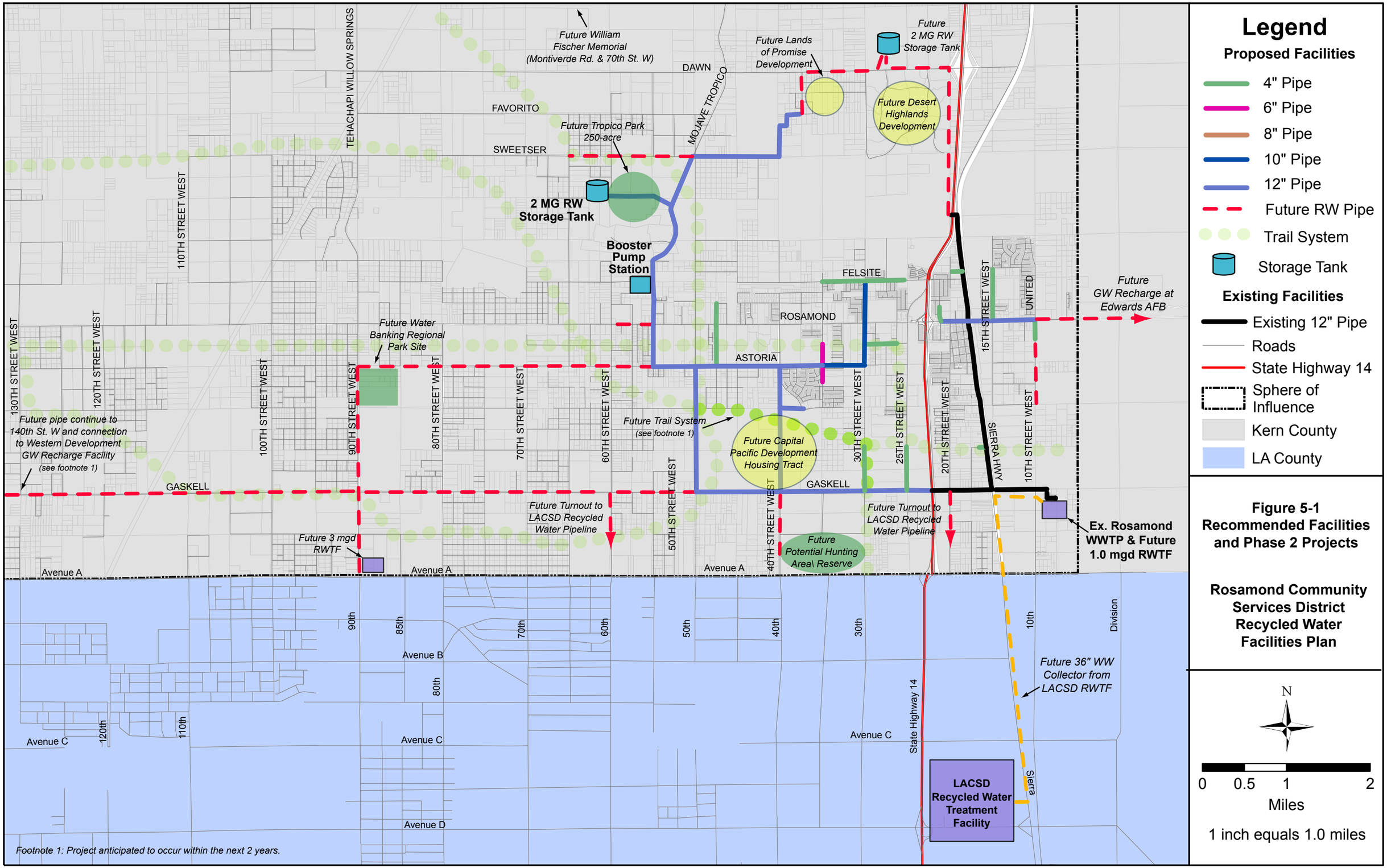
Developing recycled water is the option closest to fruition and would provide the backbone for future water management strategies.

5.2 Phase 1 Description

The recommended project would serve Phase 1 users identified in the Market Assessment, including Kern County and RCSD-owned parks and Southern Kern Unified School District schools within the service area. The recommended project is summarized in **Table 5-1** and illustrated in **Figure 5-1**. The figure also shows Phase 2 projects and future facilities. Phase 2 facilities have not been evaluated, but are shown to demonstrate interconnections that could facilitate expansion to Phase 2.

Table 5-1: Summary of Facilities for Recommended Project

Proposed Pipe Diameter (inches)	Length of Proposed RW Pipe (feet)	Storage Facility and Pump Station
12”	71,800	0.5 MG storage tank (with option to upsize 2 MG tank) with 100 hp pump station (2-50 hp pumps)
10”	8,000	
6”	2,400	
4”	33,300	
Total	**115,500**	



Footnote 1: Project anticipated to occur within the next 2 years.

Figure 5-1
Recommended Facilities and Phase 2 Projects

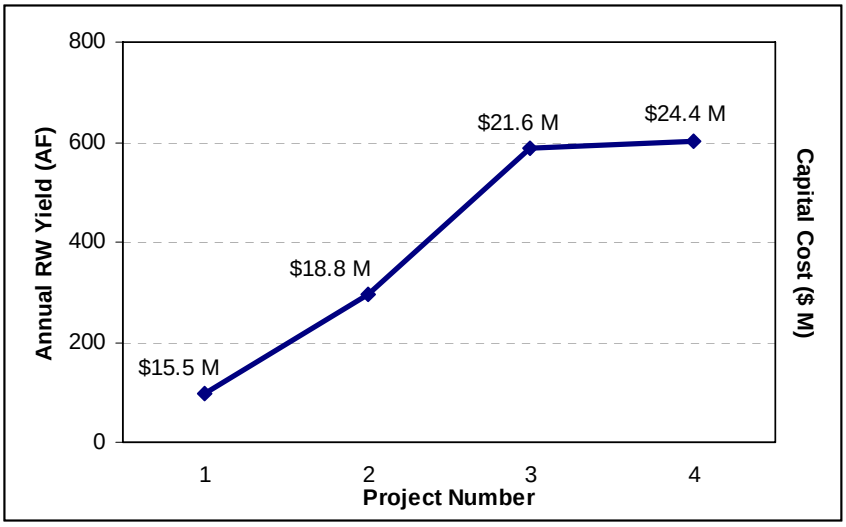
Rosamond Community Services District Recycled Water Facilities Plan

5.2.1 Project Phasing

Due to the capital cost constraints and timing of demands, it is recommended that the Rosamond Community Services District recycled water project be implemented in phases. The following sections describe the required facilities in each of the project phases and provide an approximate schedule for their completion. A list of target recycled water users associated with each project is provided in Appendix F.

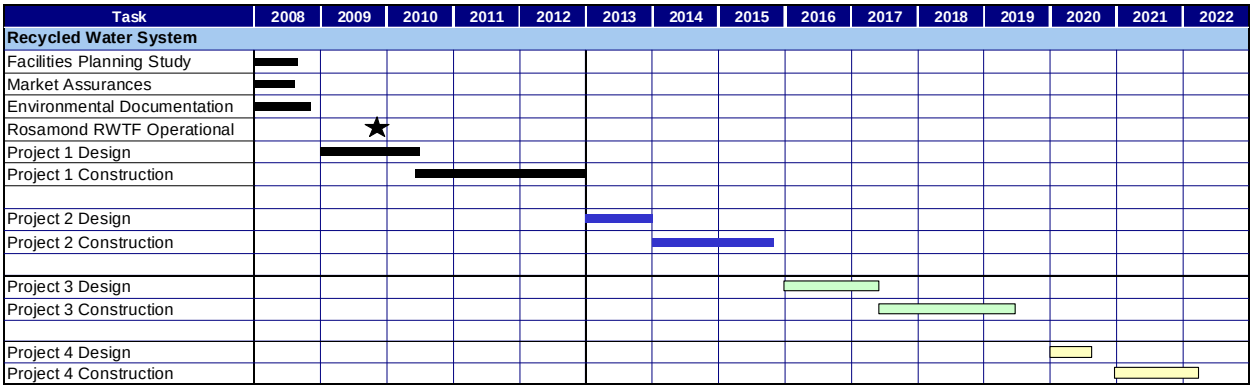
The term "project" is being used to prevent confusion between Phase 1 facilities being implemented in this facilities plan, and Phase 2 facilities that may be implemented at a later unknown date. The proposed recycled water system has been divided into projects. **Figure 5-2** illustrates the incremental recycled water yield and cost over time. There will be an initial investment to install the backbone of the system, but once installed smaller investments are needed to maximize the amount of recycled water available.

Figure 5-2: Incremental Cost and Annual Recycled Water Yield



The implementation of the recycled water system is scheduled to happen in four phases or "projects". The projects would be implemented every three years until the entire system is complete in 2022. An implementation schedule is shown in **Figure 5-3.**

Figure 5-3: Implementation Schedule



Project I – This project includes expanding the existing recycled water distribution system along Sierra Highway and Patterson Road to include recycled water pipe on Rosamond Blvd, Gaskell Road, 40th and

50th Street W, Astoria Road and Mojave-Tropico Road to serve the majority of the existing customers. The project will include the installation of the storage facility and the booster pump station.

Project II – This project expands on the current distribution system with the addition of pipe on Astoria Rd/Orange Rd, and smaller laterals to serve approximately half of the near term customers.

Project III – This project expands on the current distribution system with the addition of pipe on Rosamond Blvd, east of Sierra Highway and 30th St. W between Astoria Rd. and Felsite Rd.

Project IV – The final project includes the construction of pipeline along Mojave Tropico Road from the storage tank location north to Favorito Road. Any remaining customers not receiving recycled water would be connected during this project.

Individual projects shown in **Figure 5-4** are labeled with proposed pipe diameter and customer locations are labeled with proposed implementation date. A second version of project phasing was developed that included delaying the storage tank and booster pump station to Project II. The District was in favor of a more aggressive approach to construct these facilities in Project I. It would allow them the flexibility to maximize recycled water use as it is available.

Project I

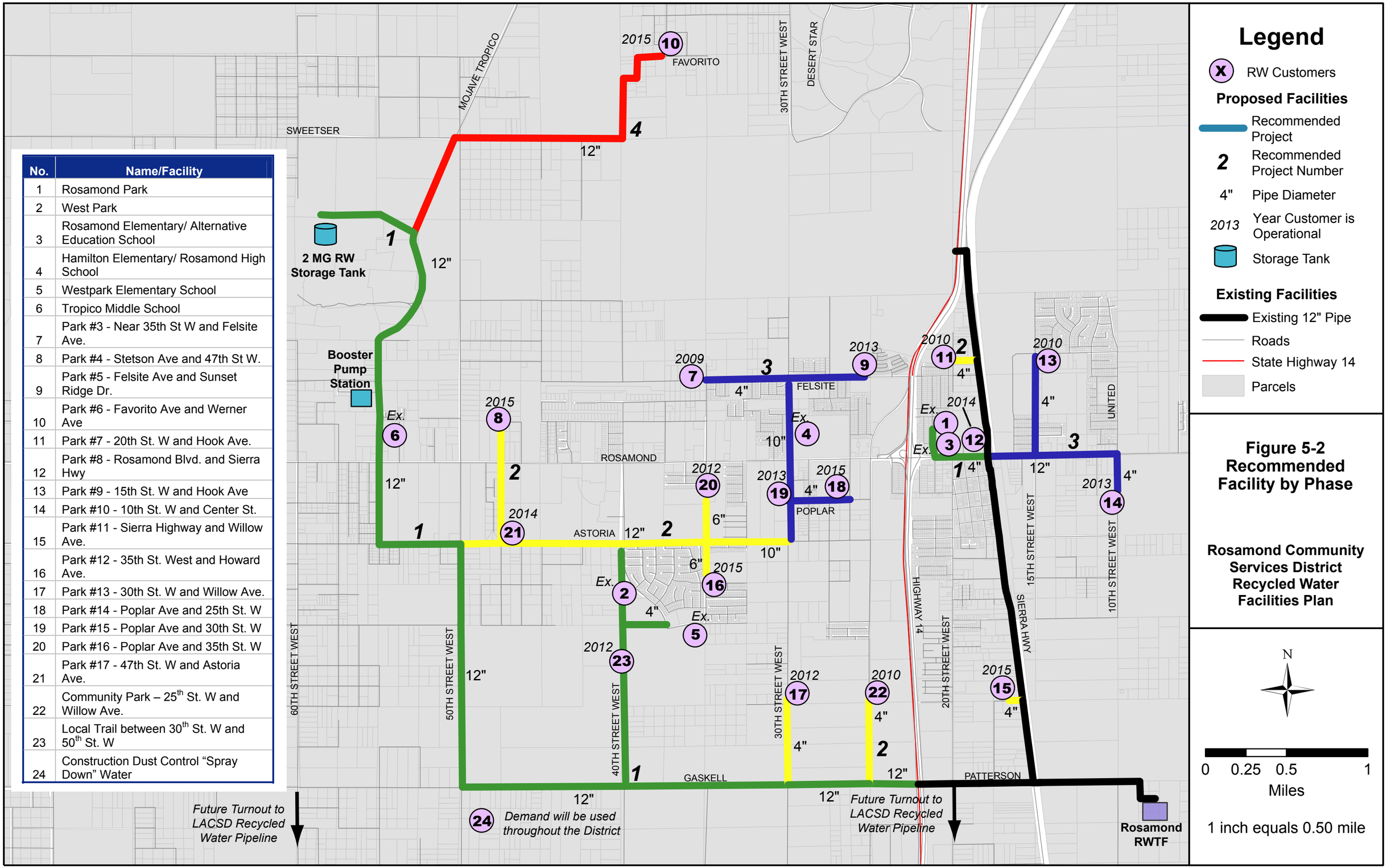
Project I includes installing the main trunk pipeline to serve existing customers. The design and construction of Project I is scheduled from 2009 to 2012. An implementation schedule is shown in **Figure 5-3**. The District has approximately $880,000 in funds from an Assessment District construct recycled water pipe along Gaskell Road from the stub on the west side of Highway 14 to 40th Street W and north along 40th Street West to West Park.. This section of pipe is a priority for Rosamond.

Users and Demands: Project I would provide approximately 98 AFY of recycled water to the following irrigation users: Rosamond Park, West Park, Rosamond Elementary/Alternative Education School, Tropico Middle School, and Westpark Elementary School.

Facilities: The following facilities will be required to implement Project I:

- One 40-hp pump at the Rosamond RWTF would be needed during the irrigation period. The two proposed 40-hp pumps (one duty, one standby) at the RWTF would be sufficient.
- Approximately 9,200 LF of 4” PVC pipe on Rosamond Blvd, east of Sierra Highway. Approximately 14,800 LF of 12” PVC pipe from Highway 14 to 50th Street W on Gaskell Road, approximately 8,000 LF of 12” pipe on each 50th St. W and 40th St. W, and approximately 16,200 LF of 12” PVC pipe from Astoria to the storage tank.
- The 2 MG storage tank would be installed during this project.
- The 100-hp booster pump station would be installed in conjunction with the storage tank to provide additional hydraulic head to reach the tank

Costs: Implementation of Project I will have an incremental cost of approximately $15.5 million.



No.	Name/Facility
1	Rosamond Park
2	West Park
3	Rosamond Elementary/ Alternative Education School
4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
15	Park #11 - Sierra Highway and Willow Ave.
16	Park #12 - 35th St. West and Howard Ave.
17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water

Project II

Project II would expand on Project I to serve additional users identified in the market assessment. The design and construction of Project II is scheduled from 2013 to 2015.

Users and Demands: Project II would provide approximately 198 AFY of recycled water to the following irrigation users: Park #4 – Stetson Ave. & 47th St. W., Park #7 – 20th St. W. & Hook Ave., Park #11 – Sierra Hwy & Willow Ave., Park #12 – 35th St W & Howard Ave, Park #13 – 30th St. W. & Willow, Park #16 – 35th St. W & Poplar Ave., Park #17 – 47th St W. & Astoria Ave, and Community Park – 25th St. W and Willow Ave.

Facilities: The following facilities will be required to implement Project II:

- One 40-hp pump would be needed at the Rosamond RWTF to pump to the storage tank during the non irrigation and irrigation period. The two proposed 40-hp pumps (one duty, one standby) at the RWTF would be sufficient.
- Approximately 8,000 LF of 12" PVC pipe on Astoria Rd from 50th St W to 30th St. W., approximately 2,700 LF of 10" PVC pipe on Orange Ave from 35 St. W to 30th St. W., and approximately 11,000 LF of 4" PVC pipe for lateral connections on 47th St W, 35th St. W. Hook Ave, and Willow Ave.
- The 2 MG storage tank and booster station will be utilized to serve Project I & II customers

Costs: Implementation of Project II will have an incremental cost of approximately $3.3 million.

Project III

Project III would expand on Project II to serve additional users identified in the market assessment. The design and construction of Project III is scheduled from 2016 to 2019. An implementation schedule is shown in Figure 5-3.

Users and Demands: Project III would provide approximately 291 AFY of recycled water to the following irrigation users: Hamilton Elementary/Rosamond High School, Park #3 – 25th St W & Felsite, Park # 5 – Felsite Ave & Sunset Ridge, Park #8 – Rosamond & Sierra Hwy, Park #9 – 15th St. W & Hook Ave., Park #10 – 10th St. W. & Center St., Park #14 – 25th St W & Poplar Ave, Park #15 – 30th St. W. & Poplar, and the Regional Trail Network. The Construction Dust control demand is included in Project III to coincide with the availability of recycled water; however it can be implemented in any time as long as there is sufficient supply.

Facilities: The following facilities will be required to implement Project III:

- To implement Project III the Rosamond RWTF will need to be expanded from 0.5 mgd to 1.0 mgd. The Rosamond RWFT is scheduled to be expanded by 2018.
- One 40-hp pump would need to operate at the Rosamond RWTF during the non irrigation period. Both 40-hp pumps would be required during the irrigation period. An additional 40-hp pump would be required as a standby pump.
- Approximately 5,300 LF of 10" PVC pipe on 30th St. W from Astoria to Felsite, approximately 6,700 LF of 4"" PVC pipe for lateral connections on Felsite and Poplar Ave. Approximately 4,200 LF of 12" PVC pipe on Rosamond Blvd. east of Sierra Hwy and approximately 4,400 LF of 4" PVC pipe for laterals off of Rosamond Blvd.
- The 2 MG storage tank and booster station will be utilized to serve Project III customers

Costs: Implementation of Project III will have an incremental cost of approximately $2.8 million.

Project IV

Project IV would expand on Project III to serve additional users identified in the market assessment. The design and construction of Project I is scheduled from 2020 to 2022. An implementation schedule is shown in **Figure 5-3**.

Users and Demands: Project IV would provide approximately 15 AFY of recycled water to the following irrigation users: Park #10 – Favorito Rd & Werner Ave.

Facilities: The following facilities will be required to implement Project III:

- No additional pumping capacity at the Rosamond RWTF would be necessary
- Approximately 12,700 LF of 12" PVC pipe on Mojave-Tropico Road and Sweetser Road to Favorito Road

Costs: Implementation of Project III will have an incremental cost of approximately $2.8 million.

This pipe segment is not a major trunk line to serve multiple customers; therefore installation could be planned towards the end of the project. However, it should be noted that RCSD has an opportunity to install recycled water pipe concurrently during potable water pipe construction for the Lands of Promise development using Proposition 50 money. This opportunity may arise in mid-2008, and RCSD would design and install the pipe at that time.

When installing recycled water lines, a separation distance from the potable water is required by the California Department of Health Services (CDHS). The horizontal separation requirement is four feet between potable and recycled water lines and a vertical separation 12" between the top of the recycled water pipe and bottom of potable water pipe (DHS, 2003). Two trenches would most likely be needed to install both systems unless the separation requirement is reduced. Cost savings would occur if both pipes were installed in one trench. To accomplish this, RCSD would have to approve a separation requirement less than four feet and get subsequent approval from the Regional Water Quality Control Board before construction. Because of these uncertainties, the unit cost to install this segment of recycled water pipe will remain at $11/in-LF.

Long-Term Phase 2

Although the timing is unknown, future developments currently being planned by RCSD will increase the potential for recycled water demand. The customers identified in Phase 2 from Section 3.2.2 and shown in **Figure 5-1** were not evaluated in depth in this Facilities Plan; however they may be evaluated in another Facilities Plan.

5.2.2 Cost Summary

Planning level cost estimates were developed for each project. The cost estimates are summarized in **Table 5-2**. Detailed cost estimates for each Project are presented in Appendix E.

Table 5-2: Summary of Facilities for Recommended Project

Project	Year	Demand (AFY)	Capital Cost ($ Million)	O&M Cost ($ / yr)	Annual Cost ($ / yr)
Project I	2009-2012	98	$15,534,000	$166,000	$1,268,000
Project II	2013-2015	198	$3,301,000	$20,000	$254,000
Project III	2016-2019	291	$2,767,000	$17,000	$213,000
Project IV	2020-2023	16	$2,724,000	$17,000	$210,000

There is substantial cost difference between Project I and the other projects. This is due to the installation of the major trunk line on Gaskell Road 50th and 40th Street W. and Mojave Tropico Road in order to utilize the storage tank. Although there are large up front costs, the storage tank will have extra capacity to store recycled water and is in an area of future growth in RCSD. As previously mentioned, the District only requires a 500,000 gallon storage tank for operational storage; however the District would like to construct a 2 MG tank to provide excess capacity. The upsize will be financed by the District. Subsequent projects will be more cost effective in distributing recycled water.

5.3 Implementation Plan

Some of the issues that will need to be taken into consideration prior to implementing this alternative include:

5.3.1 Recycled Water User Assurances

The recommended recycled water project would serve municipal customers owned by RCSD, schools managed by Southern Kern Unified School District and parks managed by Kern County. The District plans to model their Recycled Water Use Ordinance on the City of Lancaster's ordinance. This agreement is included as Appendix G.

5.3.2 User Retrofits

Existing parks and schools use potable water for irrigation and will require retrofits to separate recycled water from potable water. Three options are available to pay the retrofit costs: 1) The agency (RCSD) pays for the retrofit costs, 2) the user pays for the costs, and 3) the user pays with financing. The third option consists of the agency paying for the retrofit costs up front, the user is then charged a higher recycled water rate than ultimate rate (for instance the user pays the potable rate) and the difference is applied to pay off the retrofit loan. Detailed retrofit requirements for existing customers will not be known until meeting are held with customers individually, however retrofit costs can range from $3,000 to $10,000 depending on the requirements.

5.3.3 Permitting

The District must obtain an updated Waste Discharge Requirement (WDR) from the Lahontan Regional Water Quality Control Board (RWQCB) prior to operating the RWTF. The public review period of the WDR closed on July 30, 2007. It is anticipated the WDR will be finalized soon. RCSD will also need to prepare a Title 22 report for the RWTF, recycled water customers and associated facilities. The District may also obtain a Master Water Reclamation Permit from the Regional Board to streamline the permitting of each individual projects.

5.3.4 Water Rights Impact

Rosamond RWTF discharges treated effluent into lined discharge ponds on the treatment plant property. Kathy Mrowka at the State Water Resources Control Board Division of Water Rights was contacted to determine if the proposed recycled water project will impact water rights in the service area. Since the project does not currently discharge water to a surface stream, stream flows will not be reduced as a result of implementing the project. Consequently, a Wastewater Change Petition will not be required.

5.3.5 Environmental Compliance

An Initial Study/Mitigated Negative Declaration (IS/MND) is being prepared for this Facilities Plan as part of the CEQA Plus environmental review process required for State of California Revolving Fund Construction Loan program. The environmental review process will include public outreach as well as stakeholder workshops. If the District intends to seek federal funding for recycled water projects, a NEPA process would need to be conducted.

5.3.6 Public Outreach

Public support and acceptance is generally critical to a successful recycled water program. The District should develop a public outreach program to build support for recycled water projects in the community. The program would supplement public involvement activities that would be required as part of the environmental review process. The program should include developing a website dedicated to recycled water in the District, and conducting a series of workshops to inform the public about this Facilities Plan, and other proposed projects.

Chapter 6 Construction Financing Plan and Revenue Program

This section identifies funding sources and discusses potential reuse incentive, revenue sources and recycled water pricing policy.

6.1 Funding Sources

This Project will be essentially be funded by The District. The District is currently receiving funding for the preparation of this Plan through the Water Recycling Funding Program. Administered by the SWRCB, the Water Recycling Funding Program can provide funding of 50% of eligible planning costs up to $75,000 to public agencies to study the feasibility of water recycling and to prepare a facilities plan documenting the analyses and conclusions of the investigation.

A summary of potential outside funding sources for the Project is provided below.

- **SWRCB State Revolving Fund (SRF) Loan** – The SRF Loan Program is administered by the SWRCB. The program provides low-interest loan funding for a wide array of design and construction projects, including construction of publicly-owned wastewater treatment facilities, local sewers, sewer interceptors, and water reclamation facilities. The SRF Loan Program provides 20-year loan with an interest rate set at half of the State Bond General Obligation Rate (typically 2.5% to 3.5%). The loan maximum is $25 million; however it may increase to $50 million pending approval by the SWRCB. The SWRCB is accepting new applications and is processing those applications that were previously under review. In order to qualify for a SRF loan, the sponsor must apply for placement on the Priority List and subsequently, the sponsor must submit a Facilities Plan. RCSD is on the list.
- **SWRCB WRFP Construction Grant** – A Construction Grant is available through the Water Recycling Funding Program administered through the SWRCB. The Construction Grant can provide up to 25% of the construction cost with a cap of $25 million. The sponsor must submit a Facilities Plan and Water Conservation Plan as specified in WRFP Guidelines (SWRCB, 2004). Approximately $8 million is available in the 2007-2008 fiscal year and another $8 million is expected for the 2008-2009 fiscal year.
- **United States Bureau of Reclamation (USBR) Title XVI** – In 1992, Congress authorized the USBR to participate in local recycled water projects under "The Reclamation Wastewater and Groundwater Studies and Facilities Act," known as Title XVI. Title XVI funds are available for feasibility studies and/or design and construction costs. The Federal contribution is capped at 50% of the total study cost, and 25% of the total project cost (including construction), or $20 million per project. The project sponsor is responsible for the remaining design and construction costs as well as all of operation and maintenance (O&M) costs of the project.

  The federal appropriation process typically requires that the project sponsor notifies the USBR two years prior to the year the funds are sought. In order to be eligible, the project must meet legal and institutional requirements, including National Environmental Policy Act (NEPA) compliance and consultation with US Fish and Wildlife Service and National Marine Fisheries Service. A cost sharing agreement can only be approved after all feasibility and environmental requirements are met.
- **DWR Proposition 84** – This is an implementation grant program for California with two rounds of funding. The first round of funding will award $200 to $300 million and the second would be $500 million across California. A number of project types are eligible for funding. They include: flood control projects, planning and feasibility studies focusing on climate change and impacts on flood and water systems; integration of flood and water systems, prevention of stormwater contamination, urban greening energy reduction, water conservation, and improvements to water

quality. Competitive grants are also available for local and regional parks, land use plans designed to promote water conservation, and community revitalization.

- **USBR Water 2025: Challenge Grant Program** – Through the Challenge Grant Program, the USBR provides 50% cost share funding to irrigation and water districts and states for projects focused on water conservation, efficiency, and water marketing. Projects are selected through a competitive process, based on their ability to meet the goals identified in *Water 2025: Preventing Crises and Conflict in the West* (USBR, 2005). The focus is on projects that can be completed within 24 months that will help to prevent crises over water. The USBR will fund up to $300,000 per project and is distributed annually. The District would have to submit an application for funding and obtain the required environmental documentation which may include the NEPA.
- **USDA Rural Development Grant –** Through the Rural Development Program, the U.S. Department of Agriculture would provide grants for communities to offset potable water using recycled water for irrigation of agriculture. The grant is only applicable to communities with less than 10,000 people (USDA, 2007). Rosamond would not qualify since its population is over 10,000; therefore the opportunity was not evaluated further.

A summary of the funding opportunities is listed in **Table 6-1**.

The best outside funding opportunity would be to pursue a low interest loan for the Recommended Project under the SWRCB SRF Loan Program. Grant funding is limited and unlikely but the District should still track opportunities, particularly Proposition 84. SRF loans would be less expensive than bonds so is likely the best Recommended Project funding source. Revenue options are further discussed in Section 6.2.1.

Table 6-1: Potential Funding Sources

Funding Program	Funding Agency	Type of Program	Amount Available	Comments
Grant Funding				
Water Recycling Funding Program [a]	SWRCB	Construction Grant	25% of construction cost up to $4 million	Grant available for once per recipient. $8 M available in FY 07/08 and possibly in FY 08/09
Title XVI Program [b]	USBR	Implementation Grant	Up to 25% of construction cost with a maximum of $20 M	Funding dependant on earmarks by Congress
Water 2025: Challenge Grant Program [c]	USBR	Implementation Grant	Up to $300,000 (with 50% matching funds).	Grants awarded annually and available once per project.
Proposition 84	DWR	Implementation Grant	Up to $300 M	Two rounds of funding opportunities. Project must be included in regional package. First round in fiscal year 2009/2010
Loan Sources				
SRF	SWRCB	Construction Loan SRF	Up to $25 million, with possible increase to $50M pending approval by SWRCB	Priority list made yearly; $285 M available in FY 07/08; Loan available once per recipient per year
Bonds		Bonds could supplement other funding sources for Project capital costs. Different types of bonds (e.g., revenue bonds, general obligation bonds, certificate of participation) should be considered.		

Notes:
a. Water Recycling Funding Program Guidelines (SWRCB, 2004); (http://www.swrcb.ca.gov/recycling/docs/guidelines2004.pdf), accessed August 2007.
b. Guidelines for Preparing, Reviewing, and Processing Water Reclamation and Reuse Project Proposals under Title XVI (USBR, 1992), (http://www.usbr.gov/pmts/writing/guidelines/Guidelines.pdf), accessed August 22, 2007.
c. Water 2025 Challenge Grant Program website (http://www.doi.gov/water2025/grant.html), accessed August 22, 2007.

6.2 Revenue Sources and Incentive Program

This section discusses potential revenue sources and presents potential incentives to users to connect to the recycled water system.

6.2.1 Revenue Sources

Recycled water rates and charges (e.g. monthly fee for maintenance and administration costs of providing recycled water service), connection fees and other funds are possible sources of revenue.

Assessment District Funds

The District currently has $880,000 from Assessment District 3 which will be used to pay for the design and construction of recycled water pipe along Gaskell Road from the stub at Highway 14 to 40th Street West. This is not a reoccurring fund source, and the District plans to use the funds as soon as possible.

Rates

The District will be able to charge Southern Kern Unified School District for recycled water for use at public schools and Kern County for use at Rosamond Park. Recycled water rates are generally set at 80% of the potable water rate. It is assumed future parks will be operated by the District and would not collect funds from recycled water rates. Recycled water rates will be a minor source of income for the District but use of recycled water does reduce District expenditures on potable water.

Capital Facilities Charges (Connection Fees)

Capital Facilities Charges also known as Connections Fees are charged to new developments for the right to connect to the water and wastewater system. Connection fees associated with new developments would help cover the cost of developing available capacity necessary to serve growth and constructing recycled water facilities (transmission main, storage, and pumping). Fees could also be used to transfer existing potable users to the recycled water system, such as metering and retrofits. Future population growth is needed to estimate connection charges.

The population of Rosamond in 2006 was 16,653 (KernCOG, 2007a). The projected population growth rate in Kern County from 2000 to 2020 is 43% or 2.13% per year (KernCOG, 2007b). Using the projected population growth rate, the population in Rosamond would grow by 7,122 persons by 2020 or 356 per year. Using the estimate of 3.1 persons per home, the number of new homes constructed would be approximately 2,300 over 14 years, or 165 homes per year.

Developer Contributions

The District envisions recycled water to be used in future development areas for uses such as landscape irrigation and possibly residential irrigation. Developers are generally required to construct water, wastewater and stormwater infrastructure as a condition of development. Developers may also be required to install recycled water infrastructure such as transmission pipelines or dual plumb buildings. Upsizing transmission pipelines could be financed by the utility or by a latecomer agreement, whereby the incremental cost of upsizing is retroactively reimbursed by later developments. It is assumed that developers will include a Recycled Water System Improvement Plan as part of the improvements plans package submitted to the District for review.

6.2.2 Reuse Incentives

Incentive programs are typically implemented by agencies to assist and encourage possible users to connect to the recycled water system. These incentives typically include some level of financial incentives, such as recycled water rates lower than potable rates and non-monetary incentives, such as level of service provisions during drought conditions. A mandatory use ordinance, is required by the SWRCB, and is usually used in addition to rather than in lieu of other incentives.

Financial Incentives

- The District pays for signage and retrofit needs – Paying for required signage and retrofit costs will decrease the up-front cost taken on by customers to switch to recycled water. For example, existing parks and schools use potable water for irrigation and will require retrofits to separate recycled water from potable water. Signage and retrofit needs include tasks such as replacing meter box lids with purple lids, printing “Recycled Water” on piping uncovered during construction, and posting “Irrigated with Recycled Water” signs.

  Three options are available to pay the retrofit costs: 1) The District pays the retrofit costs, 2) customer pays for the costs, and 3) The District pays for costs up front and is paid back over time by the customer through the difference is applied to pay off the retrofit loan. Detailed retrofit requirements for existing customers will not be known until meeting are held with customers individually, however retrofit costs can range from $3,000 to $10,000 for typical landscape irrigation sites depending on the requirements.

- The District performs required annual cross connection testing.
- The District hires contractor dedicated to helping customers with retrofit needs.
- The District reviews permits for free, waving the permit review fee for recycled water users, conversion costs will be lowered for potential customers.
- The District provides free training for on-site supervisors.

Non-Monetary Incentives:

- Reliability incentives – Recycled water supply is generally not affected by hydrologic conditions, therefore it provides additional dry-year reliability for irrigation. The primary non-monetary incentive is reliability or availability of recycled water when shortages of potable water occur.
- Positive community image – Converting to recycled water carries a positive economic value by projecting the recycled water customer as "green" to the community. Public education and information program recognizing the benefits of using recycled water for the community would typically be necessary to enhance the role of this incentive.

Use Ordinances:

- Identify a specific "reuse area" within which recycled water must be used for a particular application (e.g. irrigation).

6.3 Project Costs and Revenues

This section presents the Project construction and financing costs, the assumptions and results of the financial analysis, including annual revenues and expenditures projections, and a comparison of the cost of recycled water with potable water.

6.3.1 Project Capital Costs and Financing Need

The Project capital cost is estimated at $24.2 million (see Section 4.3.2). As discussed in Section 6.1, it is assumed that design and construction costs will be supported by a SRF construction loan. A summary of the Project construction and financing costs is provided in **Table 6-2**, below.

Table 6-2: Project Capital Costs and Financing Needs (in 2008 $)

Description	Amount
Facilities Construction Costs	$18,655,000
Planning Contingency (25%)	$3,732,000
Engineering/Construction Management (20%)	$3,732,000
Legal/Administration (10%)	$1,866,000
Total Project Capital Cost	**$24,253,000**
RCSD Assessment District 3 Funds	$880,000
Project Financing Needs	**$23,373,000**

All costs are rounded to the nearest $100,000.

6.3.2 Financial Analysis

The purpose of this financial analysis is to provide the RCSD with a preliminary understanding of the costs of developing and maintaining the Project. The following assumptions were made in conducting the financial analysis:

- No grant contribution is assumed since no grant is anticipated to be secured in the short-term.

- Planning costs will be incurred through 2008. Design and construction would be phased over four projects from 2009 to 2021.
- Design and construction costs would be supported by obtaining a SRF construction loan. A debt service reserve of 10 percent was assumed in addition to an interest rate of 2.5 percent on the loan.
- Annual expenses are assumed to result from annual operations and maintenance (O&M) costs and debt service. O&M costs are adjusted to increase by an inflation rate of 4 percent annually. The debt service assumes a 20-year repayment period.
- Project costs (including O&M costs and debt service) not covered by recycled water rates would be covered by connection fees.
- Existing $880,000 in funds from Assessment District 3 will be applied to initial design and construction costs.

Table 6-3 shows the annual costs and revenue projections for the first ten years of the Project implementation using 80% potable water rates and required connection fees needed to break even on the Project each year. **Table 6-4** shows the annual costs and revenue projections as described in Table 6-3 in 2008 dollars. The cash-flow projection, as shown in Appendix H, shows contributions to the debt service through the life of the debt.

Table 6-3: Annual Projections of Project Costs and Revenues using 80% Potable Rate plus Connection Fees

	2013 [a]	2014	2015	2016	2017	2018	2019	2020	2021	2022
Recycled Water Demand (AF)	98	98	98	296	296	296	587	587	587	603
Annual O&M Costs	$202,000	$210,000	$218,000	$254,500	$264,700	$275,200	$312,400	$324,800	$337,800	$380,600
Debt Service	$1.23 M	$1.23 M	$1.23 M	$1.56 M	$1.56 M	$1.56 M	$1.86 M	$1.86 M	$1.86 M	$2.21 M
Total Annual Costs	$1.43 M	$1.44 M	$1.45 M	$1.81 M	$1.82 M	$1.83 M	$2.18 M	$2.19 M	$2.20 M	$2.58 M
Recycled Water Revenue	$26,400	$27,400	$28,500	$29,600	$30,800	$32,100	$52,600	$54,700	$56,900	$59,200
Minimum Connection Fee [b]	$8,520	$8,570	$8,600	$10,790	$10,850	$10,900	$12,860	$12,920	$12,990	$15,300

Notes:
a. Assumes recycled water delivery starts in January 2013.
b. Assumed 165 new homes per year.

Table 6-4: Annual Projections of Project Costs and Revenues using 80% Potable Rate plus Connection Fees (in 2008 $)

	2013 [a]	2014	2015	2016	2017	2018	2019	2020	2021	2022
Recycled Water Demand (AF)	98	98	98	296	296	296	587	587	587	603
Annual O&M Costs	$166,000	$166,000	$165,700	$186,000	$186,000	$185,900	$203,000	$202,900	$202,900	$219,800
Debt Service	$1.01 M	$0.97 M	$0.93 M	$1.14 M	$1.10 M	$1.05 M	$1.21 M	$1.16 M	$1.12 M	$1.28 M
Total Annual Costs	$1.18 M	$1.14 M	$1.10 M	$1.32 M	$1.28 M	$1.24 M	$1.42 M	$1.37 M	$1.32 M	$1.49 M
Recycled Water Revenue	$21,700	$21,660	$21,660	$21,630	$21,640	$21,670	$34,170	$34,170	$34,170	$34,190
Minimum Connection Fee [b]	$7,000	$6,770	$3,540	$7,880	$7,620	$7,360	$8,350	$8,070	$7,800	$8,840

Notes:
a. Assumes recycled water delivery starts in January 2013.
b. Assumed 165 new homes per year.

The District's current potable rate is $0.76/hcf ($330/af) for treated water service. Recycled water rates are typically 80% of potable rates. This would translate in a recycled water rate to District customers of $0.61/hcf ($264/af). There will not be sufficient revenue to cover the debt service if the District were to charge customers for recycled water at a percentage of the potable rate. A connection fee would cover the remaining annual debt service.

The minimum connection fee will increase from $8,530/connection to $16,230/connection ($7,010/connection to $6,330/connection in 2008$) between 2013 and 2041. The yearly increase reflects inflation-adjusted O&M costs and additional debt services. Since project construction is phased over 13 years, the District will pay the debt service from 2013 to 2041. In 2042, no more contributions to the debt service are required, greatly reducing the required revenues to cover the incurred costs of the Project. The resulting cost of recycled water to break even in 2042 would be $2,470/connection (or $1,130/connection in 2008$). In reality, at that time, the cost of recycled water is likely to be higher, as the aging system will require that contributions be made into an equipment replacement fund. Another element to consider is that, as recycled water quality improves and public perception changes, recycled water demand will increase, increasing the Project revenues. A 33-year projection of the project cash flow can be found in Appendix H.

The connection fee presented in Table 6-3, Table 6-4 and Appendix H assumed annual increases (or decreases) necessary to meet estimated annual costs. This results in a substantial increase in fees during the first 10 years. Based on reviewing projected annual costs, these increases could be moderated by starting with a fee of $7,950 (2008$) and increasing the fee by 4% per year.

6.4 Conclusions

The key objectives of this chapter were to identify funding options for capital and annual expenses associated with recycled water projects to be implemented in the District and identify which funding options would best apply in the District's setting.

Funding options that were identified include state and federal funding, bonds, recycled water rates, connection fees, and impact fees (see Table 6-1). The funding options that best apply for the District's urban recycled water projects are the SWRCB SRF Construction Loan and connection fees. When the District has the opportunity to serve non-District facilities, recycled water rates could also be a revenue source.

References

Antelope Valley-East Kern Water Agency. *2005 Integrated Urban Water Management Plan*. December 2005.

California Irrigation Management Information System (CIMIS). *Station 117 and 134 Evapotranspiration Data*. Retrieved November 27, 2006, from http://wwwcimis.water.ca.gov/cimis/data.jsp

Department of Health Services. *Guidance Memo No. 2003-02: Guidance Criteria for the Separation of water Mains and Non-Potable Pipelines*. April 2003.

Foothill Associates. *Rosamond Community Services District Park System Master Plan, Administrative Draft*. May 2006.

Kennedy/Jenks Consultants. *2005 Integrated Urban Water Management Plan*. December 2005.

National Recreation & Park Association. *Open Space Guidelines & Standards.* 1996.

Personal Communication with Katherine Mrowka, Chief Watershed Unit 3, Division of Water Rights, State Water Resources Control Board, February 27, 2008.

Pettygrove, G.S. and T. Asano. 1985. Irrigation with Reclaimed Municipal Wastewater – A Guidance Manual. Lewis Publishers Inc., Chelsea, MI.

Rosamond Community Services District Groundwater Management Plan. January 1995.

State Water Resources Control Board, 2004. *Water Recycling Funding Program Guidelines*. October 2004.

United States Department of Agriculture, 2007. *USDA Rural Development Grants.* Retrieved September 5, 2007 from http://www.usda.gov/rus/water/index.htm.

University of California Cooperative Extension and California Department of Water Resources. *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California: The Landscape Coefficient Method and WUCOLS III.* August 2000.

Kern County of Governments, 2007a. *Kern County Population Estimate by Census Tract*. Retrieved August 24, 2007, from http://www.kerncog.org/pdf/Estimates/tract06estimate.pdf.

Kern County of Governments, 2007b. *Projected Growth for Kern County 2000-2050*. Retrieved August 24, 2007, from http://www.kerncog.org/pdf/Estimates/

Appendix A - 2006 Annual Water Quality Report, Antelope Valley-East Kern Water Agency

2006 ANNUAL WATER QUALITY REPORT
ANTELOPE VALLEY-EAST KERN WATER AGENCY

KERN COUNTY SYSTEM

The Antelope Valley-East Kern Water Agency provides treated surface water as a source of drinking water.
Treatment technique: Conventional
EPA Turbidity Performance Standards: Turbidity of the filtered water must:

1. Be less than or equal to 0.30 NTU in 95% of measurements in a month.
2. Not exceed 1 NTU at any time.

Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1: 100%
Highest single turbidity measurement during the year: 0.10 NTU
Percentage of samples < 0.30 NTU: 100%
The number of violations of any surface water treatment requirements: NONE
Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtraion performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

MICROBIOLOGICAL CONTAMINANTS

Type of Sample(s)	Parameter	Sampling Frequency	MCL	No. of Months in Violation	System Results range	System Results average
Distribution	Total Coliform Bacteria	72 - 86 / mo	5% positive	none	0%	0%
& Effluent	Fecal Coliform and E. coli	72 - 86 / mo	1 pos. with 2 TC pos.	none	0%	0%

INORGANIC CONTAMINANTS

Type of Sample(s)	Parameter	Units	MCL	DLR	PHG or (MCLG)	System Results range	System Results average
Plant Effluent	Aluminum	mg/L	1	0.05	0.6		ND
"	Antimony	ug/L	6	6	20		ND
"	Arsenic	ug/L	10	2	none		ND
"	Barium	mg/L	1	0.1	(2)		ND
"	Beryllium	ug/L	4	1	(4)		ND
"	Cadmium	ug/L	5	1	0.07		ND
"	Chromium (total)	ug/L	50	10	(100)		ND
"	Copper	mg/L	AL=1.3	0.05	0.17		ND
"	Cyanide	ug/L	200	100	150		ND
"	Fluoride	mg/L	2	0.1	1		ND
"	Lead	ug/L	AL = 15	5	2		ND
"	Mercury	ug/L	2	1	1.2		ND
"	Nickel	ug/L	100	10	12		ND
"	Nitrate (as NO3)	mg/L	45	2.0	45		3.6
"	Nitrite (as N)	mg/L	1	0.4	1		ND
"	Selenium	ug/L	50	5	(50)		ND
"	Thallium	ug/L	2	1	0.1		ND

SYNTHETIC ORGANIC CHEMICALS - including Pesticides and Herbicides

Type of Sample(s)	Parameter	Units	MCL	DLR	PHG or (MCLG)	Results range	Results average
Source Water	Diquat	ug/L	20	4			ND
"	Endothall	ug/L	100	45			ND
"	2,3,7,8-TCDD (Dioxin)	ug/L	0.00003	0.000005			ND

VOLATILE ORGANIC CONTAMINANTS

Type of Sample(s)	Parameter	Units	MCL	DLR	PHG or (MCLG)	Results range	Results average
Source Water	Benzene	ug/L	1	0.5	0.15		ND
"	Carbon tetrachloride	ng/L	500	500	100		ND
"	1,2-Dichlorobenzene	ug/L	600	0.5	600		ND
"	1,4-Dichlorobenzene	ug/L	5	0.5	6		ND
"	1,1-Dichloroethane	ug/L	5	0.5	3		ND
"	1,2-Dichloroethane	ng/L	500	500	400		ND
"	1,1-Dichloroethene	ug/L	6	0.5	10		ND
"	cis-1,2-Dichloroethene	ug/L	6	0.5	(70)		ND
"	trans-1,2-Dichloroethene	ug/L	10	0.5	(100)		ND
"	Dichloromethane	ug/L	5	0.5	4		ND
"	1,2-Dichloropropane	ug/L	5	0.5	0.5		ND
"	1,3-Dichloropropene	ng/L	500	500	200		ND
"	Ethyl Benzene	ug/L	300	0.5	300		ND
"	Methyl tert-Butyl Ether (MTBE)	ug/L	5	3.	13		ND
"	Monochlorobenzene	ug/L	70	0.5			ND
"	Styrene	ug/L	100	0.5	(100)		ND
"	1,1,2,2-Tetrachloroethane	ug/L	1	0.5	0.1		ND
"	Tetrachloroethene (PCE)	ug/L	5	0.5	0.06		ND
"	1,2,4-Trichlorobenzene	ug/L	5	0.5	5		ND
"	1,1,1-Trichlorethane	ug/L	200	0.5	(200)		ND
"	1,1,2-Trichloroethane	ug/L	5	0.5	(3)		ND
"	Trichloroethene (TCE)	ug/L	5	0.5	0.8		ND
"	Toluene	ug/L	150	0.5	150		ND
"	Trichloroflurometh ane	ug/L	150	5	700		ND
"	Trichlorotrifluoromethane	mg/L	1.2	0.01	4		ND
"	Vinyl chloride	ng/L	500	500	50		ND
"	Xylenes (total)	mg/L	1.750	0.0005	1.800		ND

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	Results range	Results average
Distribution	Chlorine (as total Cl2)	mg/L	4.0		4	0.1 - 1.5	0.65
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.50		1.3 - 1.8	1.5
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.50		2.2 - 3.5	2.8
Distribution	Total Trihalomethanes	ug/L	80**	0.5	none	38 - 60	38.0 #
Distribution	Total Haloacetic Acids (5)	ug/L	60**	2		20 - 26	19.8 #

** Total Trihalomethanes and Haloacetic Acids MCLs are an annual running average of distribution system samples.
The State of California Total Trihalomethanes MCL is 100 ug/L, the EPA MCL is 80 ug/L
The State of California has not adopted a Total Haloacetic Acids MCL, the EPA MCL is 60 ug/L
This average is a system-wide value, please see the attached summaries for site specific averages.

REGULATED CONTAMINANTS with SECONDARY MCLs

Type of Sample(s)	Parameter	Units	MCL	Results range	Results average
Plant Effluent	Aluminum	ug/L	200	ND	ND
"	Chloride	mg/L	500		51
"	Color	Units	15		5.0
"	Copper	mg/L	1.00		ND
"	Corrosivity		non-corrosive		***
"	Foaming Agents (MBAS)	ug/L	500		<0.050
"	Iron	ug/L	300		ND
"	Manganese	ug/L	50		ND
"	Methyl-tert-butyl ether (MTBE)	ug/L	5		ND
"	Odor @ 60 C	Units	3	<1	<1
"	Silver	ug/L	100		ND
"	Sulfate	mg/L	500		ND
"	Specific Conductance	umhos	1600		330
"	Total Dissolved Solids	mg/L	1000		190
"	Turbidity	Units	5	0.01 - 0.10	0.03
"	Zinc	mg/L	5.0		1.0

ADDITIONAL CONSTITUENTS ANALYZED

Type of Sample(s)	Parameter	Units	MCL	DLR	AL	Results range	Results average
Source Water	Total Alkalinity (as CaCO3)	mg/L	no standard			42 - 79	58.5
Plant Effluent	Total Alkalinity (as CaCO3)	mg/L	no standard				49
"	Bicarbonate Alkalinity(HCO3)	mg/L	no standard				60
"	Carbonate Alkalinity	mg/L	no standard				<1.0
"	Hydroxide Alkalinity	mg/L	no standard				<1.0
"	Calcium	mg/L	no standard				19
"	Magnesium	mg/L	no standard				10
"	pH	Units	no standard			5.6 - 7.4	6.5
"	Potassium	mg/L	no standard				2.2
"	Sodium	mg/L	no standard				37
"	Total Hardness (as CaCO3)	mg/L	no standard				89
Source Water	Nitrate (as NO3)	mg/L	45	2.0			3.6

DEFINITIONS and FOOTNOTES:

Source Water is the California Aqueduct.

Units: mg/L = milligrams per liter, parts per million (ppm)
ug/L = micrograms per liter, parts per billion (ppb)
ng/L = nanograms per liter, parts per trillion (ppt)
pg/L = picograms per liter, parts per quadrillion (ppq)
umhos = micromhos, a measure of specific conductance
MFL = million fibers per liter
pCi/L = pico Curies per liter
< = less than
> = greater than
ND = none detected above the DLR
NTU = nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

MCL: Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the PHGs and MCLGs as is economically or technologically feasible.

MRDL: Maximum Residual Disinfectant Level. The level of a disinfectant added for water treatment that may not be be exceeded at the consumer's tap.

DLR: Detection Limit for purposes of Reporting.

MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

MRDLG: Maximum Residual Disinfectant Level Goal. The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the US Environmental Protection Agency.

PHG Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard: Primary MCLs, specific treatment techniques adopted in lieu of primary MCLs, and monitoring and reporting requirements for MCLs that are specified in regulations.

Secondary Standards: Aesthetic standards established by the State of California, Department of Health Services.

AL: Action Level. There is no MCL set, if this level is exceeded, action is required by the State of Califronia, DHS.

This average is a system-wide value, please see the attached summary for site specific averages.

** Total Trihalomethanes and Haloacetic Acids(5) MCLs an annual running average of distribution system samples.
The State of California Total Trihalomethanes MCL is 100 ug/L, the EPA MCL is 80 ug/L
The State of California has not adopted a MCL for Haloacetic Acids, the EPA MCL is 60 ug/L

*** A corrosion inhibitor is added to the treated water before entry into the distribution system

All analyses are performed by the ELAP certified laboratories: AVEK Water Agency, BSK or Truesdail Laboratories.

Appendix B - Demand Calculations and Peaking Factors

Demand Calculations and Peaking Factors

Annual Average Demands

Annual demands for the Rosamond Community Services District (RCSD) Recycled Water Feasibility Study were calculated using crop evapotranspiration (ET) values and estimated acres of irrigated landscaping. The methodology used is described in the following paragraphs.

Calculate Crop Evapotranspiration. Crop evapotranspiration values were calculated for RCSD Recycled Water Feasibility Study using methods described in A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California, developed by the University of California Cooperative Extension (UC Extension) and California Department of Water Resources (DWR). The crop evapotranspiration value for turfgrass is calculated by:

$$ET_C = Kc \times ET_O$$

Where:

ET_C = Crop Evapotranspiration (inch/month)
K_C = Crop Coefficient
ET_o = Reference Evaporation (inch/month)

The ET_o value is obtained from the California Irrigation Management Information System (CIMIS). The Town of Rosamond does not have a CIMIS weather station, therefore an average of two stations, #117 (Victorville) and #134 (Barstow). These two stations are in the closest proximity to Rosamond and are both in Zone 17 – High Desert Valleys. CIMIS provides monthly ET_o and precipitation. CIMIS data was obtained from 1997 to 2006 to for both stations. The K_c value used was 0.6, for year-round warm weather turfgrass.

Calculate Irrigation Requirement. After calculating the crop evapotranspiration, the irrigation demand (ID) was determined considering precipitation, infiltration, irrigation efficiency and leaching rate. Precipitation data was provided by the CIMIS website. Infiltration, irrigation efficiency and loss rate factors were determined from UC Extension and DWR as well as previous RMC experience. The following equation is used to calculate the Irrigation Demand:

$$ID = \frac{\left[ET_C - \left(P \times Inf\right)\right] \times L}{IE}$$

Where:

ID = Irrigation Demand (inch/unit area)
ET_C = Turfgrass Evapotranspiration (inch/unit area)
P = Precipitation (inches)
Inf = Percent Infiltration, 0.75, assumes that 20% of rainfall during growing season is lost to evaporation
L = Leaching Rate, equal to 1.1, assumes that approximately 10% of applied water passes through the grass zone
IE = Irrigation Efficiency, equal to 0.8, assumes 20% of applied irrigation is lost to the environment

Calculate Irrigated Areas. To determine the number of irrigated areas, aerial photography was analyzed along with ArcGIS data information. Existing recycled water users were identified from the Rosamond CSD Parks Master Plan and identified visually from the GIS and aerial photography. **Table 1** provides a summary irrigation demand calculation month by month.

Table 1: Irrigation Demands for Turf Grasses

Month	ET-Turf Grass (inches)	Precipitation (inches)	Irrigation Demand (inches)	Percentage of Annual Irrigation Demand
January	1.32	0.70	1.09	2%
February	1.67	1.56	0.69	1%
March	3.00	0.95	3.15	6%
April	3.92	0.47	4.90	10%
May	5.19	0.12	7.01	14%
June	5.72	0.07	7.80	16%
July	5.84	0.33	7.69	16%
August	5.29	0.39	6.88	14%
September	3.98	1.02	4.42	9%
October	2.81	0.51	3.34	7%
November	1.61	0.50	1.70	3%
December	1.23	0.64	1.04	2%
Total	**41.59**	**7.26**	**49.70**	**100%**

Peak Demands

Peak demands (peak day and peak hour) were calculated using peaking factors described below.

Peak Day Demand. The peak day demand was determined based on the evapotranspiration calculation methods described in the previous section. The irrigation demand value for the peak month (June) was divided by the average annual irrigation demand, shown in the equation below:

$$\text{Peak Day Peaking Factor} = \frac{\text{ID (Peak Month)}}{\text{ID (Annual Average)}} = \frac{7.80\,(inch/month)}{4.14\,(inch/month)} = 1.88$$

The peak day demand is calculated by multiplying the average annual day demand by the above peaking factor, as shown below:

$$\text{Peak Day} = 1.88 \times (\text{Average Annual Demand})$$

Peak Hour. Peak hour demands were calculated based on the assumption of a 9 hour irrigation period. The peaking factor for peak hour was determined by the following equation:

$$\text{Peak Hour Factor} = \frac{24\text{ hr/day}}{9\text{ hr/ irrigation period}} = 2.67$$

$$\text{Peak Hour} = 2.67 \times \text{Peak Day}$$

The calculated values were compared to actual water use data taken from irrigation meters at these users. In most cases the metered data matched or fell below calculated demands.

Landscape Irrigation for Trails System

The Parks Master Plan identified a network of local trails throughout the Sphere of Influence. Based on the Parks Master Plan some of the trails will be landscaped. Trail number L5 is planned to be developed in the next 2 years. The following paragraphs describe the assumptions made for calculating irrigation demand for landscaping along the trail network.

Landscape Irrigation Formula

The landscape irrigation formula utilizes the same formula as calculating the crop evapotranspiration value but the crop coefficient is replace with the landscape coefficient as shown below.

$$ET_L = K_L \times ET_O$$

Where:

ET_L = Landscape Evapotranspiration (inch/month)
K_L = Landscape Coefficient
ET_o = Reference Evaporation (inch/month)

The landscape coefficient (K_L) is calculated using three factors: species factor, density factor, and microclimate factor in the equation below.

$$K_L = K_S \times K_D \times K_{MC}$$

The Species Factor (K_S) accounts for differences in species water needs. It is assumed that multiple species planting will have a similar range of water needs. $K_S = 0.5$

The Density Factor (K_D) estimates the difference in vegetation density among landscape plantings. It is assumed there will be trees, shrubs, and groundcover along the trail. The landscaping will be widely spaced. The mixed planting would be low density, with $K_D = 0.8$.

The Microclimate Factor (K_{MC}) accounts for the differences the climate immediately around the landscaped area compared to the general climate of the area. Planting may be next to a heat absorbing surface, like a paved trail, and would cause microclimate factor to increase. It is assumed the microclimate factor will be higher than average; $K_{MC} = 1.2$.

Using the factors described above the landscape coefficient (K_L) is 0.48. Using the reference evaporation for the Rosamond area, the irrigation demand (*ID*) using the equation on first page. **Table 2** provides a summary irrigation demand calculation month by month for the trail landscaping.

Peak day demand was calculated using peaking factors described below.

Peak Day Demand. The peak day demand was determined based on the evapotranspiration calculation methods described in the previous section. The irrigation demand value for the peak month (June) was divided by the average annual irrigation demand, shown in the equation below:

$$\text{Peak Day Peaking Factor} = \frac{\text{ID (Peak Month)}}{\text{ID (Annual Average)}} = \frac{6.23\,(inch/month)}{3.19\,(inch/month)} = 1.95$$

The peak day demand is calculated by multiplying the average annual day demand by the above peaking factor, as shown below:

$$\text{Peak Day} = 1.95 \times (\text{Average Annual Demand})$$

Table 2: Irrigation Demands for Landscaping along Trail System

Month	ET-Landscaping (inches)	Precipitation (inches)	Irrigation Demand (inches)	Percentage of Annual Irrigation Demand
January	1.05	0.70	0.73	2%
February	1.34	1.56	0.23	1%
March	2.40	0.95	2.32	6%
April	3.13	0.47	3.82	10%
May	4.15	0.12	5.58	14%
June	4.58	0.07	6.23	16%
July	4.67	0.33	6.09	16%
August	4.24	0.39	5.42	14%
September	3.18	1.02	3.33	9%
October	2.25	0.51	2.57	7%
November	1.29	0.50	1.25	3%
December	0.99	0.64	0.70	2%
Total	**33.27**	**7.26**	**38.27**	**100%**

Appendix C - Storage Analysis

RMC Water and Environment

Designer:	A. Schmidt
Project:	0160-001
Date:	3/27/07
Checked By:	R. Bichette
Check Date:	

Existing Facilities Storage Analysis

Hour	Wastewater Unit Flow Factor[1]	Total Plant Effluent (gal)	Tertiary Effluent (Rec. Water)[3] (gal)	Secondary Treated Effluent (gal)	Existing User Demand (gal)	Storage Tank Fill Rate (gal)	RW Flow Leaving Plant (gpm)	Supply Deficiency (gal)	
6:00	0.48	25,973	20,833	5,140		20,833	347	0	
7:00	0.58	31,639	20,833	10,806		20,833	347	0	
8:00	0.73	39,737	20,833	18,904		20,833	347	0	
9:00	0.87	47,315	20,833	26,482			347	0	
10:00	1.11	60,386	20,833	39,552			347	0	
11:00	1.25	67,525	20,833	46,691			347	0	
12:00	1.40	75,921	20,833	55,087			347	0	
13:00	1.39	75,049	20,833	54,215			347	0	
14:00	1.35	72,931	20,833	52,097			347	0	
15:00	1.31	70,721	20,833	49,887			347	0	
16:00	1.22	66,268	20,833	45,435			347	0	
17:00	1.15	62,032	20,833	41,199			347	0	
18:00	1.13	61,046	20,833	40,213			347	0	
19:00	1.12	60,591	20,833	39,758			347	0	
20:00	1.11	60,098	20,833	39,265			347	0	
21:00	1.14	61,886	20,833	41,053	27,190		347	-6,357	Irrigation Period
22:00	1.15	62,124	20,833	41,291	27,190		347	-6,357	
23:00	1.18	63,701	20,833	42,867	27,190		347	-6,357	
0:00	1.10	59,557	20,833	38,723	27,190		347	-6,357	
1:00	0.92	49,612	20,833	28,778	27,190		347	-6,357	
2:00	0.73	39,547	20,833	18,714	27,190		347	-6,357	
3:00	0.61	32,863	20,833	12,030	27,190		347	-6,357	
4:00	0.51	27,641	20,833	6,808	27,190		347	-6,357	
5:00	0.48	25,838	20,833	5,004	27,190		347	-6,357	
Totals	**24.00**	**1,300,000**	**500,000**	**800,000**	**244,711**	**62,500**		**57,211**	**gpd**
							Storage Required:	**60,000**	**gallons**

Notes:

1. Unit flow factor developed from recorded RCSD WWTP flows in July 2006 (peak irrigation demand period).
2. Based on RWTF running at full design capacity, 1.3 MGD, with flow distributed using the unit flow factor.
3. Effluent is sent to distribution (existing user demand) or storage. Excess RW (not accounted for) is shown in blue.
4. Storage tank volume is based on operational storage required to meet peak day demand.

RMC Water and Environment

Designer:	A. Schmidt
Project:	0160-001
Date:	5/25/07
Checked By:	R. Bichette
Check Date:	

Existing Facilities and Future Customers Storage Analysis

Hour	Wastewater Unit Flow Factor[1]	Total Plant Effluent (gal)	Tertiary Effluent (Rec. Water)[3] (gal)	Secondary Treated Effluent (gal)	Existing User Demand (gal)	Future User Demand (gal)	Storage Tank Fill Rate (gal)	RW Flow Leaving Plant (gpm)	Supply Deficiency (gal)	
6:00	0.48	45,952	41,667	4,286			41,667	694	0	
7:00	0.58	55,977	41,667	14,310			41,667	694	0	
8:00	0.73	70,304	41,667	28,637			41,667	694	0	
9:00	0.87	83,711	41,667	42,044			41,667	694	0	
10:00	1.11	106,836	41,667	65,169			41,667	694	0	
11:00	1.25	119,467	41,667	77,800			41,667	694	0	
12:00	1.40	134,321	41,667	92,654			41,667	694	0	
13:00	1.39	132,778	41,667	91,112			41,667	694	0	
14:00	1.35	129,031	41,667	87,364			41,667	694	0	
15:00	1.31	125,121	41,667	83,454			41,667	694	0	
16:00	1.22	117,243	41,667	75,577			41,667	694	0	
17:00	1.15	109,749	41,667	68,083			41,667	694	0	
18:00	1.13	108,005	41,667	66,338				694	0	
19:00	1.12	107,200	41,667	65,533				694	0	
20:00	1.11	106,328	41,667	64,661				694	0	
21:00	1.14	109,490	41,667	67,824	27,190	69,373		694	-54,896	Irrigation Period
22:00	1.15	109,912	41,667	68,245	27,190	69,373		694	-54,896	
23:00	1.18	112,701	41,667	71,034	27,190	69,373		694	-54,896	
0:00	1.10	105,370	41,667	63,703	27,190	69,373		694	-54,896	
1:00	0.92	87,774	41,667	46,108	27,190	69,373		694	-54,896	
2:00	0.73	69,968	41,667	28,302	27,190	69,373		694	-54,896	
3:00	0.61	58,143	41,667	16,476	27,190	69,373		694	-54,896	
4:00	0.51	48,904	41,667	7,237	27,190	69,373		694	-54,896	
5:00	0.48	45,713	41,667	4,046	27,190	69,373		694	-54,896	
Totals	**24.00**	**2,300,000**	**1,000,000**	**1,300,000**	**244,711**	**624,357**	**500,000**		**494,068**	**gpd**

Storage Required: 500,000 gallons

Notes:

1. Unit flow factor developed from recorded RCSD WWTP flows in July 2006 (peak irrigation demand period).
2. Based on RWTF running at full future design capacity, 2.3 MGD, with flow distributed using the unit flow factor.
3. Effluent is sent to distribution (existing user demand) or storage. Excess RW (not accounted for) is shown in blue.
4. Storage tank volume is based on operational storage required to meet peak day demand.

Rosamond Community Services District Recycled Water Facilities Plan
User Information

System Area	Type of Use	Retailer	Customer Name	Site Location	End User	Demand AF/Y	Customer Subtotal	User Assurance	Comments
1	2	3	4	5	6	7	8	9	10
Table A-1: Existing Customers									
Ph 1	L1	RCSD	Rosamond Park	GLENDOWER & ROSEWOOD	Y	29.7	29.7	--	
Ph 1	L1	RCSD	West Park	40TH ST. WEST & WESTPARK DR.	N	16.6	16.6	--	
Ph 1	L1	RCSD	Rosamonf Elem./ Alt HS	GLENDOWER & ROSAMOND	N	21.4	21.4	--	
Ph 1	L1	RCSD	Hamilton Elem / Rosamond HS	30TH ST. WEST & ROSAMOND	N	47.3	47.3	--	
Ph 1	L1	RCSD	Westpark Elementary	35TH ST WEST & HOLIDAY	Y	24.8	24.8	--	
Ph 1	L1	RCSD	Tropico Middle School	MOJAVE TROPICO & ROSAMOND	N	5.9	5.9	--	
			L1 SUBTOTAL (Existing Customers)			145.7	145.7		
			Existing Users Subtotal			145.7			
Table A-2: Future Customers									
Ph 1	L1	RCSD	Park #3	NEAR 25TH ST. WEST & FELSITE	Y	31.1	31.1	--	
Ph 1	L1	RCSD	Park #4	STETSON AVE. & 47TH ST WEST	Y	13.0	13.0	--	
Ph 1	L1	RCSD	Park #5	FELSITE AVE. & SUNSET RIDGE	Y	18.6	18.6	--	
Ph 1	L1	RCSD	Park #6	FAVORITO AVE. & WERNER AVE.	Y	15.5	15.5	--	
Ph 1	L1	RCSD	Park #7	20TH ST WEST & HOOK AVE.	Y	31.1	31.1	--	
Ph 1	L1	RCSD	Park #8	ROSAMOND & SIERRA HWY.	N	31.1	31.1	--	
Ph 1	L1	RCSD	Park #9	15TH ST. WEST & HOOK AVE.	Y	31.1	31.1	--	
Ph 1	L1	RCSD	Park #10	10TH ST. WEST & CENTER ST.	Y	15.5	15.5	--	
Ph 1	L1	RCSD	Park #11	SIERRA HWY. & WILLOW AVE.	Y	15.5	15.5	--	
Ph 1	L1	RCSD	Park #12	35TH ST. WEST & HOWARD AVE.	Y	15.5	15.5	--	
Ph 1	L1	RCSD	Park #13	30TH ST. WEST AND WILLOW	Y	25.8	25.8	--	
Ph 1	L1	RCSD	Park #14	25TH ST. WEST & POPLAR AVE.	N	15.5	15.5	--	
Ph 1	L1	RCSD	Park #15	30TH ST. WEST & POPLAR AVE.	Y	15.5	15.5	--	
Ph 1	L1	RCSD	Park #16	35TH ST. WEST & POPLAR AVE.	Y	31.1	31.1	--	
Ph 1	L1	RCSD	Park #17	47TH ST. WEST & ASTORIA AVE.	N	22.4	22.4	--	
Ph 1	L1	RCSD	Community Park	25TH ST. WEST & WILLOW AVE.	Y	33.1	33.1	--	
Ph 1	L1	RCSD	Trail Network	BETWEEN 30TH ST. W & 50TH ST. W	N	10.3	10.3		
			L1 SUBTOTAL (Future Customers)			371.7	371.7		
			Future Customers Subtotal			371.7			

Table B: Combined Totals

	L1 SUBTOTAL	General Landscape-Night Irrigation (2100-0600)	517	AFY	
	TOTAL		517		

Table C: Codes for Water Retailers

RCSD	Rosamond Community Services District

Rosamond Community Services District Recycled Water Facilities Plan

CALCULATIONS OF HOURLY DEMAND FOR
AVERAGE DAY OF THE PEAK MONTH

Use Type	Annual Demand AF	Peaking Factor	Average Day, Peak Mo. AF	Average Day, Peak Mo. MG	Schedule START	Schedule END	Demand Hours	Hourly Demand GPM
1	2	3	4	5	6	7	8	9
Table D-1: Hourly Demand, Existing Customers								
Landscape Irrigation -night	146	1.88	0.7505	0.24454	2100	0600	9	452.8
	146		0.7505	0.24454				
Table D-2: Hourly Demand, Future Customers								
Landscape Irrigation -night	372	1.88	1.9145	0.62384	2100	0600	9	1,155.3
	372		1.9145	0.62384				
Table E: Hourly Demand, Existing and Future Customers								
Landscape Irrigation -night	517	1.88	2.6650	0.86838	2100	0600	9	1,608.1
Total	**517**		**2.6650**	**0.86838**				**1,608.1**

State Water Resources Control Board
Office of Water Recycling

ROSAMOND COMMUNITY SERVICES DISTRICT RECYCLED WATER FACILITIES PLAN
ANALYSIS OF TREATMENT AND STORAGE CAPACITIES FOR AVERAGE DAY OF PEAK MONTH

ASSUMPTIONS

Demand = Average day of peak month

Treatment/Pump capacity = 1.00 MGD = 694 GPM

Storage = 500000 gallons

PROJECT DEMAND

Annual Average = (3,355 AFY) x (325,851 gal/AF) / (365 Days/Year) = 2.817 MGD

Average Day of Peak Month (ADPM) Peaking Factor for general landscape=1.70

Other ADPM Peaking Factors:

Table F: Design parameters/assumptions

Design Parameters		
variable	magnitude	units
S	500,000	gallons
V	1.00	mgd
Cur Q	0.500	mgd
Proj Q	1.000	mgd

V (gpm)	694	gpm

Table G: Treatment Plant flow supplied

Supply					
		Treatment Plant Flow			In-Plant Losses
Hr	Multiplying Factor	Current (a)		Projected (b)	
		MGD	GPM	GPM	GPM
1	2	3	4	5	6
1	1.000	0.50	347	694	0
2	1.000	0.50	347	694	0
3	1.000	0.50	347	694	0
4	1.000	0.50	347	694	0
5	1.000	0.50	347	694	0
6	1.000	0.50	347	694	0
7	1.000	0.50	347	694	0
8	1.000	0.50	347	694	0
9	1.000	0.50	347	694	0
10	1.000	0.50	347	694	0
11	1.000	0.50	347	694	0
12	1.000	0.50	347	694	0
13	1.000	0.50	347	694	0
14	1.000	0.50	347	694	0
15	1.000	0.50	347	694	0
16	1.000	0.50	347	694	0
17	1.000	0.50	347	694	0
18	1.000	0.50	347	694	0
19	1.000	0.50	347	694	0
20	1.000	0.50	347	694	0
21	1.000	0.50	347	694	0
22	1.000	0.50	347	694	0
23	1.000	0.50	347	694	0
24	1.000	0.50	347	694	0
Average		0.50	347	694	0

Table H: Treatment Plant flow demanded

Demand							
Hr	Landscape Irrig		Industrial Use		Agricultural Use	Total	Other
	(night)	(day)	(24 hrs)	(day)	(TBD)		GPM
1	2	3	4	5	6	7	8
1	1,608.1		0.0		0	1,608.1	0
2	1,608.1		0.0		0	1,608.1	0
3	1,608.1		0.0		0	1,608.1	0
4	1,608.1		0.0		0	1,608.1	0
5	1,608.1		0.0		0	1,608.1	0
6		0.0	0.0		0	0.0	0
7		0.0	0.0		0	0.0	0
8		0.0	0.0	0.0	0	0.0	0
9		0.0	0.0	0.0	0	0.0	0
10		0.0	0.0	0.0	0	0.0	0
11		0.0	0.0	0.0	0	0.0	0
12		0.0	0.0	0.0	0	0.0	0
13		0.0	0.0	0.0	0	0.0	0
14		0.0	0.0	0.0	0	0.0	0
15		0.0	0.0	0.0	0	0.0	0
16		0.0	0.0	0.0	0	0.0	0
17		0.0	0.0	0.0	0	0.0	0
18		0.0	0.0	0.0	0	0.0	0
19		0.0	0.0		0	0.0	0
20		0.0	0.0		0	0.0	0
21	1,608.1		0.0		0	1,608.1	0
22	1,608.1		0.0		0	1,608.1	0
23	1,608.1		0.0		0	1,608.1	0
24	1,608.1		0.0		0	1,608.1	0

Table I: Project flow master table

Hr	Supply						Demand			Operation			
	Treatment Plant Flow			In-Plant Losses	Available Flow		Project	Other	Total	Pumping	Storage	Potable	Remain. Storage
	Current (a)		Projected (b)		Treated	Pumped (c)	GPM	GPM	GPM	Gal	Gal	Gal	Gallons
	MGD	GPM	GPM	GPM	GPM	GPM	(d)	(e)		(f)			(g)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	225,766
2	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	170,919
3	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	116,072
4	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	61,226
5	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	6,379
6	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	48,019
7	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	89,659
8	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	131,299
9	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	172,939
10	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	214,579
11	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	256,219
12	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	297,859
13	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	339,499
14	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	381,139
15	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	422,779
16	0.50	347	694	0	694	694	0	0	0	41,640	41,640	0	464,419
17	0.50	347	694	0	694	694	0	0	0	35,581	35,581	0	500,000
18	0.50	347	694	0	694	694	0	0	0	0	0	0	500,000
19	0.50	347	694	0	694	694	0	0	0	0	0	0	500,000
20	0.50	347	694	0	694	694	0	0	0	0	0	0	500,000
21	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	445,153
22	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	390,306
23	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	335,460
24	0.50	347	694	0	694	694	1,608	0	1,608	41,640	(54,847)	0	280,613
	0.50	347	694	0	999,360	999,360	868,381	0	868,381	868,381	0	0	
	Average				Total, Gallons								

Table J: Treatment plant operational supply and demand summary

Operational Flow			
Hr	Supply	Demand	Storage
	GPM	GPM	Gallons
1	2	3	4
1	694	1,608	225,766
2	694	1,608	170,919
3	694	1,608	116,072
4	694	1,608	61,226
5	694	1,608	6,379
6	694	0	48,019
7	694	0	89,659
8	694	0	131,299
9	694	0	172,939
10	694	0	214,579
11	694	0	256,219
12	694	0	297,859
13	694	0	339,499
14	694	0	381,139
15	694	0	422,779
16	694	0	464,419
17	694	0	500,000
18	694	0	500,000
19	694	0	500,000
20	694	0	500,000
21	694	1,608	445,153
22	694	1,608	390,306
23	694	1,608	335,460
24	694	1,608	280,613
1	694	1,608	225,766

Figure J-1: Hourly Supply and Demand

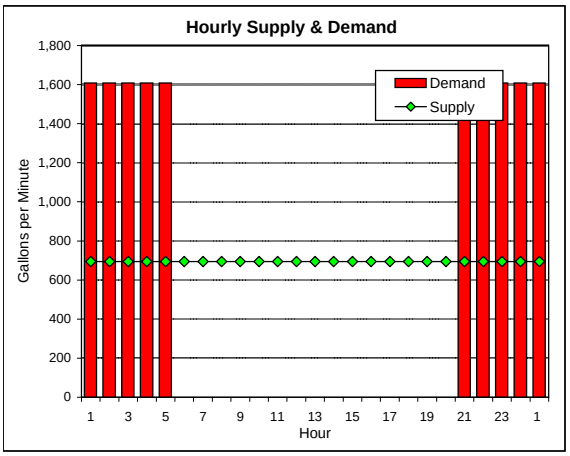


Figure J-2: Water Storage by hour (gallons)

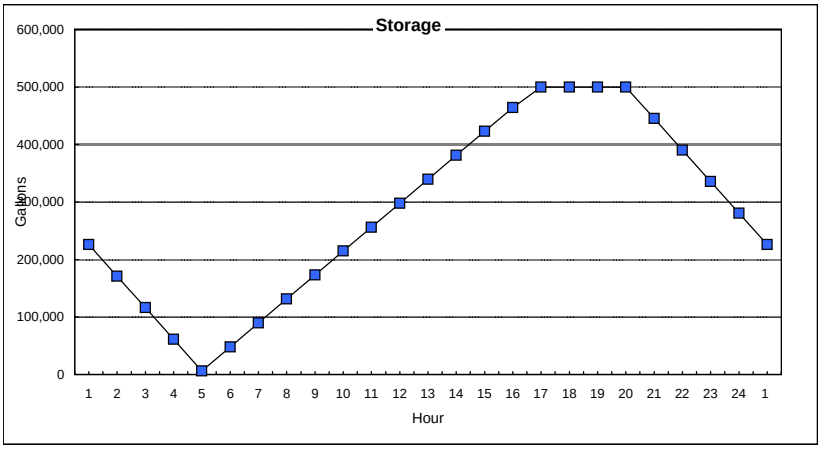


Table K: Project summary

SUMMARY			
Amount of storage used:		493,621	Gallons
Amount of potable used:		0	Gallons
Based on-			
Treatment capacity of:		1.00	MGD
Pumping capacity of:		694	GPM
Supply/Demand Ratio of:		1.15	GPM

Remarks:

(a) Current secondary flow estimated at 1.3 MGD
(b) Same as current flow
(c) Max. amount to be pumped, limited by either avail. flow or treatment/pumping capacity of
(d) Project irrigation demand
(e) N/A
(f) Maximum amount to be treated and pumped, limited by tertiary/pumping capacity and demand
(g) Calculations based on starting with full storage at hour 20

Appendix D - Storage Tank Location Evaluation Technical Memorandum

Technical Memorandum

Rosamond Community Services District Recycled Water Facilities Plan

Subject:	**Recycled Water Tank Location Evaluation**
Prepared For:	Bob Neufeld, Rosamond Community Services District Claud Seal, Rosamond Community Services District
Prepared by:	Amanda Schmidt, RMC Water and Environment
Reviewed by:	Richard Bichette, RMC Water and Environment
Date:	November 30, 2007
Copies:	

1 Introduction

At the request of Rosamond Community Services District (RCSD), RMC evaluated two alternate recycled water tank locations for comparison to the proposed tank location off of Mojave Tropico Road, identified as the recommended location in the Draft RCSD Recycled Water Facilities Plan (Facility Plan). All three alternate tank locations are described in more detail in the following sections.

2 Alternative Facility Description

This section describes the tank alternatives and summarizes the facilities required based on a hydraulic study performed using the H_2OMap Water modeling software. Each alternate tank location was examined using Alternative 3 pipeline alignment which is the recommended alignment in the Draft Facility Plan.

2.1 Mojave Tropico Road Tank

The Mojave Tropico Road Tank alternative is shown on Figure 1 in Appendix A. A 2 MG tank would be located on the north side of the hill approximately ½ mile west of Mojave Tropico Road. Approximately 3,200 linear feet of 12" pipe would be installed from Mojave Tropico Road to connect the tank to the distribution system.

A 100 hp booster pump station (two-50 hp pumps, one duty and one standby) would be required to boost water to the tank during the non-irrigation period from 6:00 AM to 9:00 PM. The booster station should be located along Mojave Tropico Road north of the Tropico Middle School. The storage tank in conjunction with the Rosamond Recycled Water Treatment Facility (RRWTF) pump station would provide supply to customers in the system from two different sources during the irrigation period, thus increasing reliability of the system. The tank must be constructed with a minimum water surface elevation of 2,550 feet to provide the required minimum pressure of 60 psi to recycled water customers. The location of the tank at the western end of town would allow service west of the currently planned service area using the elevation head of the tank. If a tank were not installed here, the water would have to be boosted out to those areas.

Park #6 – Favorito Ave. and Werner Ave. (customer No. 10 on Figure 1) is the only customer that would not receive a minimum pressure of 60 psi. It is recommended to install an onsite booster pump station at this customer location to boost pressure for irrigation. If Rosamond is looking to expand the recycled water system in the future, a booster pump station could be installed in the distribution system on Mojave Tropico Road near Sweetser Rd. rather than onsite to boost pressure within the system and allow water to

be delivered further away from the currently planned area of service. The design parameters of an in-system booster station at this location must be further evaluated if this option is chosen. Further development of this option should not be considered until there is a better understanding of the potential system outside of the current area of study.

2.2 United Street Tank

The United Street Tank alternative is shown on Figure 2 in Appendix A. A 2 MG tank would be located approximately ½ mile north of potable water Tank No. 4 near United Street. The tank would be constructed with a minimum water surface elevation of 2,600 feet based on information provided by RCSD about the tank site. A 12" ductile iron (DI) or polyvinyl chloride (PVC) pipe would connect to the existing 12" DI pipe on Sierra Highway and head east to Tank No. 4 site. The pipe would then travel north along a dirt road to the United Street tank location. RCSD would have to obtain right of way along the northern border of a subdivision near United St. for this pipeline. A recycled water pipe would also need to be installed on the west side of Highway 14 along Frontage Road to Felsite Road and would connect to the proposed recycled water pipe on Felsite Rd.

Recycled water would be sent to the United Street tank during the non-irrigation period. A 150 hp booster station (2-75 hp pumps, one duty and one standby) would be needed near Sierra Highway and the south side of Rosamond Blvd to raise the hydraulic head to reach the tank. During the irrigation period recycled water would be supplied from the tank as well as from the Rosamond RWTF to serve customers, providing two sources of supply, thus increasing reliability of the system. The elevation of the tank would provide the hydraulic head required for customers to receive a minimum pressure of 60 psi. Park #6 – Favorito Ave. and Werner Ave. (customer No. 10 on Figure 1) is the only customer that would not have a minimum pressure of 60 psi. It is recommended to install an onsite booster pump at this customer location as mentioned in the Mojave Tropico Road Tank alternative.

Another option was examined which would pump water at a higher pressure from the RRWTF pump station (approximately 150 psi at the plant) to the tank rather than installing a booster station to pump to the tank. To develop this option the District would have to install 150 psi pumps at the RRWTF pump station and automated valves that would close when the tank is filling, or pressure reducing valves at connections with PVC pipe laterals. PVC pipe is not designed to operate at 150 psi under long term conditions and may be damaged under the high pressure. The ductile iron pipe along Sierra Highway is pressure class 300 which is designed to operate at over 150 psi over long periods. Another option would be for the District to install ductile iron laterals off of Sierra Highway rather than PVC; however, if a customer were to turn on the recycled water while the tank is filling, there is a possibility the elevated pressure would damage the customer's onsite piping. This could be corrected with onsite pressure regulating valves. Because of the potential operational issues and damage to customer piping, the elevated pressure option is not recommended.

2.3 Rosamond Recycled Water Treatment Facility Tank

The RRWTF Tank alternative is shown on Figure 3 in Appendix A. The 2 MG tank would be located adjacent to the treatment plant property, west of the existing recycled water pipe stubs. A buried tank was deemed the best tank option at the treatment plant site because recycled water could flow via gravity from Distribution Box No. 4 to the tank, rather pumping to the tank, then pumping again out of the tank. Above ground and elevated tank options are discussed below.

A buried tank would be approximately 165' long x 110' wide and 20' deep. The bottom of the tank will be 20 feet below grade. A conceptual layout of the facilities is shown on Figure 4 of Appendix A. Under this alternative, the RRWTP recycled water pump station should be located adjacent to the tank rather than its currently planned location. Proposed recycled water piping as shown on the treatment plant

upgrade drawings should also be modified; but no net increase in new pipe would be required. If the RRWTF pump station and recycled water plant piping were already installed before this project moved forward, the facilities would have to relocated as part of this project, or a second pump station would need to be installed near the tank to pump out of the tank to the distribution system, or back to the RRWTP pump station.

An above ground tank was evaluated for the RRWTF alternative to eliminate the additional costs associated with a buried structure; however, but two supplemental 10 horsepower (hp) pumps would be required to deliver water to an above ground tank and additional piping and automatic flow control valves would be needed to distribute water back to the RRWTF pump station by gravity and from the pump station to the tank and/or distribution system.. An above ground storage tank is not recommended due to a more complicated operational processes and additional infrastructure that would be required.

A brief evaluation was also performed for an elevated tank at this location to eliminate the additional pump station and allow the RRWTF pump station to remain where it is currently planned. The water surface would be at a height of 250 feet above the ground surface (at an elevation of 2,550 feet). The proposed RRWTF pump station would pump water up to the tank during the non-irrigation period and the tank would distribute water during the irrigation period using the elevation head of the tank. This alternative is not recommended because 250 feet is too tall for an elevated tank and the majority of pumping (from the tank to the elevated tank) would occur during the time of peak energy demand when electricity costs are highest. Additional considerations of elevated tanks include seismic concerns, costs and aesthetics.

Table 1 summarizes the required facilities for each alternative.

Table 1: Summary of Facilities for Each Alternative

Tank Alternative	Proposed Pipe Diameter (inches)	Length of Additional RW Pipe (feet)	Pump Station
Mojave Tropico	12”	3,200	100 hp (2-50 hp pumps)
United Street	12”	13,400	Optional 150 hp (2-75 hp pumps)
Rosamond RWTF	12”	Relocate proposed recycled water piping	Relocate pump station to beside tank

3 Alternative Assessment

This section presents the results of the assessment of each recycled water tank location alternative identified. Tank alternative advantages and disadvantages are summarized in Table 2.

Table 2: Advantages and Disadvantages of Tank Alternatives

Tank Alternative	Advantages	Disadvantages
Tropico Tank	• Located near proposed future groundwater recharge basin; therefore the majority of the pipe required may be built for this purpose • Provides two separate sources of water for the distribution system • Storage location is already sited for two other 2 MG potable water tanks • Storage located in area of future growth - western area can be serviced by gravity • Simplifies pump station operation by serving demand by gravity	• Approx. 5 miles of pipe must be installed to fully utilize available recycled water at Rosamond RWTF • Pumping at Rosamond RWTF and booster station required during daytime with peak electricity costs
United Street Tank	• Storage location sited for other potable water tanks • Simplifies pump station operation by serving demand by gravity • Provides two separate sources of water • Lower initial project cost to utilize available recycled water than Tropico site	• Highest cost alternatives because additional pipe required to connect tank • Must obtain right of way from future developer for tank and pipe construction • Pumping at Rosamond RWTF and booster station required during daytime with peak electricity costs
WWTP Tank	• No additional costs for extra pipe or pumping on WWTP site • Pumping occurs during irrigation period at night, during non-peak electricity demand • Lowest capital cost to utilize available recycled water supply	• Rosamond RWTF facilities must be relocated as part of a change order during construction, or as a new project after construction • An additional booster pump station would be required near 40th St. West and Orange Street to maintain minimum pressure at customer connections

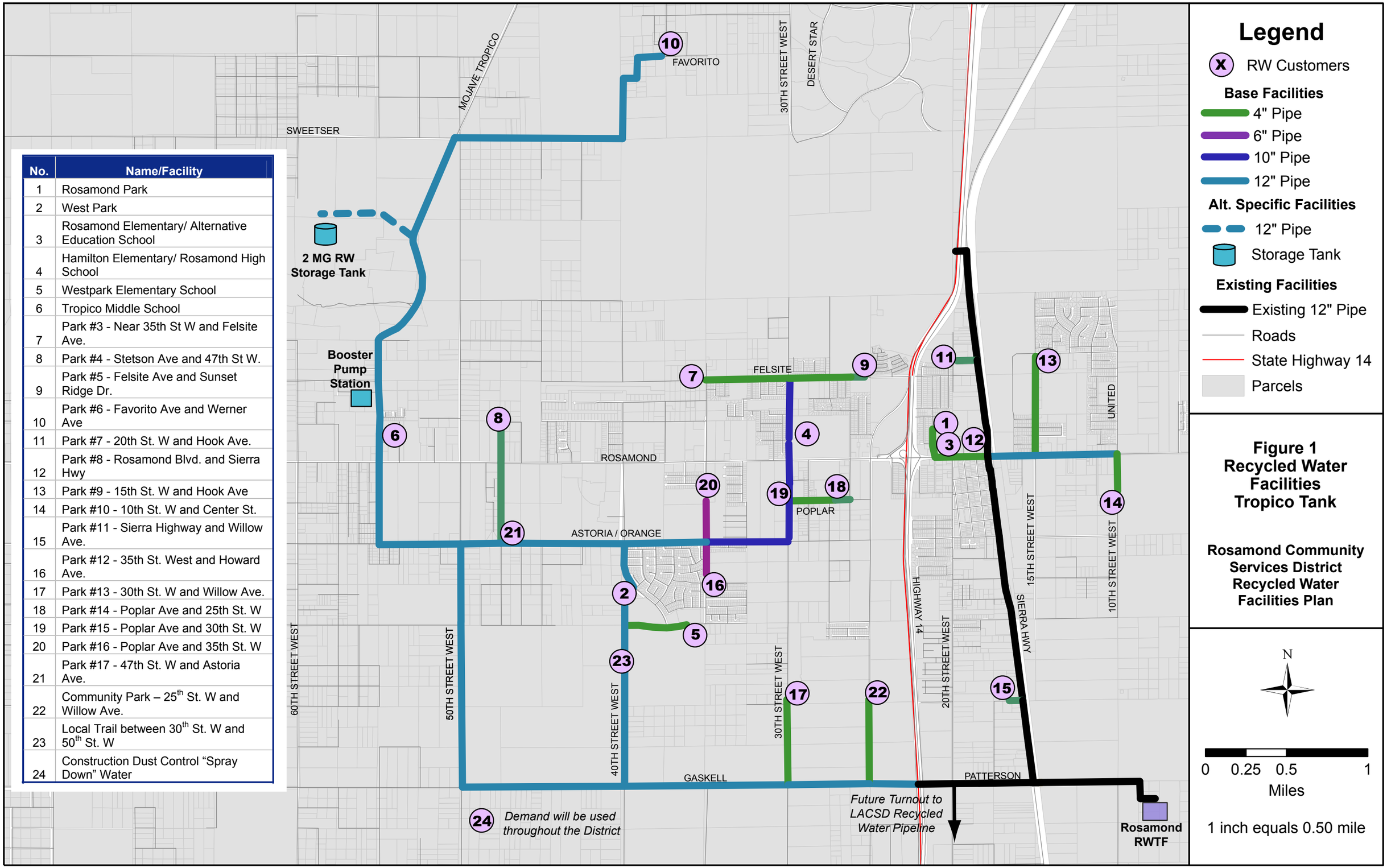
A summary of costs associated with each tank alternative is shown in Table 3. Detailed cost information is provided in Appendix B.

Table 3: Tank Alternative Costs

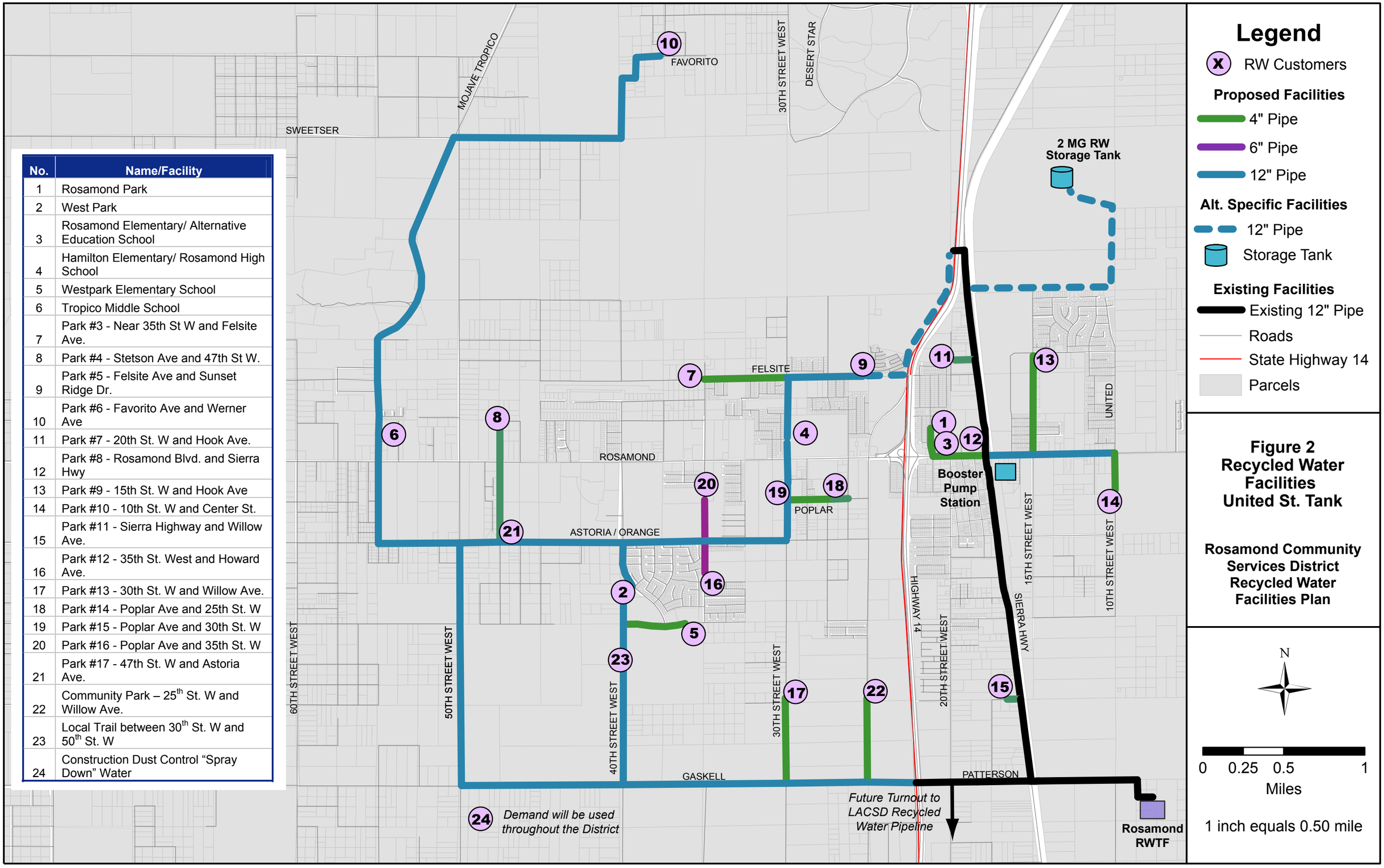
Tank Alternative	Capital ($M)	O&M ($/year)	Annual ($/year)	$/AF
Tropico Tank	$26.7	$220,000	$1,003,000	$1,663
United Street Tank	$28.4	$241,000	$1,074,000	$1,780
Rosamond RWTF Tank	$25.2	$212,800	$952,000	$1,578

All three options are feasible for the District and costs and advantages should be weighed against the Districts recycled water usage goals and potential funding opportunities. Further discussion with the District will finalize the recycled water tank location for the Final Facility Plan.

Appendix A – Figures



No.	Name/Facility
1	Rosamond Park
2	West Park
3	Rosamond Elementary/ Alternative Education School
4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
7	Park #3 - Near 35th St W and Felsite Ave.
8	Park #4 - Stetson Ave and 47th St W.
9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
15	Park #11 - Sierra Highway and Willow Ave.
16	Park #12 - 35th St. West and Howard Ave.
17	Park #13 - 30th St. W and Willow Ave.
18	Park #14 - Poplar Ave and 25th St. W
19	Park #15 - Poplar Ave and 30th St. W
20	Park #16 - Poplar Ave and 35th St. W
21	Park #17 - 47th St. W and Astoria Ave.
22	Community Park – 25th St. W and Willow Ave.
23	Local Trail between 30th St. W and 50th St. W
24	Construction Dust Control "Spray Down" Water



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7	Park #3 - Near 35th St W and Felsite Ave.
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9	Park #5 - Felsite Ave and Sunset Ridge Dr.
10	Park #6 - Favorito Ave and Werner Ave
11	Park #7 - 20th St. W and Hook Ave.
12	Park #8 - Rosamond Blvd. and Sierra Hwy
13	Park #9 - 15th St. W and Hook Ave
14	Park #10 - 10th St. W and Center St.
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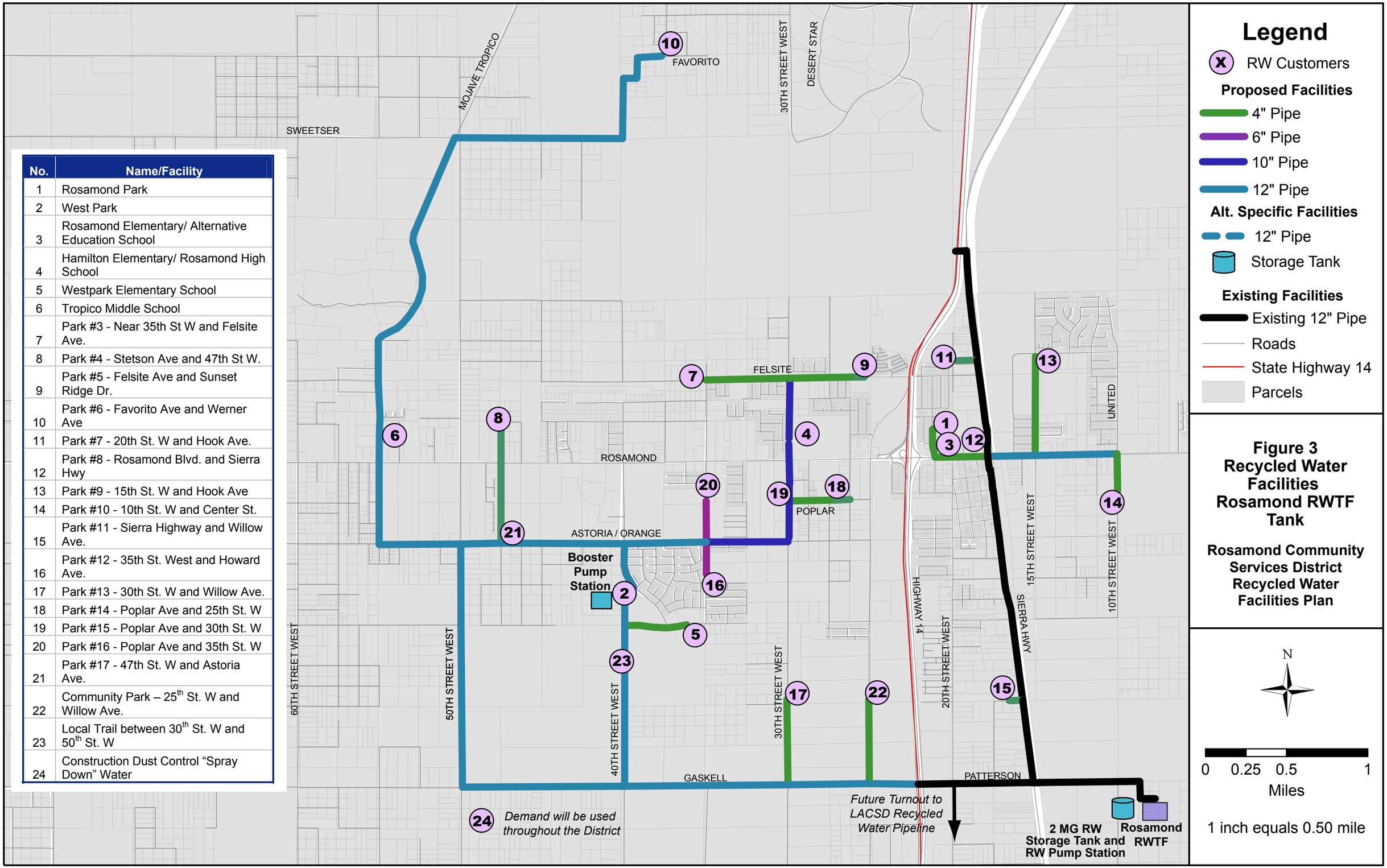

No.	Name/Facility
1	Rosamond Park
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4	Hamilton Elementary/ Rosamond High School
5	Westpark Elementary School
6	Tropico Middle School
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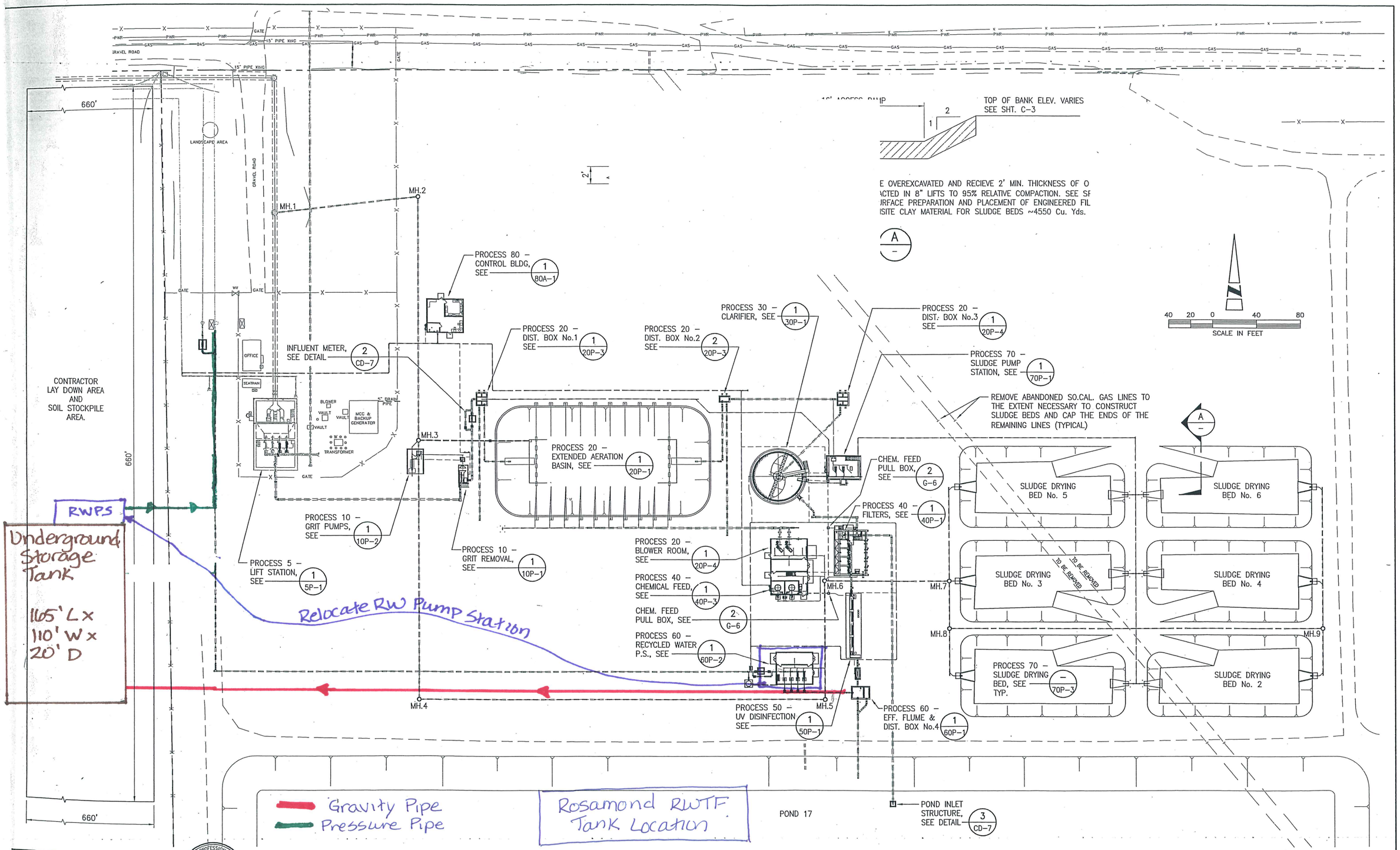
24	Construction Dust Control "Spray Down" Water

Figure 3
Recycled Water Facilities
Rosamond RWTF Tank

Rosamond Community Services District Recycled Water Facilities Plan



APPROVAL:	REGISTERED PROFESSIONAL ENGINEER SIGNATURE REQUIRED RN 43789 EXP 6-30-03 CIVIL STATE OF CALIFORNIA	DATE:	DESIGN BY: JN		
APPROVAL:		DATE:	DRAWN BY: DTG		
APPROVAL:		DATE:	CHECKED BY: –		
			DATE: MAR. 2003	REV / DATE / DESCRIPTION / APP	

BOYLE ENGINEERING CORPORATION
5001 E. COMMERCENTER DR. SUITE 100, P.O.BOX 12030, BAKERSFIELD, CA 93301
(661) 325-7253 - FAX (661) 395-0359

ROSAMOND COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT PLANT EXPANSION
SITE PLAN

DRAWING NO: C-1
SHEET NO: 8 OF 141 SHEETS
FILE NO: S-2135

Appendix B – Detailed Cost Estimates

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Cost Estimate Comparison

Estimate Type: Planning Study

Date:	November 28, 2007
Project Number:	0160-001
Prepared by:	ALS
Checked by:	RMB
Check Date:	11/28/2007

Elements	Alternative 3 Tropico Tank	Alternative 3 United St. Tank	Alternative 3 Rosamond RWTF Tank
Pipeline	$ 12,178,000	$ 13,128,000	$ 11,359,000
Pump Station	$ 343,000	$ 343,000	$ 343,000
Storage Facility	$ 2,400,000	$ 2,400,000	$ 2,400,000
Raw Const. Cost	$ 14,921,000	$ 15,871,000	$ 14,102,000
General Overhead (Div.1 Items)	*$ 1,492,100*	*$ 1,587,100*	*$ 1,410,200*
Planning Contingency	*$ 4,103,000*	*$ 4,365,000*	*$ 3,878,000*
Engr., Const. Mgmt (20%)	*$ 4,103,000*	*$ 4,365,000*	*$ 3,878,000*
Legal, Admin (10%)	*$ 2,052,000*	*$ 2,182,000*	*$ 1,939,000*
Capital Cost	**$ 26,671,000**	**$ 28,370,000**	**$ 25,207,000**
O&M	$ 220,000	$ 241,000	$ 212,000
Annualized Costs	$ 1,003,000	$ 1,074,000	$ 952,000
Cost per AF	**$ 1,663**	**$ 1,780**	**$ 1,578**

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 3 Tropico Tank Cost Breakdown

Date: November 28, 2007
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date: 11/28/2007

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 12,177,880**	
1	Gaskell Road from Hwy 14 to 50th St. West	12	IN	14,800	FT	$ 132	$ 1,953,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of Sierra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd. West of Sierra Hwy	4	IN	9,200	FT	$ 44	$ 404,800	Based on planning costs of $11/LF-inch for PVC pipe
	Laterals on Hook and Willow off of Sierra Hwy	4	IN	1,100	FT	$ 44	$ 48,400	Based on planning costs of $11/LF-inch for PVC pipe
4	50th St. West from Gaskell to Astoria	12	IN	7,900	FT	$ 132	$ 1,042,800	Based on planning costs of $11/LF-inch for PVC pipe
5	40th St. West from Gaskell to Astoria	12	IN	8,000	FT	$ 132	$ 1,056,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral from 40th St W to Holiday Ave.	4	IN	2,000	FT	$ 44	$ 88,000	Based on planning costs of $11/LF-inch for PVC pipe
6	Astoria Road from 40th St. West to 50th St. West	12	IN	5,300	FT	$ 132	$ 699,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	3,900	FT	$ 44	$ 171,600	Based on planning costs of $11/LF-inch for PVC pipe
7	Astoria Road from 40th St. W to 30th St. W	12	IN	2,700	FT	$ 132	$ 356,400	Based on planning costs of $11/LF-inch for PVC pipe
	Astoria Road from 40th St. W to 30th St. W	10	IN	2,700	FT	$ 110	$ 297,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on 35th St. West	6	IN	2,400	FT	$ 66	$ 158,400	Based on planning costs of $11/LF-inch for PVC pipe
8	30th St West from Astoria Rd to Felsite	10	IN	5,300	FT	$ 110	$ 583,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connection on Felsite	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
9	Mojave Tropico Rd. to Recycled Water Tank	12	IN	16,200	FT	$ 132	$ 2,138,400	Based on planning costs of $11/LF-inch for PVC pipe
10	Mojave Tropico Rd. to Favorito Rd.	12	IN	12,700	FT	$ 132	$ 1,676,400	Based on planning costs of $11/LF-inch for PVC pipe
	Meter Vault			22	EA	$ 2,200	$ 48,400	Costs Per RS Means 2007
	Water Supply Meter			22	EA	$ 6,050	$ 133,100	Costs Per RS Means 2007
	4" Butterfly Valve with Box			22	EA	$ 690	$ 15,180	Costs Per RS Means 2007
Pump Station							**$ 343,000**	
	Booster Station	100	HP	1	EA	$ 343,000	$ 343,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility							**$ 2,400,000**	
	Steel RW Storage Tank	2	MG	1	EA	$ 2,400,000	$ 2,400,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (Apr, 2006) updated to Sept 2007 LA ENR CCI
						Raw Construction Cost	**$ 14,920,880**	
	General Overhead (Div.1 Items)			10%			$ 1,492,088	
						Construction Cost Subtotal	**$ 16,412,968**	
Contingencies							**$ 4,103,242**	
	Planning Contingency			25%			$ 4,103,242	
Implementation Costs							**$ 6,154,863**	
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$4,103,242	Percentage of Construction Cost Subtotal
	Legal & Administration			10%			$2,051,621	Percentage of Construction Cost Subtotal
						Construction Cost Total	**$ 26,671,073**	
O&M Costs							**$ 219,872**	
	Pipeline O&M			1%			$ 121,779	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
	Pump Station O&M			15%			$ 51,450	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,860	See Note 2
	Tank Protective Coating			12%			$ 14,400	See Note 3
	Tank Cathodic Protection			2%			$ 2,400	See Note 3
Annualized Costs							**$ 1,002,668**	
	Annualized Capital Costs						$ 782,796	See Note 4
	Annualized O&M Costs						$ 219,872	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 1,663**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions: Interest Rate 5%; Period (years) 20

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 3 United St. Tank Cost Breakdown

Date: November 28, 2007
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date: 11/28/2007

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 13,128,280**	
1	Gaskell Road from Hwy 14 to 50th St. West	12	IN	14,800	FT	$ 132	$ 1,953,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of Sierra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd. West of Sierra Hwy	4	IN	9,200	FT	$ 44	$ 404,800	Based on planning costs of $11/LF-inch for PVC pipe
	Laterals on Hook and Willow off of Sierra Hwy	4	IN	1,100	FT	$ 44	$ 48,400	Based on planning costs of $11/LF-inch for PVC pipe
4	50th St. West from Gaskell to Astoria	12	IN	7,900	FT	$ 132	$ 1,042,800	Based on planning costs of $11/LF-inch for PVC pipe
5	40th St. West from Gaskell to Astoria	12	IN	8,000	FT	$ 132	$ 1,056,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral from 40th St W to Holiday Ave.	4	IN	2,000	FT	$ 44	$ 88,000	Based on planning costs of $11/LF-inch for PVC pipe
6	Astoria Road from 40th St. West to 50th St. West	12	IN	5,300	FT	$ 132	$ 699,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	3,900	FT	$ 44	$ 171,600	Based on planning costs of $11/LF-inch for PVC pipe
7	Astoria Road from 40th St. W to 30th St. W	12	IN	2,700	FT	$ 132	$ 356,400	Based on planning costs of $11/LF-inch for PVC pipe
	Astoria Road from 40th St. W to 30th St. W	10	IN	2,700	FT	$ 110	$ 297,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on 35th St. West	6	IN	2,400	FT	$ 66	$ 158,400	Based on planning costs of $11/LF-inch for PVC pipe
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9	Lateral Connection on Felsite	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
10	Mojave Tropico Rd. to Sweetser Rd	12	IN	13,400	FT	$ 132	$ 1,768,800	Based on planning costs of $11/LF-inch for PVC pipe
	Sweetser to Favorito Rd.	12	IN	9,300	FT	$ 132	$ 1,227,600	Based on planning costs of $11/LF-inch for PVC pipe
11	Ductile Iron pipe from exising RW main to tank	12	IN	8,400	FT	$ 132	$ 1,108,800	Based on planning costs of $11/LF-inch for PVC pipe
	Frontage Road on west side of Hwy 14	12	IN	5,000	FT	$ 132	$ 660,000	Based on planning costs of $11/LF-inch for PVC pipe
	Meter Vault			22	EA	$ 2,200	$ 48,400	Costs Per RS Means 2007
	Water Supply Meter			22	EA	$ 6,050	$ 133,100	Costs Per RS Means 2007
	4" Butterfly Valve with Box			22	EA	$ 690	$ 15,180	Costs Per RS Means 2007
Pump Station							**$ 343,000**	
	Booster Station	150	HP	1	EA	$ 343,000	$ 343,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility							**$ 2,400,000**	
	Steel RW Storage Tank	2	MG	1	EA	$ 2,400,000	$ 2,400,000	Based on $1.00/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (Apr, 2006)
						Raw Construction Cost	**$ 15,871,280**	
	General Overhead (Div.1 Items)			10%			$ 1,587,128	
						Construction Cost Subtotal	**$ 17,458,408**	
Contingencies							**$ 4,364,602**	
	Planning Contingency			25%			$ 4,364,602	
Implementation Costs							**$ 6,546,903**	
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$4,364,602	Percentage of Construction Costs
	Legal & Administration			10%			$2,182,301	Percentage of Construction Costs
						Construction Cost Total	**$ 28,369,913**	
O&M Costs							**$ 240,872**	
	Pipeline O&M			1%			$ 131,283	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			229,862	kWh	$ 0.15	$ 34,479	See Note 1
	Pump Station O&M			15%			$ 51,450	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,860	See Note 2
	Tank Protective Coating			12%			$ 14,400	See Note 3
	Tank Cathodic Protection			2%			$ 2,400	See Note 3
Annualized Costs							**$ 1,073,529**	
	Annualized Capital Costs						$ 832,657	See Note 4
	Annualized O&M Costs						$ 240,872	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 1,780**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions: Interest Rate 5%
   Period (years) 20

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 3 Rosamond RWTF Tank Cost Breakdown

Date: November 28, 2007
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date: 11/28/2007

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 11,359,480**	
1	Gaskell Road from Hwy 14 to 50th St. West	12	IN	14,800	FT	$ 132	$ 1,953,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of Sierra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd. West of Sierra Hwy	4	IN	9,200	FT	$ 44	$ 404,800	Based on planning costs of $11/LF-inch for PVC pipe
	Laterals on Hook and Willow off of Sierra Hwy	4	IN	1,100	FT	$ 44	$ 48,400	Based on planning costs of $11/LF-inch for PVC pipe
4	50th St. West from Gaskell to Astoria	12	IN	7,900	FT	$ 132	$ 1,042,800	Based on planning costs of $11/LF-inch for PVC pipe
5	40th St. West from Gaskell to Astoria	12	IN	8,000	FT	$ 132	$ 1,056,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral from 40th St W to Holiday Ave.	4	IN	2,000	FT	$ 44	$ 88,000	Based on planning costs of $11/LF-inch for PVC pipe
6	Astoria Road from 40th St. West to 50th St. West	12	IN	5,300	FT	$ 132	$ 699,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	3,900	FT	$ 44	$ 171,600	Based on planning costs of $11/LF-inch for PVC pipe
7	Astoria Road from 40th St. W to 30th St. W	12	IN	2,700	FT	$ 132	$ 356,400	Based on planning costs of $11/LF-inch for PVC pipe
	Astoria Road from 40th St. W to 30th St. W	10	IN	2,700	FT	$ 110	$ 297,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on 35th St. West	6	IN	2,400	FT	$ 66	$ 158,400	Based on planning costs of $11/LF-inch for PVC pipe
8	30th St West from Astoria Rd to Felsite	10	IN	5,300	FT	$ 110	$ 583,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connection on Felsite	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
9	Mojave Tropico Rd. to Sweetser Rd	12	IN	13,400	FT	$ 132	$ 1,768,800	Based on planning costs of $11/LF-inch for PVC pipe
10	Sweetser to Favorito Rd.	12	IN	9,300	FT	$ 132	$ 1,227,600	Based on planning costs of $11/LF-inch for PVC pipe
	Meter Vault			22	EA	$ 2,200	$ 48,400	Costs Per RS Means 2007
	Water Supply Meter			22	EA	$ 6,050	$ 133,100	Costs Per RS Means 2007
	4" Butterfly Valve with Box			22	EA	$ 690	$ 15,180	Costs Per RS Means 2007
Pump Station							**$ 343,000**	
	Booster Station	100	HP	1	EA	$ 343,000	$ 343,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility							**$ 2,400,000**	
	RW Storage Tank	2	MG	1	EA	$ 2,400,000	$ 2,400,000	Based on $1.00/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (Apr, 2006)
						Raw Construction Cost	**$ 14,102,480**	
	General Overhead (Div.1 Items)			10%			$ 1,410,248	
						Construction Cost Subtotal	**$ 15,512,728**	
Contingencies							**$ 3,878,182**	
	Planning Contingency			25%			$ 3,878,182	
Implementation Costs							**$ 5,817,273**	
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$3,878,182	Percentage of Construction Costs
	Legal & Administration			10%			$1,939,091	Percentage of Construction Costs
						Construction Cost Total	**$ 25,208,183**	
O&M Costs							**$ 211,688**	
	Pipeline O&M			1%			$ 113,595	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
	Pump Station O&M			15%			$ 51,450	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,860	See Note 2
	Tank Protective Coating			12%			$ 14,400	See Note 3
	Tank Cathodic Protection			2%			$ 2,400	See Note 3
Annualized Costs							**$ 951,548**	
	Annualized Capital Costs						$ 739,860	See Note 4
	Annualized O&M Costs						$ 211,688	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 1,578**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions:

Interest Rate	5%
Period (years)	20

Appendix E - Cost Estimates

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: General Unit Cost Criteria

Estimate Type: Facilities Plan

Date: April 24, 2008
Project Number: 0160-001

Prepared by: ALS
Checked by: RMB
Check Date:

Cost Criteria			
Planning Contingency	25%	of raw construction cost	
Engineering & Construction Mgmt	20%	of total construction cost	
Administration & Legal	10%	of total construction cost	
Unit Costs			
Pipe (installed open cut)	**Unit Cost**	**Units**	**Reference**
Pipe	$ 11.00	$/in dia/LF	Comparison of RW bid results
Pipe Appurtenances			
Meter Vault	$ 2,200	ea	RS Means, 2007
Water Supply Meter	$ 6,050	ea	RS Means, 2007
4" Butterfly Valve with Box	$ 690	ea	RS Means, 2007
Storage			
Above Ground Steel Cylinder Storage Tank	$ 1.20	$/gal	Lancaster Div. St. Bid result, 2006
Pump Stations			
Construction Costs			
Highway Crossing - Trenchless Pipe Construction			
Trenchless construction	$ 20.00	$/in dia/LF	
Trenchless pipe construction: Jacking Pit	$ 30,000	ea	RMC experience with similar projects
Trenchless pipe construction: Receiving Pit	$ 10,000	ea	RMC experience with similar projects
Conversion Factors			
Pump Efficiency	70%		
cf	7.48	gal	
g water	62.43	lb/ft3	
ft*lb	3.8E-07	kWh	
AF	0.32585	MGD	

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Cost Estimate Summary

Date: April 24, 2008
Project Number: 0160-001

Prepared by: ALS
Checked by: RMB
Check Date:

Estimate Type: Planning Study Facilities Plan

Elements	Alternative 1	Alternative 2	Alternative 3
Pipeline	$ 12,772,000	$ 12,794,000	$ 12,217,000
Pump Station	$ 347,000	$ 347,000	$ 347,000
Storage Facility (0.5 MG)	$ 600,000	$ 600,000	$ 600,000
Storage Facility (1.5 MG *financed by RCSD*)	$ 1,800,000	$ 1,800,000	$ 1,800,000
Construction Cost Subtotal	*$ 15,519,000*	*$ 15,541,000*	*$ 14,964,000*
Planning Contingency (25%)	$ 3,880,000	$ 3,885,000	$ 3,741,000
Construction Cost Subtotal	**$ 19,399,000**	**$ 19,426,000**	**$ 18,705,000**
Engr., Const. Mgmt (20%)	$ 3,880,000	$ 3,885,000	$ 3,741,000
Legal, Admin (10%)	$ 1,940,000	$ 1,943,000	$ 1,871,000
Planning Cost Subtotal	*$ 5,820,000*	*$ 5,828,000*	*$ 5,612,000*
Project Total Cost	**$ 25,219,000**	**$ 25,254,000**	**$ 24,317,000**
Total O&M Cost	$ 222,000	$ 223,000	$ 217,000
Annualized Capital Costs	$ 1,789,000	$ 1,792,000	$ 1,725,000
Total Annual Cost	**$ 2,011,000**	**$ 2,015,000**	**$ 1,942,000**
Average Annual Production (AFY)	603	603	603
Cost per AF	**$ 3,335**	**$ 3,342**	**$ 3,221**

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 1 Cost Breakdown

Date: April 24, 2008
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date:

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 12,772,460**	
1	Gaskell Road from Hwy 14 to 60th St. West	12	IN	23,900	FT	$ 132	$ 3,154,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Hwy 14	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of Hwy 14	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd., Hwy 14 crossing (directional drill)	24	IN	1,000	FT	$ 480	$ 480,000	$20/LF-inch for Directional Drill, 48" casing for 24" pipe
	Rosamond Blvd. From Sierra Hwy to 35th St. West	12	IN	8,200	FT	$ 132	$ 1,082,400	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections off Sierra Hwy & Rosamond Blvd.	4	IN	1,600	FT	$ 44	$ 70,400	Based on planning costs of $11/LF-inch for PVC pipe
	Connections 30th St. West to Felsite Rd.	4	IN	5,100	FT	$ 44	$ 224,400	Based on planning costs of $11/LF-inch for PVC pipe
	Connections 30th St. West to Poplar Rd.	4	IN	2,900	FT	$ 44	$ 127,600	Based on planning costs of $11/LF-inch for PVC pipe
4	35th St. West from Rosamond Blvd to Holiday Ave.	6	IN	3,700	FT	$ 66	$ 244,200	Based on planning costs of $11/LF-inch for PVC pipe
	Connections on Holiday Ave	4	IN	4,700	FT	$ 44	$ 206,800	Based on planning costs of $11/LF-inch for PVC pipe
5	Rosamond Blvd. from 35th St. West to 60th St. West	12	IN	13,300	FT	$ 132	$ 1,755,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections from Rosamond Blvd.	4	IN	6,600	FT	$ 44	$ 290,400	Based on planning costs of $11/LF-inch for PVC pipe
6	Mojave Tropico Rd. to Recycled Water Tank	12	IN	11,300	FT	$ 132	$ 1,491,600	Based on planning costs of $11/LF-inch for PVC pipe
7	Mojave Tropico Rd. to Favorito Rd.	8	IN	7,730	FT	$ 88	$ 680,240	Based on planning costs of $11/LF-inch for PVC pipe
	Mojave Tropico Rd. to Favorito Rd.	12	IN	12,700	FT	$ 132	$ 1,676,400	Based on planning costs of $11/LF-inch for PVC pipe
	Directional Drill - Jacking Pit			1	EA	$ 30,000	$ 30,000	Based on RMC experience
	Directional Drill - Receiving Pit			1	EA	$ 10,000	$ 10,000	Based on RMC experience
	Meter Vault			23	EA	$ 2,200	$ 50,600	Costs Per RS Means 2007
	Water Supply Meter			23	EA	$ 6,050	$ 139,150	Costs Per RS Means 2007
	4" Butterfly Valve with Box			23	EA	$ 690	$ 15,870	Costs Per RS Means 2007
	Customer Retrofits			6	EA	$ 5,000	$ 30,000	(RMC, 2006)
Pump Station								
	Booster Station	100	HP	1	EA	$ 347,000	$ 347,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility								
	Steel RW Storage Tank	0.5	MG	1	EA	$ 600,000	$ 600,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
	Steel RW Storage Tank *(increase capacity financed by RCSD)*	1.5	MG	1	EA	$ 1,800,000	$ 1,800,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
						Raw Consruction Cost	**$ 15,519,000**	
Contingencies								
	Planning Contingency			25%			$ 3,880,000	
						Construction Cost Subtotal	**$ 19,399,000**	
Implementation Costs								
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$ 3,880,000	Percentage of Construction Costs
	Legal & Administration			10%			$ 1,940,000	Percentage of Construction Costs
						Project Cost Total	**$ 25,219,000**	
O&M Costs							**$ 222,000**	
	Pipeline O&M			1%			$ 127,725	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
	Pump Station O&M			15%			$ 52,050	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,940	See Note 2
	Tank Protective Coating			12%			$ 10,800	See Note 3
	Tank Cathodic Protection			2%			$ 1,800	See Note 3
Annualized Costs							**$ 2,011,000**	
	Annualized Capital Costs						$ 1,789,000	See Note 4
	Annualized O&M Costs						$ 222,000	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 3,335**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions: Interest Rate 5%
   Period (years) 25

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 2 Cost Breakdown

Date: April 24, 2008
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date:

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 12,793,660**	
1	Gaskell Road from Hwy 14 to 60th St. West	12	IN	23,900	FT	$ 132	$ 3,154,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	3,200	FT	$ 44	$ 140,800	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of SIerra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd. From Hwy 14 to 35th St. West	4	IN	3,300	FT	$ 44	$ 145,200	Based on planning costs of $11/LF-inch for PVC pipe
4	30th St. West from Gaskell to Rosamond Blvd	12	IN	10,600	FT	$ 132	$ 1,399,200	Based on planning costs of $11/LF-inch for PVC pipe
	Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
5	Holiday Ave. from 30th St. West to 60th St. West	6	IN	2,700	FT	$ 66	$ 178,200	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections to West Park	4	IN	4,700	FT	$ 44	$ 206,800	Based on planning costs of $11/LF-inch for PVC pipe
6	30th St. West north of Rosamond Blvd.	4	IN	7,800	FT	$ 44	$ 343,200	Based on planning costs of $11/LF-inch for PVC pipe
7	Rosamond Blvd from 30th St. West to 60th St. West	12	IN	15,900	FT	$ 132	$ 2,098,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
8	Mojave Tropico Rd. to Recycled Water Tank	12	IN	11,300	FT	$ 132	$ 1,491,600	Based on planning costs of $11/LF-inch for PVC pipe
9	Mojave Tropico Rd. to Favorito Rd.	8	IN	7,730	FT	$ 88	$ 680,240	Based on planning costs of $11/LF-inch for PVC pipe
	Mojave Tropico Rd. to Favorito Rd.	12	IN	12,700	FT	$ 132	$ 1,676,400	Based on planning costs of $11/LF-inch for PVC pipe
	Meter Vault			23	EA	$ 2,200	$ 50,600	Costs Per RS Means 2007
	Water Supply Meter			23	EA	$ 6,050	$ 139,150	Costs Per RS Means 2007
	4" Butterfly Valve with Box			23	EA	$ 690	$ 15,870	Costs Per RS Means 2007
	Customer Retrofits			6	EA	$ 5,000	$ 30,000	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Pump Station								
	Booster Station	100	HP	1	EA	$ 347,000	$ 347,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility								
	Steel RW Storage Tank	0.5	MG	1	EA	$ 600,000	$ 600,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
	Steel RW Storage Tank *(increase capacity financed by RCSD)*	1.5	MG	1	EA	$ 1,800,000	$ 1,800,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
						Raw Construction Cost	**$ 15,541,000**	
Contingencies								
	Planning Contingency			25%			$ 3,885,000	
						Construction Cost Subtotal	**$ 19,426,000**	
Implementation Costs								
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$ 3,885,000	Percentage of Construction Costs
	Legal & Administration			10%			$ 1,943,000	Percentage of Construction Costs
						Project Cost Total	**$ 25,254,000**	
O&M Costs							**$ 223,000**	
	Pipeline O&M			1%			$ 127,937	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
	Pump Station O&M			15%			$ 52,050	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,940	See Note 2
	Tank Protective Coating			12%			$ 10,800	See Note 3
	Tank Cathodic Protection			2%			$ 1,800	See Note 3
Annualized Costs							**$ 2,015,000**	
	Annualized Capital Costs						$ 1,792,000	See Note 4
	Annualized O&M Costs						$ 223,000	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 3,342**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions:

Interest Rate	5%
Period (years)	25

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Alternative 3 Cost Breakdown

Date: April 24, 2008
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date:

Element	Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Pipeline							**$ 12,216,820**	
1	Gaskell Road from Hwy 14 to 50th St. West	12	IN	14,800	FT	$ 132	$ 1,953,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
2	Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
	Rosamond Blvd. East of Sierra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
3	Rosamond Blvd. West of Sierra Hwy	4	IN	9,200	FT	$ 44	$ 404,800	Based on planning costs of $11/LF-inch for PVC pipe
	Laterals on Hook and Willow off of Sierra Hwy	4	IN	1,100	FT	$ 44	$ 48,400	Based on planning costs of $11/LF-inch for PVC pipe
4	50th St. West from Gaskell to Astoria	12	IN	7,900	FT	$ 132	$ 1,042,800	Based on planning costs of $11/LF-inch for PVC pipe
5	40th St. West from Gaskell to Astoria	12	IN	8,000	FT	$ 132	$ 1,056,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral from 40th St W to Holiday Ave.	4	IN	2,000	FT	$ 44	$ 88,000	Based on planning costs of $11/LF-inch for PVC pipe
6	Astoria Road from 40th St. West to 50th St. West	12	IN	5,300	FT	$ 132	$ 699,600	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections	4	IN	3,900	FT	$ 44	$ 171,600	Based on planning costs of $11/LF-inch for PVC pipe
7	Astoria Road from 40th St. W to 30th St. W	12	IN	2,700	FT	$ 132	$ 356,400	Based on planning costs of $11/LF-inch for PVC pipe
	Astoria Road from 40th St. W to 30th St. W	10	IN	2,700	FT	$ 110	$ 297,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on 35th St. West	6	IN	2,400	FT	$ 66	$ 158,400	Based on planning costs of $11/LF-inch for PVC pipe
8	30th St West from Astoria Rd to Felsite	10	IN	5,300	FT	$ 110	$ 583,000	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connection on Felsite	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
	Lateral Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
9	Mojave Tropico Rd. to Recycled Water Tank	12	IN	16,200	FT	$ 132	$ 2,138,400	Based on planning costs of $11/LF-inch for PVC pipe
10	Mojave Tropico Rd. to Favorito Rd.	12	IN	12,700	FT	$ 132	$ 1,676,400	Based on planning costs of $11/LF-inch for PVC pipe
	Meter Vault			23	EA	$ 2,200	$ 50,600	Costs Per RS Means 2007
	Water Supply Meter			23	EA	$ 6,050	$ 139,150	Costs Per RS Means 2007
	4" Butterfly Valve with Box			23	EA	$ 690	$ 15,870	Costs Per RS Means 2007
	Customer Retrofits			6	EA	$ 5,000	$ 30,000	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Pump Station								
	Booster Station	150	HP	1	EA	$ 347,000	$ 347,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Storage Facility								
	Steel RW Storage Tank	0.5	MG	1	EA	$ 600,000	$ 600,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
	Steel RW Storage Tank *(increase capacity financed by RCSD)*	1.5	MG	1	EA	$ 1,800,000	$ 1,800,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
						Raw Construction Cost	**$ 14,964,000**	
Contingencies								
	Planning Contingency			25%			$ 3,741,000	
						Construction Cost Subtotal	**$ 18,705,000**	
Implementation Costs								
	Land & Right of Way			N/A				Assume construction within ROW and RCSD property
	Engineering & Construction Management			20%			$3,741,000	Percentage of Construction Cost Subtotal
	Legal & Administration			10%			$1,871,000	Percentage of Construction Cost Subtotal
						Project Cost Total	**$ 24,317,000**	
O&M Costs							**$ 217,000**	
	Pipeline O&M			1%			$ 122,168	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
	Pump Station O&M			15%			$ 52,050	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
	Pump Station Replacement			1	EA		$ 6,940	See Note 2
	Tank Protective Coating			12%			$ 10,800	See Note 3
	Tank Cathodic Protection			2%			$ 1,800	See Note 3
Annualized Costs							**$ 1,942,000**	
	Annualized Capital Costs						$ 1,725,000	See Note 4
	Annualized O&M Costs						$ 217,000	See Note 4
	Total Demand Served			603	AFY			
Total Project Unit Cost				**$/AF**			**$ 3,221**	

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions: Interest Rate 5%
   Period (years) 25

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Cost Estimate by Project

Date: April 24, 2008
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date:

Estimate Type: Facilities Plan

Elements	Project 1	Project 2	Project 3	Project 4	Total
Pipeline	$ 6,771,000	$ 2,031,000	$ 1,702,000	$ 1,676,000	$ 12,180,000
Pump Station	$ 343,000				$ 343,000
Storage Facility (0.5 MG)	$ 600,000				$ 600,000
Storage Facility (1.5 MG *financed by RCSD*)	$ 1,800,000				
Construction Cost Subtotal	*$ 9,514,000*	*$ 2,031,000*	*$ 1,702,000*	*$ 1,676,000*	$ 14,923,000
Planning Contingency (25%)	$ 2,379,000	$ 508,000	$ 426,000	$ 419,000	$ 3,732,000
Construction Cost Subtotal	**$ 11,893,000**	**$ 2,539,000**	**$ 2,128,000**	**$ 2,095,000**	**$ 18,655,000**
Engr., Const. Mgmt (20%)	$ 2,379,000	$ 508,000	$ 426,000	$ 419,000	$ 3,732,000
Legal, Admin (10%)	$ 1,189,000	$ 254,000	$ 213,000	$ 210,000	$ 1,866,000
Planning Cost Subtotal	*$ 3,568,000*	*$ 762,000*	*$ 639,000*	*$ 629,000*	$ 5,598,000
Project Total Cost	**$ 15,461,000**	**$ 3,301,000**	**$ 2,767,000**	**$ 2,724,000**	**$ 24,253,000**
Total O&M Cost	$ 153,000	$ 20,000	$ 17,000	$ 17,000	$ 207,000
Annualized Capital Costs	$ 1,097,000	$ 234,000	$ 196,000	$ 193,000	$ 1,720,000
Total Annual Cost	**$ 1,250,000**	**$ 254,000**	**$ 213,000**	**$ 210,000**	**$ 1,927,000**
Average Annual Production (AFY)	98	198	291	16	603
Cost per AF	$12,703	$1,284	$732	$13,548	$3,197

Interest Rate	5%
Period (years)	25

Project: Rosamond CSD Recycled Water Facilities Plan

Aspect: Phased Projects Cost Breakdown

Date: April 24, 2008
Project Number: 0160-001
Prepared by: ALS
Checked by: RMB
Check Date:

Item	Size	Units	Quantity	Unit	Unit Cost	Total Cost	Notes
Project 1 - 2009-2012							
Rosamond Blvd. West of Sierra Hwy	4	IN	9,200	FT	$ 44	$ 404,800	Based on planning costs of $11/LF-inch for PVC pipe
Gaskell Road from Hwy 14 to 50th St. West	12	IN	14,800	FT	$ 132	$ 1,953,600	Based on planning costs of $11/LF-inch for PVC pipe
50th St. West from Gaskell to Astoria	12	IN	7,900	FT	$ 132	$ 1,042,800	Based on planning costs of $11/LF-inch for PVC pipe
40th St. West from Gaskell to Astoria	12	IN	8,000	FT	$ 132	$ 1,056,000	Based on planning costs of $11/LF-inch for PVC pipe
Lateral from 40th St W to Holiday Ave.	4	IN	2,000	FT	$ 44	$ 88,000	Based on planning costs of $11/LF-inch for PVC pipe
Mojave Tropico Rd. to Recycled Water Tank	12	IN	16,200	FT	$ 132	$ 2,138,400	Based on planning costs of $11/LF-inch for PVC pipe
Gate Valve			3	EA	$ 2,250	$ 6,750	Costs Per RS Means 2007
12" x 12" Tapping Cross			1	EA	$ 2,075	$ 2,075	Costs Per RS Means 2007
Customer Retrofits			5	EA	$ 5,000	$ 25,000	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Meter Vault			6	EA	$ 2,200	$ 13,200	Costs Per RS Means 2007
Water Supply Meter			6	EA	$ 6,050	$ 36,300	Costs Per RS Means 2007
4" Butterfly Valve with Box			6	EA	$ 690	$ 4,140	Costs Per RS Means 2007
Booster Pump Station	100	HP	1	EA	$ 343,000	$ 343,000	Extrapolation from Pumping Station Design by Robert L. Sanks, Figure 29-3
Steel RW Storage Tank	0.5	MG	1	EA	$ 600,000	$ 600,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
Steel RW Storage Tank *(increase capacity financed by RCSD)*	1.5	MG	1	EA	$ 1,800,000	$ 1,800,000	Based on $1.20/gallon from Lancaster Division Street Recycled Water Distribution System Bid Results (April, 2006)
Subtotal Project 1						*$ 9,514,065*	
Project 2 - 2013-2015							
Astoria Road from 40th St. West to 50th St. West	12	IN	5,300	FT	$ 132	$ 699,600	Based on planning costs of $11/LF-inch for PVC pipe
Lateral Connections	4	IN	3,900	FT	$ 44	$ 171,600	Based on planning costs of $11/LF-inch for PVC pipe
Astoria Road from 40th St. W to 30th St. W	12	IN	2,700	FT	$ 132	$ 356,400	Based on planning costs of $11/LF-inch for PVC pipe
Astoria Road from 40th St. W to 30th St. W	10	IN	2,700	FT	$ 110	$ 297,000	Based on planning costs of $11/LF-inch for PVC pipe
Lateral Connections on 35th St. West	6	IN	2,400	FT	$ 66	$ 158,400	Based on planning costs of $11/LF-inch for PVC pipe
Laterals on Hook and Willow off of Sierra Hwy	4	IN	1,100	FT	$ 44	$ 48,400	Based on planning costs of $11/LF-inch for PVC pipe
Lateral Connections on 30th St W and 25th St W.	4	IN	6,000	FT	$ 44	$ 264,000	Based on planning costs of $11/LF-inch for PVC pipe
Meter Vault			4	EA	$ 2,200	$ 8,800	Costs Per RS Means 2007
Water Supply Meter			4	EA	$ 6,050	$ 24,200	Costs Per RS Means 2007
4" Butterfly Valve with Box			4	EA	$ 690	$ 2,760	Costs Per RS Means 2007
Subtotal Project 2						*$ 2,031,160*	
Project 3 - 2016-2019							
30th St West from Astoria Rd to Felsite	10	IN	5,300	FT	$ 110	$ 583,000	Based on planning costs of $11/LF-inch for PVC pipe
Lateral Connection on Felsite	4	IN	5,200	FT	$ 44	$ 228,800	Based on planning costs of $11/LF-inch for PVC pipe
Lateral Connections on Poplar Ave.	4	IN	1,500	FT	$ 44	$ 66,000	Based on planning costs of $11/LF-inch for PVC pipe
Rosamond Blvd. East of Sierra Hwy	12	IN	4,200	FT	$ 132	$ 554,400	Based on planning costs of $11/LF-inch for PVC pipe
Rosamond Blvd. East of Sierra Hwy	4	IN	4,400	FT	$ 44	$ 193,600	Based on planning costs of $11/LF-inch for PVC pipe
Customer Retrofits			1	EA	$ 5,000	$ 5,000	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Meter Vault			8	EA	$ 2,200	$ 17,600	Costs Per RS Means 2007
Water Supply Meter			8	EA	$ 6,050	$ 48,400	Costs Per RS Means 2007
4" Butterfly Valve with Box			8	EA	$ 690	$ 5,520	Costs Per RS Means 2007
Subtotal Project 3						*$ 1,702,320*	
Project 4 - 2020-2023							
Mojave Tropico Rd. to Favorito Rd.	12	IN	12,700	FT	$ 132	$ 1,676,400	Based on planning costs of $11/LF-inch for PVC pipe
Subtotal Project 4						*$ 1,676,400*	
O&M Costs						**$ 153,000**	
Project 1							
Pipeline O&M			1%			$ 67,711	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Pump Station Power			153,221	kWh	$ 0.15	$ 22,983	See Note 1
Pump Station O&M			15%			$ 51,450	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Pump Station Replacement			1	EA		$ 6,860	See Note 2
Tank Protective Coating			12%			$ 3,600	See Note 3
Tank Cathodic Protection			2%			$ 600	See Note 3
Project 2							
Pipeline O&M			1%			$ 20,312	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Project 3							
Pipeline O&M			1%			$ 17,023	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)
Project 4							
Pipeline O&M			1%			$ 16,764	Based on City of Lancaster Recycled Water Master Plan (RMC, 2006)

Notes:

1. Pump station power developed based on assumed operation 15 hr/day every day during months April through September and 15 hrs every other day during the months of October to March. Based on the Eto data, there is year round irrigation demand. This does not include the power costs of the RWTF pump station.
2. Pump station equipment will be replaced every 20 years. It is assumed the pump station structure will not need replacement. Cost is estimated as 40% of total pump station installation cost.
3. The protective coating and cathodic protection should be done every 20 years. Costs based on West Sacramento Treated Water Storage Analysis (WY&A, 2003) and a tank design life of 20 years.
4. Annualized costs developed based on the following assumptions: Interest Rate 5%
   Period (years) 25

Appendix F - Recycled Water User Schedule

Water Recycling Funding Program
Rosamond Community Services District
Rosamond Recycled Water Facilties Plan
WRFP No. 3609 - 010

Item No.	Use Site Name	Site Address	Estimated Usage (AFY)[1]	Type of Use[2]	Status of Use Site Development: Existing or Future[3]	Project	Projected Connection Date	User Assurance Type[4]	Retrofit Required Yes/No	Current Retail Fresh Water Supplier
Project I										
1	Rosamond Park	GLENDOWER & ROSEWOOD	29.7	Landscape Irrigation	Existing	1	2010	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
2	West Park	40TH ST. WEST & WESTPARK DR.	16.6	Landscape Irrigation	Existing	1	2012	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
3	Rosamonf Elem./ Alt HS	GLENDOWER & ROSAMOND	21.4	Landscape Irrigation	Existing	1	2010	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
5	Westpark Elementary	35TH ST WEST & HOLIDAY	24.8	Landscape Irrigation	Existing	1	2012	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
6	Tropico Middle School	MOJAVE TROPICO & ROSAMOND	5.9	Landscape Irrigation	Existing	1	2011	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
Project II										
8	Park #4	STETSON AVE. & 47TH ST WEST	13.0	Landscape Irrigation	Future	2	2015	RCSD Mandatory Use Ordinance	No	Rosamond CSD
11	Park #7	20TH ST WEST & HOOK AVE.	31.1	Landscape Irrigation	Future	2	2010	RCSD Mandatory Use Ordinance	No	Rosamond CSD
15	Park #11	SIERRA HWY. & WILLOW AVE.	15.5	Landscape Irrigation	Future	2	2015	RCSD Mandatory Use Ordinance	No	Rosamond CSD
16	Park #12	35TH ST. WEST & HOWARD AVE.	15.5	Landscape Irrigation	Future	2	2015	RCSD Mandatory Use Ordinance	No	Rosamond CSD
17	Park #13	30TH ST. WEST AND WILLOW	25.8	Landscape Irrigation	Future	2	2012	RCSD Mandatory Use Ordinance	No	Rosamond CSD
20	Park #16	35TH ST. WEST & POPLAR AVE.	31.1	Landscape Irrigation	Future	2	2012	RCSD Mandatory Use Ordinance	No	Rosamond CSD
21	Park #17	47TH ST. WEST & ASTORIA AVE.	22.4	Landscape Irrigation	Future	2	2014	RCSD Mandatory Use Ordinance	No	Rosamond CSD
22	Community Park	25TH ST. WEST & WILLOW AVE.	33.1	Landscape Irrigation	Future	2	2010	RCSD Mandatory Use Ordinance	No	Rosamond CSD
23	Trail Network	BETWEEN 30TH ST. W & 50TH ST. W	10.3	Landscape Irrigation	Future	2	2012	RCSD Mandatory Use Ordinance	No	Rosamond CSD
Project III										
4	Hamilton Elem / Rosamond HS	30TH ST. WEST & ROSAMOND	47.3	Landscape Irrigation	Existing	3	2014	RCSD Mandatory Use Ordinance	Yes	Rosamond CSD
7	Park #3	NEAR 25TH ST. WEST & FELSITE	31.1	Landscape Irrigation	Future	3	2014	RCSD Mandatory Use Ordinance	No	Rosamond CSD
9	Park #5	FELSITE AVE. & SUNSET RIDGE	18.6	Landscape Irrigation	Future	3	2013	RCSD Mandatory Use Ordinance	No	Rosamond CSD
12	Park #8	ROSAMOND & SIERRA HWY.	31.1	Landscape Irrigation	Future	3	2014	RCSD Mandatory Use Ordinance	No	Rosamond CSD
13	Park #9	15TH ST. WEST & HOOK AVE.	31.1	Landscape Irrigation	Future	3	2014	RCSD Mandatory Use Ordinance	No	Rosamond CSD
14	Park #10	10TH ST. WEST & CENTER ST.	15.5	Landscape Irrigation	Future	3	2014	RCSD Mandatory Use Ordinance	No	Rosamond CSD
18	Park #14	25TH ST. WEST & POPLAR AVE.	15.5	Landscape Irrigation	Future	3	2015	RCSD Mandatory Use Ordinance	No	Rosamond CSD
19	Park #15	30TH ST. WEST & POPLAR AVE.	15.5	Landscape Irrigation	Future	3	2013	RCSD Mandatory Use Ordinance	No	Rosamond CSD
24	Construction Dust Control	various	85.0	Dust Control	Future	3	2012	RCSD Mandatory Use Ordinance	No	Rosamond CSD
Project IV										
10	Park #6	FAVORITO AVE. & WERNER AVE.	15.5	Landscape Irrigation	Future	4	2015	RCSD Mandatory Use Ordinance	No	Rosamond CSD
			602.4							

[1] Average Annual Deliveries
[2] Ag Irrigation, Landscape Irrigation, Industrial Use, Ground Water Recharge, Etc.
[3] E = Use Site exists and currently uses fresh water
D = Use site under development and will be ready to take water upon completion of construction of water recycling project
F = Use site will not be developed to take water until after completion of construction of water recycling project
[4] Mandatory Use Ordinance, User Contract

Appendix G - Draft Recycled Water Use Ordinance

ORDINANCE NO. 841

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LANCASTER, CALIFORNIA, ADDING CHAPTER 13.24 TO THE LANCASTER MUNICIPAL CODE ESTABLISHING A WATER RECYCLING MASTER PLAN AND IMPLEMENTING PROCEDURES

WHEREAS, the people of the state of California have a primary interest in the development of facilities to recycle water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the state (California Water Code, Section 13510); and

WHEREAS, conservation of all available water resources requires the maximum reuse of wastewater for beneficial uses of water (Water Code Section 461); and

WHEREAS, continued use of potable water for irrigation of greenbelt areas and other non-potable uses may be an unreasonable use of such water where recycled water is available;

THE CITY COUNCIL OF THE CITY OF LANCASTER, CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Chapter 13.24 is hereby added to the Lancaster Municipal Code to read as follows:

Section 13.24.010 FINDINGS

The state policies described above are in the best interest of the City of Lancaster. This ordinance is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. The City of Lancaster is highly dependent on limited imported water for domestic, agricultural and industrial uses. The reliability of the supply of imported water is uncertain. By developing and utilizing recycled water, the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water may be considered unreasonable where recycled water is available. Recycled water should be more readily available in seasons of drought when the supply of potable water for nonessential uses may be uncertain.

Section 13.24.020 WATER RECYCLING POLICY

It is the policy of the City of Lancaster that recycled water determined to be available pursuant to Section 13550 of the Water Code shall be used for nonpotable uses within the designated Recycled Water Use Areas set forth by the City of Lancaster wherever there is not an alternative higher or better use for the recycled water, its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

Section 13.240.030 DEFINITIONS

The following terms are defined for purposes of this ordinance:

A. AGRICULTURAL PURPOSES: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.

B. ARTIFICIAL LAKE: A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or noncontact recreational purposes.

C. COMMERCIAL OFFICE BUILDING: Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

D. RECYCLED WATER DISTRIBUTION SYSTEM: A piping system intended for the delivery of recycled water only and which is separate from any potable water distribution system.

E. GREENBELT AREAS: A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping.

F. INDUSTRIAL PROCESS WATER: Water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated by the industrial waste discharge ordinance of the City of Lancaster.

G. OFF-SITE FACILITIES: Water facilities from the source of supply to the point of connection with the on-site facilities, including the water meter.

H. ON-SITE FACILITIES: Water facilities under the control of the owner, downstream from the water meter.

I. POTABLE WATER: Water which conforms to the federal, state and local standards for human consumption.

J. PUBLIC WORKS DIRECTOR: Public Works Director shall mean the Director of the City of Lancaster's Public Works Department or his designated representatives.

K. RECYCLED WATER: Recycled water means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or controlled use that would not otherwise occur. (See Water Code Section 13050(n).)

Section 13.24.040 WATER RECYCLING MASTER PLAN

A. GENERAL: Upon adoption of this ordinance, the City of Lancaster shall prepare and adopt a Water Recycling Master Plan to define, encourage, and develop the use of recycled water within its boundaries. The Master Plan shall be periodically updated.

B. CONTENTS OF THE WATER RECYCLING MASTER PLAN: The Master Plan shall include, but not be limited to, the following:

1. PLANTS AND FACILITIES. An evaluation of the location and size of present and future reclamation treatment plants, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.

2. RECYCLED WATER SERVICE AREAS. A designation, based on the criteria set forth in Section 2 and the information derived from Section 13.24.040(B)(1) and 13.24.040(B)(2), of the areas within the boundaries of the City of Lancaster that can or may in the future, use recycled water in lieu of potable water. Recycled water uses may include, but are not limited to, the irrigation of greenbelt, school grounds, and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

3. MANDATORY RECYCLED WATER USE. For each recycled water service area, evaluate whether greenbelt irrigation, school ground irrigation, agricultural irrigation, commercial office buildings, filling of artificial lakes, or industrial processes shall be limited to the use of recycled water. As appropriate, mandate construction of recycled water distribution systems or other facilities in new and existing developments for current or future recycled water use as a condition of any development approval or continued water service if future water recycling facilities are proposed in the Master Plan that could adequately serve the development, in accordance with the procedures described in Section 13.24.050.

4. RULES AND REGULATIONS. General rules and regulations governing the use and distribution of recycled water shall be kept on file with the City Clerk and be available for review by any member of the public.

Section 13.24.050 PROCEDURES

A. EXISTING POTABLE WATER SERVICE:

1. PRELIMINARY DETERMINATION. Based upon the Master Plan, upon the designation of each recycled water service area or the commencement of the design of new recycled water facilities, the Public Works Director shall make preliminary determinations as to which existing potable water customers shall be converted to the use of recycled water. Each water customer shall be notified of the basis for a determination that conversion to recycled water service will be required, as well as the proposed conditions and schedule for conversion.

2. NOTICE. The notice of the preliminary determination, including the proposed conditions and time schedule for compliance, and a recycled water permit application shall be provided to the water customer.

3. OBJECTIONS; APPEALS. The water customer may file a notice of objection with the within (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion. The objection must be in writing and specify the reasons for the objection. The preliminary determination shall be final if the customer does not file a timely objection. The Public Works Director shall review the objection and shall confirm, modify or abandon the preliminary determination. Upon issuance of a final determination by the Public Works Director, customer may appeal the determination to the City Council in accordance with the Uniform Appeal Procedure set forth in Chapter 2.44 of the Lancaster Municipal Code.

B. DEVELOPMENT AND WATER SERVICE APPROVALS:

1. CONDITIONS. Upon application by a developer, owner or water customer (herein referred to as "applicant") for a new industrial, commercial, or residential subdivisions located within the designated Recycled Water Use Areas for which a tentative map or parcel map is required pursuant to Government Code Section 66426, the Public Works Director shall review the Master Plan and make a preliminary determination whether the current or proposed use of the subject property is required to be served with recycled water or to include facilities designed to accommodate the use of recycled water in the future. Based upon such determination, use of recycled water and provision of recycled water distribution systems or other facilities for the use of recycled water, and application for a permit for such use may be required as a condition of approval of any such application, in addition to any other conditions of approval.

2. ALTERATIONS AND REMODELING. On a case by case basis, upon application for a permit for the alteration or remodeling of multi-family, commercial or industrial structures (including, for example, commercial office buildings), the Public Works Director shall review the Master Plan and make a preliminary determination whether the subject property shall be required to be served with recycled water or to include facilities designed to accommodate the use of recycled water in the future. Based upon such determination, use of recycled water and provision of recycled water distribution systems or other facilities for the use of recycled water, and application for a permit for such use, may be required as a condition of approval of the application.

3. NOTICE OF DETERMINATION. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant prior to approval of the development application.

4. REQUESTED SERVICE. On a case by case basis, upon application for a permit to use recycled water on a property not covered by sub-sections A(1), B(1), or B(2) above, the Public Works Director shall review the Master Plan and make a determination whether the subject property shall be served with recycled water. Based upon such determination, the application for the permit shall be accepted and processed subject to Section C below.

C. RECYCLED WATER PERMIT PROCESS: Upon a final determination by the Public Works Director that a property shall be served with recycled water, or adoption of a condition of development approval requiring use or accommodation of the use of recycled water, the water customer, owner or applicant shall obtain a recycled water permit.

1. PERMIT CONDITIONS. The permit shall specify the design and operational requirements for the applicant's water distribution facilities and schedule for compliance, based on the rules and regulations adopted pursuant to Section 13.24.040(B) and shall require compliance with both the California Department of Health Services Wastewater Recycling Criteria (see California Code of Administrative Regulations, Title 22), and requirements of the Regional Water Quality Control Board.

2. PLAN APPROVAL. Plans for the recycled and non recycled water distribution systems for the parcel shall be reviewed by the Public Works Director and a field inspection conducted before the permit is granted.

3. PERMIT ISSUANCE. Upon approval of plans the permit shall be issued. Recycled water shall not be supplied to a property until inspection by the Public Works Director determines that the applicant is in compliance with the permit conditions. Recycled water service shall not commence within the designated Recycled Water Use Area in any service area of a private utility, as defined in Section 1502 of the Public Utilities Code, or to any service area of a public agency retail water supplier that is not a city, county or city and county, except in accordance with a written agreement between the recycled water producer and the private utility or public agency retail water supplier.

D. TEMPORARY USE OF POTABLE WATER: At the discretion of the Public Works Director, potable water may be made available on a temporary basis, until recycled water is available. Before the applicant receives temporary potable water, a water recycling permit, as described in Section 5.3, must be obtained for new on-site distribution facilities. Prior to commencement of recycled water service, an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the recycled water permit and current requirements for service. Upon verification of compliance, recycled water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have at least thirty (30) days to take such actions prior to initiation of enforcement proceedings.

E. RECYCLED WATER RATE: The rate charged for recycled water shall be established by resolution of the City Council. Annually water rates shall be adjusted for inflationary factors using the Los Angeles Area Consumer Price Index (CPI) as published by the U.S. Department of Labor.

Section 13.24.060 SANCTIONS

A. PUBLIC NUISANCE: Discharge of wastes or the use of recycled water in any manner in violation of this ordinance or of any permit issued hereunder is hereby declared a public nuisance and shall be corrected or abated as directed by the Public Works Director. Any person creating such a public nuisance is guilty of a misdemeanor.

B. INJUNCTION: Whenever a discharge of wastes or use of recycled water is in violation of this ordinance or otherwise causes or threatens to cause a condition of nuisance, the Public Works Director may seek injunctive relief as may be appropriate to enjoin such discharge or use.

C. PERMIT REVOCATION: In addition to any other statute or rule authorizing termination of water service, the Public Works Director may revoke a permit issued hereunder if a violation of any provision of this ordinance is found to exist or if a discharge of wastes or use of recycled water causes or threatens to cause a nuisance.

D. PENALTY: Any owner and/or operator who violates this ordinance shall, for each day of violation, or portion thereof, be subject to a fine not exceeding $1,000. In addition, water service to the property may be discontinued.

Section 13.24.070 VALIDITY

If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the ordinance and the application of such provisions to other persons or circumstances shall not be affected thereby.

Section 2 Certification. The City Clerk shall certify to the passage of this Ordinance and will see that it is published and posted in the manner required by law.

Section 3. Effective Date. This Ordinance shall take effect thirty (30) days after its adoption.

I, Geri K. Bryan, CMC, City Clerk of the City of Lancaster, do hereby certify that the foregoing ordinance was regularly introduced and placed upon its first reading on the 22nd day of February, 2005, and placed upon its second reading and adoption at a regular meeting of the City Council on the 8th day of March, 2005 by the following vote:

AYES: Council Members: Jeffra, Sileo, Visokey, Vice-Mayor Hearns

NOES: None

ABSTAIN: None

ABSENT: Mayor Roberts

ATTEST:

GERI K. BRYAN
City Clerk
City of Lancaster

APPROVED:

HENRY W. HEARNS
Vice Mayor
City of Lancaster

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF LANCASTER)

CERTIFICATION OF ORDINANCE
CITY COUNCIL

I, _____, _____ City of Lancaster, CA, do hereby certify that this is a true and correct copy of the original Ordinance No. 841, for which the original is on file in my office.

WITNESS MY HAND AND THE SEAL OF THE CITY OF LANCASTER, on this _____ day of _____, _____.

(seal)

_____

Appendix H - Construction Financing Plan Cash Flow Projections

APPENDIX H - ROSAMOND CSD RECYCLED WATER FACILITIES PLAN
CASH FLOW PROJECTION (80% POTABLE RATE WITH CONNECTION FEES)

	TOTALS	Project 1				Project 2			Project 3			Project 4		
		Design	Construction			Design	Construction		Design	Construction		Design	Construction	
Calendar Year		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
COSTS														
Capital Costs (Escalated to Construction Mid-Point)														
Project 1	$ 15,461,000													
Project 2	$ 3,301,000													
Project 3	$ 2,767,000													
Project 4	$ 2,724,000													
Total Project Capital Costs	**$ 28,075,915**	**$ 1,237,080**	**$ 4,947,453**	**$ 4,947,453**	**$ 4,947,453**	**$ 309,030**	**$ 1,853,571**	**$ 1,853,571**	**$ 291,505**	**$ 1,747,663**	**$ 1,747,663**	**$ 322,516**	**$ 1,935,479**	**$ 1,935,479**
Capital Costs to be Financed	**$ 24,253,000**	**$ 357,080**	**$ 4,947,453**	**$ 4,947,453**	**$ 4,947,453**	**$ 309,030**	**$ 1,853,571**	**$ 1,853,571**	**$ 291,505**	**$ 1,747,663**	**$ 1,747,663**	**$ 322,516**	**$ 1,935,479**	**$ 1,935,479**
Capital Financed by Phase		$ 15,199,440				$ 4,016,171			$ 3,786,831			$ 4,193,473		
Operations and Maintenance (Inflation adjusted @ 4%)														
Project 1	$ 10,685,664					$ 201,964	$ 210,000	$ 218,400	$ 227,100	$ 236,200	$ 245,600	$ 255,400	$ 265,600	$ 276,200
Project 2	$ 1,213,071								$ 27,371	$ 28,500	$ 29,600	$ 30,800	$ 32,000	$ 33,300
Project 3	$ 956,671											$ 26,171	$ 27,200	$ 28,300
Project 4	$ 875,038													
Debt Service														
Project 1	$ 22,374,000					$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700
Project 2	$ 5,912,000								$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600
Project 3	$ 5,574,000											$ 278,700	$ 278,700	$ 278,700
Project 4	$ 6,172,000													
Debt Service Reserve (@ 10%)	$ 4,003,200					$ 111,870	$ 111,870	$ 111,870	$ 141,430	$ 141,430	$ 141,430	$ 169,300	$ 169,300	$ 169,300
Total Annualized Costs	**$ 57,766,000**					**$ 1,433,000**	**$ 1,441,000**	**$ 1,449,000**	**$ 1,810,000**	**$ 1,820,000**	**$ 1,831,000**	**$ 2,175,000**	**$ 2,187,000**	**$ 2,200,000**
Recycled Water Used by Customers (hcf)	6,535,307					42,689	42,689	42,689	128,938	128,938	128,938	255,697	255,697	255,697
REVENUES														
RCSD Assessment District 3 Funds	$ 880,000	$880,000												
Unit Price of Recycled Water ($/hcf)		(80% of Potable Rate)				$0.74	$0.77	$0.80	$0.83	$0.87	$0.90	$0.94	$0.97	$1.01
Recycled Water Sales	**$ 2,102,258**													
Kern County	$ 506,890					$ 9,570	$ 9,953	$ 10,351	$ 10,765	$ 11,196	$ 11,643	$ 12,109	$ 12,594	$ 13,097
Southern Kern Unified School District	$ 1,595,367					$ 16,788	$ 17,459	$ 18,158	$ 18,884	$ 19,639	$ 20,425	$ 40,527	$ 42,148	$ 43,834
Connection Fees														
Minimum Connection Fees Revenue	$ 55,663,742					$ 1,406,642	$ 1,413,588	$ 1,420,491	$ 1,780,351	$ 1,789,165	$ 1,798,932	$ 2,122,364	$ 2,132,258	$ 2,143,069
Minimum Connection Fees ($/connection)						$8,525	$8,567	$8,609	$10,790	$10,843	$10,903	$12,863	$12,923	$12,988
Recycled Water Revenues	**$ 57,766,000**	**(Recycled Water Sales + Connection Fees)**				**$ 1,433,000**	**$ 1,441,000**	**$ 1,449,000**	**$ 1,810,000**	**$ 1,820,000**	**$ 1,831,000**	**$ 2,175,000**	**$ 2,187,000**	**$ 2,200,000**
Present Value of Minimum Connection Fees ($/connection)						**$7,007**	**$6,771**	**$6,542**	**$7,884**	**$7,618**	**$7,365**	**$8,355**	**$8,072**	**$7,800**

NOTES:
SRF Loan Terms: 2.5% interest, 20 years
Unit Price of recycled water: 20% less than potable rates, inflation adjusted @ 4%
Connection Fee: based on 20-year population increase, approximately 165 new homes built per year

APPENDIX H - ROSAMOND CSD RECYCLED WATER FACILITIES PLAN
CASH FLOW PROJECTION (80% POTABLE RATE WITH CONNECTION FEES)

Calendar Year	TOTALS	Operation 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
COSTS														
Capital Costs (Escalated to Construction Mid-Point)														
Project 1	$ 15,461,000													
Project 2	$ 3,301,000													
Project 3	$ 2,767,000													
Project 4	$ 2,724,000													
Total Project Capital Costs	**$ 28,075,915**													
Capital Costs to be Financed	**$ 24,253,000**													
Capital Financed by Phase														
Operations and Maintenance (Inflation adjusted @ 4%)														
Project 1	$ 10,685,664	$ 287,200	$ 298,700	$ 310,600	$ 323,000	$ 335,900	$ 349,300	$ 363,300	$ 377,800	$ 392,900	$ 408,600	$ 424,900	$ 441,900	$ 459,600
Project 2	$ 1,213,071	$ 34,600	$ 36,000	$ 37,400	$ 38,900	$ 40,500	$ 42,100	$ 43,800	$ 45,600	$ 47,400	$ 49,300	$ 51,300	$ 53,400	$ 55,500
Project 3	$ 956,671	$ 29,400	$ 30,600	$ 31,800	$ 33,100	$ 34,400	$ 35,800	$ 37,200	$ 38,700	$ 40,200	$ 41,800	$ 43,500	$ 45,200	$ 47,000
Project 4	$ 875,038	$ 29,438	$ 30,600	$ 31,800	$ 33,100	$ 34,400	$ 35,800	$ 37,200	$ 38,700	$ 40,200	$ 41,800	$ 43,500	$ 45,200	$ 47,000
Debt Service														
Project 1	$ 22,374,000	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700	$ 1,118,700		
Project 2	$ 5,912,000	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600	$ 295,600
Project 3	$ 5,574,000	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700	$ 278,700
Project 4	$ 6,172,000	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600
Debt Service Reserve (@ 10%)	$ 4,003,200	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 200,160	$ 88,290	$ 88,290
Total Annualized Costs	**$ 57,766,000**	**$ 2,582,000**	**$ 2,598,000**	**$ 2,613,000**	**$ 2,630,000**	**$ 2,647,000**	**$ 2,665,000**	**$ 2,683,000**	**$ 2,703,000**	**$ 2,722,000**	**$ 2,743,000**	**$ 2,765,000**	**$ 1,557,000**	**$ 1,580,000**
Recycled Water Used by Customers (hcf)	6,535,307	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667
REVENUES														
RCSD Assessment District 3 Funds	$ 880,000													
Unit Price of Recycled Water ($/hcf)		$1.05	$1.09	$1.14	$1.18	$1.23	$1.28	$1.33	$1.39	$1.44	$1.50	$1.56	$1.62	$1.69
Recycled Water Sales	**$ 2,102,258**													
Kern County	$ 506,890	$ 13,621	$ 14,166	$ 14,733	$ 15,322	$ 15,935	$ 16,572	$ 17,235	$ 17,925	$ 18,642	$ 19,387	$ 20,163	$ 20,969	$ 21,808
Southern Kern Unified School District	$ 1,595,367	$ 45,587	$ 47,411	$ 49,307	$ 51,280	$ 53,331	$ 55,464	$ 57,683	$ 59,990	$ 62,389	$ 64,885	$ 67,480	$ 70,180	$ 72,987
Connection Fees														
Minimum Connection Fees Revenue	$ 55,663,742	$ 2,522,791	$ 2,536,423	$ 2,548,960	$ 2,563,398	$ 2,577,734	$ 2,592,964	$ 2,608,082	$ 2,625,086	$ 2,640,969	$ 2,658,728	$ 2,677,357	$ 1,465,851	$ 1,485,205
Minimum Connection Fees ($/connection)		$15,290	$15,372	$15,448	$15,536	$15,623	$15,715	$15,807	$15,910	$16,006	$16,114	$16,226	$8,884	$9,001
Recycled Water Revenues	**$ 57,766,000**	**$ 2,582,000**	**$ 2,598,000**	**$ 2,613,000**	**$ 2,630,000**	**$ 2,647,000**	**$ 2,665,000**	**$ 2,683,000**	**$ 2,703,000**	**$ 2,722,000**	**$ 2,743,000**	**$ 2,765,000**	**$ 1,557,000**	**$ 1,580,000**
Present Value of Minimum Connection Fees ($/connection)		**$8,829**	**$8,536**	**$8,248**	**$7,976**	**$7,712**	**$7,459**	**$7,214**	**$6,982**	**$6,754**	**$6,538**	**$6,330**	**$3,333**	**$3,247**

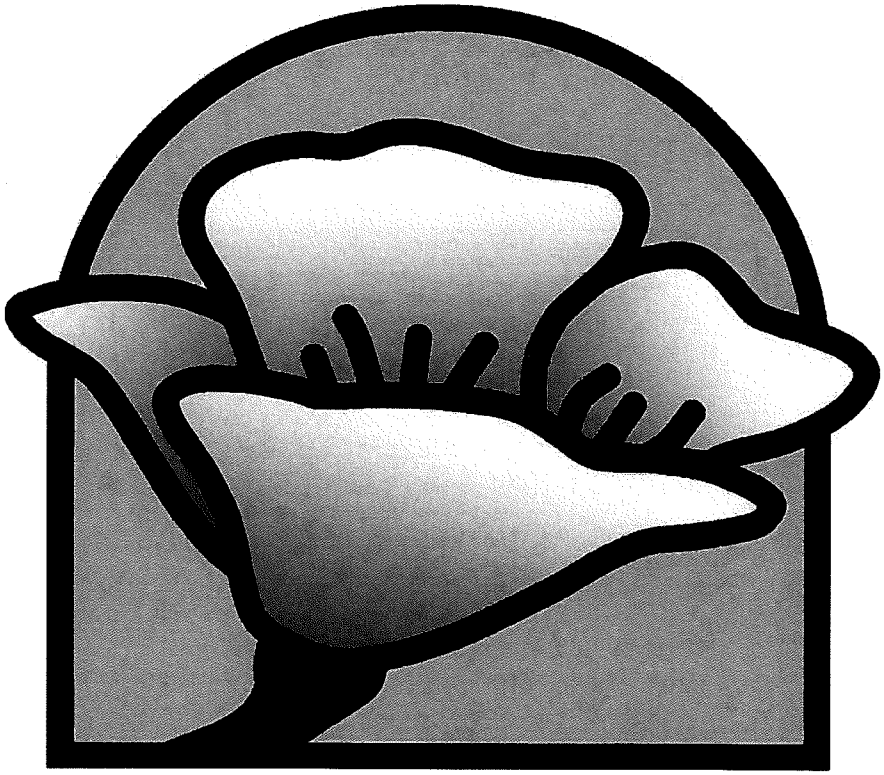
NOTES:
SRF Loan Terms: 2.5% interest, 20 years
Unit Price of recycled water: 20% less than potable rates, inflation ad
Connection Fee: based on 20-year population increase, approximate

APPENDIX H - ROSAMOND CSD RECYCLED WATER FACILITIES PLAN
CASH FLOW PROJECTION (80% POTABLE RATE WITH CONNECTION FEES)

Calendar Year	TOTALS	Operation 2035	2036	2037	2038	2039	2040	2041	2042
COSTS									
Capital Costs (Escalated to Construction Mid-Point)									
Project 1	$ 15,461,000								
Project 2	$ 3,301,000								
Project 3	$ 2,767,000								
Project 4	$ 2,724,000								
Total Project Capital Costs	**$ 28,075,915**								
Capital Costs to be Financed	**$ 24,253,000**								
Capital Financed by Phase									
Operations and Maintenance (Inflation adjusted @ 4%)									
Project 1	$ 10,685,664	$ 478,000	$ 497,100	$ 517,000	$ 537,700	$ 559,200	$ 581,600	$ 604,900	$ 629,100
Project 2	$ 1,213,071	$ 57,700	$ 60,000	$ 62,400	$ 64,900	$ 67,500	$ 70,200	$ 73,000	$ 75,900
Project 3	$ 956,671	$ 48,900	$ 50,900	$ 52,900	$ 55,000	$ 57,200	$ 59,500	$ 61,900	$ 64,400
Project 4	$ 875,038	$ 48,900	$ 50,900	$ 52,900	$ 55,000	$ 57,200	$ 59,500	$ 61,900	$ 64,400
Debt Service									
Project 1	$ 22,374,000								
Project 2	$ 5,912,000	$ 295,600							
Project 3	$ 5,574,000	$ 278,700	$ 278,700	$ 278,700	$ 278,700				
Project 4	$ 6,172,000	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	$ 308,600	
Debt Service Reserve (@ 10%)	$ 4,003,200	$ 88,290	$ 58,730	$ 58,730	$ 58,730	$ 30,860	$ 30,860	$ 30,860	
Total Annualized Costs	**$ 57,766,000**	**$ 1,605,000**	**$ 1,305,000**	**$ 1,331,000**	**$ 1,359,000**	**$ 1,081,000**	**$ 1,110,000**	**$ 1,141,000**	**$ 834,000**
Recycled Water Used by Customers (hcf)	6,535,307	262,667	262,667	262,667	262,667	262,667	262,667	262,667	262,667
REVENUES									
RCSD Assessment District 3 Funds	$ 880,000								
Unit Price of Recycled Water ($/hcf)		$1.75	$1.82	$1.90	$1.97	$2.05	$2.13	$2.22	$2.31
Recycled Water Sales	**$ 2,102,258**								
Kern County	$ 506,890	$ 22,680	$ 23,587	$ 24,531	$ 25,512	$ 26,533	$ 27,594	$ 28,698	$ 29,846
Southern Kern Unified School District	$ 1,595,367	$ 75,906	$ 78,943	$ 82,100	$ 85,384	$ 88,800	$ 92,352	$ 96,046	$ 99,888
Connection Fees									
Minimum Connection Fees Revenue	$ 55,663,742	$ 1,506,413	$ 1,202,470	$ 1,224,369	$ 1,248,103	$ 965,668	$ 990,054	$ 1,016,257	$ 704,267
Minimum Connection Fees ($/connection)		$9,130	$7,288	$7,420	$7,564	$5,853	$6,000	$6,159	$4,268
Recycled Water Revenues	**$ 57,766,000**	**$ 1,605,000**	**$ 1,305,000**	**$ 1,331,000**	**$ 1,359,000**	**$ 1,081,000**	**$ 1,110,000**	**$ 1,141,000**	**$ 834,000**
Present Value of Minimum Connection Fees ($/connection)		**$3,166**	**$2,430**	**$2,379**	**$2,332**	**$1,735**	**$1,710**	**$1,688**	**$1,125**

NOTES:
SRF Loan Terms: 2.5% interest, 20 years
Unit Price of recycled water: 20% less than potable rates, inflation ad
Connection Fee: based on 20-year population increase, approximate

GENERAL PLAN



KERN COUNTY

KERN COUNTY

GENERAL PLAN

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March 13, 2007

SUMMARY OF BOARD OF SUPERVISORS ACTIONS

CASE NUMBER	RESOLUTION NUMBER	DATE ADOPTED	DESCRIPTION
GPA #112, MAP #500	2004-192	JUN 15, 2004	Original adoption of Kern County General Plan
GPA #135, MAP #500	2006-121	APR 25, 2006	Text and zoning consistency matrix amendments
GPA #137, MAP #500	2007-078	MAR 13, 2007	Amendment to Safety Element

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Public Facilities and Services

1.4 PUBLIC FACILITIES AND SERVICES

ASSUMPTIONS: PUBLIC FACILITIES AND SERVICES

As development occurs, the public will demand certain levels of public services and facilities. These levels may, however, vary from region to region within the County. Public funds available to provide such services can be anticipated to be significantly less than adequate to meet all public service needs. As a result, it can be anticipated that there will be an increase in the provision of public facilities through the use of private capital and user fees.

Important segments of the economy temporarily require facilities to dispose of hazardous waste until safer methods are implemented. Waste generators include the oil industry, agriculture, military, and many businesses which generate small volumes of hazardous waste. Hazardous waste disposal facilities in Kern County will be operated as private commercial enterprises under conditional use permits. Although generally referred to as "hazardous", much of the petroleum drilling and production waste is of relatively low toxicity. This is the basis on which these wastes are exempted from federal Resource and Conservation Recovery Act regulations.

It is also assumed that many areas of the County will continue to use individual septic systems for liquid waste disposal due to the absence of community sewage systems.

Vital public facilities and services such as law enforcement (Sheriff), health services, and fire protection will be continued, improved, and expanded where needed.

Educational services and facilities will continue to be provided.

Recreational facilities and parks will continue to be provided by public and private means on an as needed basis.

ISSUES: PUBLIC FACILITIES AND SERVICES

The economical and efficient delivery of public services is one of the main purposes and benefits of effective land use planning. Kern County, as well as numerous special districts, the incorporated cities, and the many school districts within the County, are faced with fiscal constraints and continuing inflationary trends. In some portions of the County, and for some countywide services, the costs of providing the services are exceeding traditional sources of revenue available to finance them. As a result, levels of service are reduced and public facilities are deteriorating.

The new residential, industrial, and commercial land uses indicated on the General Plan map will demand the provision of public services and facilities. In several areas, major public service or facility deficiencies already exist. Projected growth will add to this problem and may create new problems in other areas as well. Locating adequate sites for public facilities will become more difficult as incompatible uses compete for increasingly

limited and expensive sites suitable for public facilities.

Hazardous waste disposal facilities pose substantial environmental threats to soil, groundwater and air quality. Disposal facilities must be justified in terms of beneficial effects for County residents and operated in a manner which ensures environmental safety. Conflicts may exist between the operation of certain disposal facilities as profitable businesses, necessary services for industry, and preservation of natural resources for the common good.

Though the County will continue to provide facilities for solid waste disposal for the residents of Kern County, these facilities will continue to be financed by the implementation of a land use fee and commercial tipping fees.

Many of the County's landfills were converted from burn dumps or established prior to 1979 and are reaching capacity. Solid wastes may need to be transferred long distances to be properly disposed of. Adequate capacity in some areas of the County may pose a problem.

Continued use of individual septic systems may cause an impact on the groundwater quality.

The determination of needed recreational services and facilities should be an ongoing process. The continued funding for the acquisition, development, and maintenance of recreation and parks is questionable.

Because planning and development of recreational facilities is very often accomplished by special districts that develop individual master plans and implementation schedules, it is difficult to properly designate the location of future facilities.

Within these special districts, as facilities are developed, the County will retroactively designate them with the appropriate map code. The development of public or private recreational facilities in map code designations other than Map Code 3.1, if allowed either as a matter of right or by conditional use permit, shall be considered consistent with the intent and purpose of this General Plan.

Because planning and development of educational facilities is often accomplished by various school districts in Kern County which develop individual plans and implementation schedules it is difficult to properly designate the location of future facilities.

The Kern County Zoning Ordinance allows the establishment of public facilities such as parks, schools, libraries, and other similar facilities in various zone classifications upon approval of a conditional use permit (CUP). It is not the intent of this General Plan to require a General Plan amendment as a prerequisite to the approval of such facilities when, as a part of the CUP process findings, of consistency with the goals, policies, and provisions of this General Plan are made by the approving body.

GOALS: PUBLIC FACILITIES AND SERVICES

1. Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

2. Promote an urban growth pattern in areas where adequate public service infrastructure exists or can be provided.

3. Distribute the cost of new services or facilities equitably among the beneficiaries.

4. Provide coordination between public entities to ensure infrastructure standards and equitable fiscal support.

5. Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

6. Provide a healthful and sanitary means of collecting, treating, and disposing of sewage and refuse for the residents and industries of Kern County.

7. Facilitate the provision of reliable and cost effective utility services to residents of Kern County.

8. Provide recreation opportunities for all citizens of Kern County while avoiding duplication between jurisdictions.

9. Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

10. Ensure landfill capacity for Kern County residents and industries.

11. Reduce residential contamination of groundwater by encouraging sanitary sewer systems.

12. Provide a balanced system of parks and recreational facilities to meet Kern County's diverse needs, and clearly define responsibility for the provision of these facilities.

13. Provide a variety of park and recreation programs that offer safe, equitable, and balanced recreation opportunities for all residents and visitors.

MAP PROVISIONS: PUBLIC FACILITIES AND SERVICES

Map Code 3.1 (Parks and Recreation Areas) - Existing public and private recreation facilities and park areas. The purpose of this designation is to provide a wide variety of facilities to serve the many recreational interests of County residents. Permitted uses shall include, but are not limited to, public and private parks containing facilities for day use, hiking, camping, walking, picnicking, riding, and other recreational activities.

Map Code 3.2 (Educational Facilities) - Existing public and private educational facilities. Permitted uses include, but are not limited to, public and private educational facilities of all levels, including higher education institutions, and some recreational facilities, such as neighborhood parks.

Map Code 3.3 (Other Facilities) - Existing facilities used for public or semi-public services. Permitted uses include, but are not limited to, airports, sewer farms, treatment plants, and water spreading areas.

Map Code 3.4 (Solid Waste Disposal Facility) – Existing or planned public, semi-public, or private municipal solid waste facilities, organic waste disposal facilities, and segregated waste stream disposal facilities. (see Appendix E)

Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) – Areas, which are owned by the solid waste disposal facility, within 1,320 feet of a permitted disposal area as defined by the 3.4 Map Code designation (see Appendix E).

Map Code 3.5 (Hazardous Waste Disposal Facilities Land Disposal Method) - Permitted land uses include the primary activity of surface disposal of hazardous waste. There are no compatible uses. This map code applies to land within the facility perimeter.

Two concentric buffer zones extend from the facility perimeter, as illustrated in the Kern County and Incorporated Cities Hazardous Waste Management Plan. The Inner Buffer Zone is shown to extend 2,000 feet from the facility perimeter consistent with current State law. Map Code 8.X, which are various resource designations, will apply to land within this buffer zone. In the Outer Land Use Buffer Zone, which extends to one mile (5,280 feet) from the facility perimeter, all preexisting map code designations will be retained and may be developed as designated. However, no new more intensive land use designations of a sensitive nature will be allowed.

Map Code 3.6 (Hazardous Waste Disposal Facilities Underground Injection Method) - Permitted land uses include a deep injection well for disposal of hazardous wastes as a primary activity. There are no compatible uses. This map code applies to land within the facility perimeter.

Two concentric buffer zones extend from the facility perimeter, as illustrated in the Kern County and Incorporated Cities Hazardous Waste Management Plan. The Inner Buffer Zone is shown to extend 2,000 feet from the facility perimeter consistent with current State law. Map Code 8.x, which are various Resource designations, will apply to land

within this buffer zone. In the Outer Land Use Buffer Zone, which extends to one mile (5,280 feet) from the facility perimeter, all preexisting map code designations will be retained and may be developed as designated. However, no new more intensive land use designations of a sensitive nature will be allowed.

Map Code 3.7 (Other Waste Facilities) – Non-hazardous waste facilities which manage and process various types of waste materials but do not have on-site disposal. Examples include but are not limited to large and medium volume transfer facilities; materials recovery facilities; composting facilities (green waste and biosolids); wood waste (chipping and grinding facilities); tire recycling; soil remediation; transformation facilities; ash operations and facilities as defined in §17376 of Title 14; and construction and demolition recycling (see Appendix F).

Map Code 3.7.1 (Other Waste Facilities Buffer) – Areas which are owned by the waste facility, restricted by easement, or have a compatible use to the waste facility within 200 foot of a permitted waste area as defined by the 3.7 land use designation or for a commercial organic composting and transformation facilities a minimum buffer of 660 foot shall be required (see Appendix F).

POLICIES: PUBLIC FACILITIES AND SERVICES

1. New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

2. The efficient and cost-effective delivery of public services and facilities will be promoted by designating areas for urban development which occur within or adjacent to areas with adequate public service and facility capacity.

    a. Ensure that water quality standards are met for existing users and future development

    b. Ensure that adequate storage, treatment, and transmission facilities are constructed concurrently with planned growth.

    c. Ensure the maintenance and repair of existing water systems.

    d. Encourage the utilization of wastewater treatment facilities which provide for the reuse of wastewater.

    e. Encourage the consolidation or elimination of small water systems.

    f. Encourage the conversion of private sewer systems (septic tanks) to public systems.

g. Ensure that adequate collection, treatment, and disposal facilities are constructed concurrently with planned growth.

h. Ensure that appropriate funding mechanisms are in place to fund the needed improvements which result from development and subsequent growth.

3. Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

4. The provision of parks and recreational facilities of varying size, function, and location to serve County residents will be encouraged. Special attention will be directed to providing linear parks along creeks, rivers, and streambeds in urban areas.

5. Seek to provide recreational facilities where deficiencies have been identified.

6. The County will ensure adequate fire protection to all Kern County residents.

7. The County will ensure adequate police protection to all Kern County residents.

8. Environmentally safe locations for the disposal of solid waste will be assured by locating sites in accordance with the criteria set forth in Appendix E of this General Plan.

9. Applicants for all solid waste disposal facilities (Map Code 3.4) and other waste facilities (Map Code 3.7) shall submit closure plans and financial assurance estimates to guarantee closure in conjunction with approval of the required conditional use permit. The requirement for financial assurances may also be satisfied if a State or federal agency will have lead permit responsibility for approval or operational oversight of the facility and which also will require the posting of financial assurances to guarantee site closure. In conjunction with the financial assurances filed with the County, applicants shall enter into a contract with the County to guarantee site closure.

10. A designated site for solid waste disposal facilities (Map Code 3.4) shall be protected from encroachment of incompatible land uses and intensive urban development. General Plan map code designations which may be compatible for properties adjacent to or within 1,320 feet of solid waste disposal facilities include the following: Resource designations (8.x), 1.2, 3.3, 5.8, 7.1, 7.2, and 7.3. Other map code designations may be compatible subject to project-specific CEQA evaluation. Intensive residential uses, community care facilities, schools, hospitals, recreational vehicle parks, and other uses involving sensitive populations, concentrations of people, and other activities will usually be incompatible adjacent to or near solid waste disposal facilities.

    Health risk assessment analysis prepared by the land use project applicants may be warranted when considering proposals for General Plan amendments, zone

changes, conditional use permits, and sensitive uses within 1,320 feet of a designated solid waste facility site.

11. A solid waste disposal facility (Map Code 3.4) and other waste facilities (Map Code 3.7) shall pay its pro-rata share of upgrading of pertinent County roads.

12. For solid waste disposal facilities, all necessary permits shall be obtained from the Kern County Environmental Health Services Department, Kern County Waste Management Department, State of California Integrated Waste Management Board, State of California Regional Water Quality Control Board, the appropriate Air Pollution Control District, and all other responsible agencies prior to the commencement of operations.

13. The County shall ensure landfill capacity for the residents and industry of Kern County.

14. All solid waste disposal facilities shall designate a buffer around the permitted disposal area as defined by the Map Code 3.4 land use designation.

15. All other waste facilities (non-hazardous/non-disposal) shall designate a buffer around the permitted waste area as defined by the 3.7 land use designation.

16. The proposed siting or expansion of hazardous waste facilities will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

17. For other policies and implementation measures, see General Provisions, Section 1.10 of this General Plan.

IMPLEMENTATION MEASURES: PUBLIC FACILITIES AND SERVICES

A. Continue to administer the Capital Improvement Program (CIP) and coordinate with public utility providers listing the necessary improvements to Kern County's public services and facilities in collaboration with key service providing agencies and the County Administrative Office as a first step toward the preparation of a long-term Public Services Plan for Kern County. This plan addresses the projected demand for public services throughout the County in comparison with projected revenues and identifies long-term financial trends for the major public service providers. The CIP and General Plan can assure compliance with the provisions of Government Code Sections 65401 and 65402 which require review of all capital facility decisions for consistency with this General Plan.

B. Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the time of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.

C. Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

D. Involve utility providers in the land use and zoning review process.

E. Continue to establish coordinated efforts between government entities and private enterprise to identify and preserve unique scenic qualities of existing natural resources and to enhance the image of the County as a whole.

F. Continue to use the accepted California and National Design Standards for both passive and active park development to accommodate programmed and spontaneous activities. Some usable area should be held as open turf for free play and community festivals.

G. Continue to encourage coordination between appropriate jurisdictions in the acquisition (including cooperative agreements), development, and use of parks to avoid duplication of facilities and provide economic use of public funds.

H. Continue to pursue federal, State, and private grant funding for the rehabilitation and acquisition of parks and recreation facilities.

I. Developers of new residential subdivisions will be required to dedicate land and/or pay fees in lieu of dedication for the acquisition and development of recreational facilities which directly serve the needs of the subdivision.

J. Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.

K. The appropriate agency should develop sewer and water master plans in areas where these services are lacking or deficient and in areas where urban development exists or is designated.

L. Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

M. Conditional use permits shall be required for solid waste facilities to establish the standards and conditions necessary to protect the public's health and safety and to protect characteristics associated with diverse communities and regions of Kern County.

N. Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.

O. Reduce to the greatest degree possible the amount of waste to be disposed of by

encouraging private industry to construct and manage a high quality system of transfer stations, recycling facilities, treatment plants, and incinerators located near the generators of hazardous waste.

P. Develop formal relationships with the federal and State governments to define federal, State, regional, and local responsibilities for the enforcement of hazardous waste laws and the inspection of hazardous waste disposal facilities.

Q. The County shall develop a program to update the Kern County and Incorporated Cities Hazardous Waste Management Plan.

R. Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

S. County permits for new or expanding hazardous waste disposal facilities shall be approved for a period not to exceed five (5) years. No renewal of a permit will be granted if federal or State law or regulations do not then authorize the issuance of permits to operate new disposal facilities of the proposed type. If the County renews a permit, it may impose any new conditions and restrictions, which are required to bring the permit into conformity with law or the Kern County and Incorporated Cities Hazardous Waste Management Plan.

T. Amend the County's EIR Procedures to include consideration of fiscal impacts of development proposals, so that the character and extent of possible public service or facility deficiencies can be identified during the course of the normal project review process.

U. Each adopted site for a solid waste disposal facility (Map Code 3.4) shall be depicted on the General Plan map and on a map in Appendix E, delineating the boundaries of the facility and existing permanent dwelling units within 1,320 feet of the facility's boundary. Modifications to a permitted disposal area shall require a General Plan Amendment to a Map Code 3.4 for the expansion area and shall simultaneously amend the Map Code 3.4.1 (Other Waste Facility Buffer) boundary to maintain a 1,320-foot buffer area from the permitted disposal area. The General Plan Amendment process shall include amending the facilities map in Appendix E.

V. All new solid waste disposal facilities (non-hazardous) (Map Code 3.4) shall own a minimum of 1,320-foot buffer around the permitted operational area as defined by the Map Code 3.4 land use designation and the buffer shall be designated Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). This requirement may be waved or lessened by the Planning Director if adjacent land uses are compatible with the disposal facility such as Heavy and Medium Industrial.

W. Solid waste disposal facilities approved prior to the adoption of this General Plan shall strive to have a 660-foot buffer around the permitted disposal area as defined by the Map Code 3.4 (Solid Waste Disposal Facility) land use designation. Land,

which is not owned by the solid waste disposal facility and is within 1,320 feet of a permitted disposal facility, shall include a Map Code 2.10 (Nearby Waste Facility) combining land use designation.

X. The uses that are allowed within the Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) land use designation shall be listed within the conditional use permit approved for the solid waste disposal facility or as provided for in the approved solid waste facility permit.

Y. Each adopted site for other waste facilities (Map Code 3.7) shall be depicted on the General Plan map, and on a map in Appendix F delineating the boundaries of the facility, and existing permanent dwelling units within 200 foot of the facility's boundary or 660 foot for a commercial organic compost and transformation facilities. Modifications to the permitted waste area of an Other Waste Facilities shall require a General Plan Amendment to a Map Code 3.7 for the expansion area and shall simultaneously amend the Map Code 3.7.1 (Other Waste Facilities Buffer) boundary to maintain the required buffer area from the permitted waste area. The General Plan Amendment process shall include amending the facilities map in Appendix F.

Z. All new Other Waste Facilities (non-hazardous/non-disposal) (Map Code 3.7) shall own a minimum of 200-foot buffer around the permitted operational area as defined by the Map Code 3.7 land use designation and the buffer shall be designated Map Code 3.7.1 (Other Waste Facility Buffer). Commercial organic compost and transformation facilities shall require a minimum of 660-foot buffer.

AA. Other Waste Facilities approved prior to adoption of this General Plan shall strive to have a 200-foot buffer around the permitted disposal area as defined by the 3.7 land use designation. Land, which is not owned by the other waste facility and is within 200-foot of a permitted disposal facility, shall include a Map Code 2.10 (Nearby Waste Facility) combining land use designation, except for commercial organic compost and transformation facilities which require a 660-foot designated buffer.

BB. The uses, which are allowed within the Map Code 3.7.1 (Other Waste Facility Buffer) land use designation, shall be listed within the approved conditional use permit or as provided by the appropriate permit.

CC. Existing designated solid waste facilities are consistent with the General Plan. To further clarify the nature of future facilities, the County shall apply the following land use map codes.

2.10 (Nearby Waste Facility)
2.11 (Burn Dumps)
3.4.1 (Solid Waste Disposal Facility Buffer)
3.7 (Other Waste Facilities)
3.7.1 (Other Waste Facilities Buffer)

DD. Existing Map Code 3.4 (Solid Waste Disposal Facility) facilities that have approved permits consistent with Map Code 3.7 (Other Waste Facilities) may not **expand** their allowed land uses without a consistency finding with this General Plan. To be consistent a General Plan Amendment from Map Code 3.4 (Solid Waste Disposal Facility) to Map Code 3.7 (Other Waste Facilities), and a buffer designated Map Code 3.7.1 (Other Waste Facilities Buffer) may be required.

EE. Existing Map Code 3.4 (Solid Waste Disposal Facility) facilities that have approved permits consistent with Map Code 3.7 (Other Waste Facilities) may not **intensify** their allowed land uses without a consistency finding with this General Plan. To be consistent a new conditional use permit and a buffer designated Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) may be required.

FF. A traffic study/analysis shall be required for all discretionary new or expanded solid waste facilities. The study shall include an analysis of the status of facility access roads and the need to upgrade those roads. Mitigation may be imposed to address impacts to these roads.

GG. Implement a level of service standard of 2.5 acres of park area per 1,000 residents.

HH. The County shall periodically investigate the level of service standards for parks and recreation services to ensure that adequate recreation facilities are provided for County residents.

II. The Kern County Parks and Recreation Department will evaluate the possibility of alternative funding sources for the development, rehabilitation, and operation of park and recreational facilities. These funding sources shall include the possible implementation of development fees and/or special assessment districts such as used for lighting and landscaping, under a County Service Area (CSA).

General Provisions

1.10 GENERAL PROVISIONS

ASSUMPTIONS: GENERAL PROVISIONS

The goals, policies, and implementation measures presented in the General Provisions section address issues or situations that are not addressed in the previous sections of the General Plan and apply to all types of discretionary projects. This evolving section will be continually updated to address planning issues as they arise within Kern County.

ISSUES: GENERAL PROVISIONS

A basic issue which the General Plan must address is how anticipated growth and development will be accommodated over the next 20 years. Related to this are economic considerations which may or may not be reflected in actual physical development. Land is often divided into smaller parcels in several sequences yet often is never developed for productive uses such as residences or businesses. In other cases, intensive development takes place on land not well suited to such development, such as areas of natural hazards or areas having significant economic resources.

Oak woodlands and larger individual oaks have aesthetic and historical value, provide for wildlife and game and enhance scenic values for all Kern County residents and visitors. Development represents an opportunity, through site planning, to preserve this important resource while allowing for economic growth.

GOALS: GENERAL PROVISIONS

1. Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

POLICIES: GENERAL PROVISIONS

1. The County will administer the General Plan in conformance with State laws and mandates, which includes an annual status report in accordance with Government Code Section 65400 (b)(1).

2. Densities specified in the map provisions are maximums and may be reduced if it is determined that such reduction is warranted by conditions specifically applicable to the site, such as geological and flood hazards, shallow groundwater, steep slopes, significant wildlife habitat, or botanical communities. However, densities may be increased under density bonus and cluster option programs and policies to be

developed and adopted during the implementation phase of this General Plan program.

3. For policy purposes, the County will be divided into three geographic regions, as discussed in the Introduction chapter: Valley, Mountain, and Desert. Urban densities shall be defined as: greater than or equal to one unit per acre in the valley and desert regions, and less than or equal to 2 ½ acres per unit in the mountain region.

4. If any section, subsection, paragraph, sentence, clause, or phrase of this General Plan is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this General Plan. The Board of Supervisors, hereby declares that it would have passed this General Plan and each section, subsection, sentence, clause, and phrase, thereof, irrespective of the fact that any or one or more sections, subsections, sentences, clauses, or phrases may be declared invalid or unconstitutional.

5. Higher density development and in-filling should be encouraged within urbanized and built-up areas of the County.

6. The County shall ensure the fair treatment of people of all races, cultures, incomes and age groups with respect to the development, adoption, implementation and enforcement of land use and environmental programs.

7. In administering land use and environmental programs, the County shall not deny any individual or group the enjoyment of the use of land due to race, sex, color, religion, ethnicity, national origin, ancestry, lawful occupation or age.

8. The County shall ensure that new industrial uses and activities are sited to avoid or minimize significant hazards to human health and safety in a manner that avoids over concentrating such uses in proximity to schools and residents.

Implementation Measures

A. The Kern Council of Governments (Kern COG) will monitor population growth and its subsequent developmental effects to identify the distribution of population increases and the capabilities of governmental and public agencies to provide new development with adequate services and facilities in a fiscally acceptable manner.

B. The County shall develop fiscal impact guidelines and shall be responsible for reviewing fiscal impact analysis to identify the cost to the County of services, facilities, and infrastructure expansion which new discretionary development necessitates.

C. Prepare and distribute on an annual basis, as required by Government Code Section 65400 (b)(1), a report on the status of the General Plan and the progress achieved in its application.

1.10.1 Public Services and Facilities

Policies

9. New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

10. Community sewage treatment and disposal facilities with collection systems will be required for all developments of 75 or more lots proposed as one development or cumulatively with other developments in a community area, unless soils engineering studies performed at the time of any land division project and approved by the Kern County Environmental Health Services Department, indicate that alternative septic systems, either individual or community design, are equal to or better than a community collection, treatment, and disposal system.

11. Should an urban area not be presently serviced by any sewage collection system, a timetable will be established in cooperation with the California Regional Water Quality Control Board for siting and construction of necessary collection, treatment, and disposal facilities.

12. All methods of sewage disposal and water supply shall meet the requirements of the Kern County Environmental Health Services Department and the California Regional Water Quality Control Board. The Environmental Health Department shall periodically review and modify, as necessary, its requirements for sewage disposal and water supply, and shall comply with any new standards adopted by the State for implementation of Government Code Division 7 of the Water Code, Chapter 4.5 (Section 13290-13291.7). (Assembly Bill 885)(2000).

13. A compact and orderly urban expansion pattern adjacent to established communities will be encouraged in order to avoid uneconomic investment by the public sector for excessive or premature extension of public facilities and services.

14. The County will explore financing and methods of installation of public sewage systems, which will be encouraged both in areas of existing urban density served by septic systems and in existing communities experiencing repeated septic system failures.

15. Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by California Environmental Quality Act (CEQA)

documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

16. The developer shall assume full responsibility for costs incurred in service extensions or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

17. The extent of community-type public services and facilities required for urban densities in the Mountain, Valley and Desert regions vary according to the following criteria:

    a. Within the Valley and Desert regions, new residential development sites less than or equal to one acre net lot size density, commercial, and industrial land uses shall be serviced by necessary and appropriate sewer and water systems.

    b. Within the Mountain Region, new residential development sites less than or equal to 2 1/2 acres gross lot size density, commercial, and industrial land uses shall be serviced by necessary and appropriate sewer and water systems.

Implementation Measures

D. The appropriate agency should develop sewer and water master plans in areas where these services are lacking or deficient and in areas where urban development exists or is designated. Seek non-local sources of funding for implementing capital improvement plans.

E. All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the Environmental Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterizes the quality of upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant shall be required to supply sewage collection, treatment and disposal facilities.

TRLIA Public Bidding

TRLIA's joint powers agreement defaults to County requirements.

County requirements:

A. State law – Public Contract Code § 20150 et seq (Counties with populations under 500,000). 20150.1 now clarifies that Counties under 500,000 can opt to use the alternative bidding procedures in the Uniform Construction Cost Accounting Act.

   1. "public project" – erection, improvement, repair of public buildings and works; work in or about streams, bays, waterfronts, embankments, other work for protection against overflow, except maintenance, repair, or reconstruction work

   2. Projects between $4,000 and 10,000 shall be let to contract by informal or formal bidding procedures. If over $10,000, formal bidding procedures required.

   3. Information bidding procedures – counties must have regs establishing them, which must provide that County notifies each contractor of opportunity to register with county to be notified of informal bidding proceedings.

B. County Ordinance

   1. Public Works Contracts – no legal requirement for bidding for projects under $6,500 (seems to come from PC § 20122, which is for counties OVER 500,000 people)

   2. Public Projects – if under $125,000 contract can be let by informal bid procedures. Informal bidding procedures – vendor list maintained by admin services.

Conclusion – Rules for counties under 500K only applies if TRLIA also opts to go with alternative bidding. County ordinance document is confusing.

Maybe we should propose to TRLIA that they pass ordinance adopting the Uniform construction Cost Account Act. Under that, all contracts over 125K must be let by competitive bidding. Between 30K and 125K must bet let by informal procedures. TRLIA must adopt ordinance governing informal bidding. Maintain list of qualified contractors who get mailed notice 10 days before bid opening, or notice provided to certain construction trade journals. District can also delegate informal bidding responsibilities to an appropriate employee.

June 1, 2010

Lorelei H. Oviatt
Director – Kern County Planning and Community Development
2700 "M" Street
Bakersfield, CA 93301

Re: Beacon Solar Energy Project – Offer of Voluntary Contribution to Kern County

Ms. Oviatt,

Thank you for your input during our conference call on Thursday. I am writing this letter as a follow up to our call in order to ensure that Kern County understands our position with regard to the request for public service impact fees for the Beacon Solar Energy Project (BSEP).

As you know, we respectfully disagree with the County's conclusion that the BSEP will have a significant impact on public services in the County. This disagreement is not simply ideological in nature, but is based on data and information amassed by Beacon Solar, LLC ("Beacon") in preparing the Application for Certification for the BSEP, as well as the analysis and conclusions of the California Energy Commission (CEC) Staff prepared during their extensive review of the application. To wit, the CEC Staff concluded that the BSEP would "have no impact on population and housing; less than significant impact on fire and police protection; no impact on schools, parks, and other public facilities; and no impact on recreation." (Final Staff Assessment [FSA], at 4.8-4, *see also* FSA at 4.14-11 to 13.)

Although Beacon believes the BSEP will not have an adverse impact on Kern County's public services, Beacon intends to be a good corporate citizen by providing a voluntary contribution to Kern County – specifically for Countywide Public Protection, Sheriff Patrol and Investigation, and Fire Services.

The fees proposed by Kern County for Countywide Public Protection, Sheriff Patrol and Investigation, and Fire Services for traditional industrial projects located in the Desert zone are reflected in Figure 1 below and also identified within Kern County's Draft Public Facilities Impact Fee Study written May 18, 2009:

Countywide Public Protection	-	$167.84/1,000 Square Feet
Sheriff Patrol and Investigation	-	$55.28/1,000 Square Feet
Fire	-	$356.78/1,000 Square Feet
	Total	$579.90/1,000 Square Feet

Figure 1

Beacon's Fees and Payment Schedule

By April 30 of each calendar year, Beacon will remit payment to the Kern County Auditor in an amount equal to 15% of the total costs shown in Figure 1 above, multiplied by the area of land directly underneath installed Solar Collector Assemblies (SCAs).

Calculation Formula for Annual Payment

[[(Public Protection + Sheriff + Fire) * 0.15] * Acreage/1,000 sq. ft.] / Project Term

Example: [[($167.84 + $55.28 + $356.78) * 0.15] *53,404 (based on 1,226 acres)]/30 years (assumed project term) = $154,845/year

Additional Terms

The fee schedule determined above shall be fixed for the entire project life and no additional administrative charges from Kern County shall apply. If in the future Beacon is required by legislation to pay property taxes on the solar equipment which is currently exempt, this support payment will be eliminated.

Please give me a call at your earliest convenience to discuss the above proposal.

Sincerely,

Frank Chetalo
Project Director
Beacon Solar, LLC

CC:

Kathleen Krause
John Nilon
Adel Klein
Don Maben
Jane Luckhardt
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DECEMBER 2008

kern blueprint

kern regional blueprint program

FINAL REPORT

PREPARED FOR

Kern Council of Governments

PREPARED BY

MIG

WITH CONTRIBUTIONS FROM

Odyssey
Price Research
Godbe Research

Final Report

kern regional blueprint program

December 2008

Prepared for

Kern Council of Governments

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Funding provided by
California Department of Transportation
California Air Resources Board

acknowledgements

The Kern Regional Blueprint Program is the result of extensive hard work and collaboration among a range of stakeholders, community leaders, elected officials and members of the public who care deeply about the future of Kern County. In particular, the following people are recognized for their contributions to this effort:

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executive summary

ACROSS THE KERN REGION, COMMUNITIES ARE WORKING TOGETHER to shape our future. Thousands of community members from all areas participated in the Kern Regional Blueprint Program to create a mutual vision, craft a set of guiding principles that promote our unique quality of life, and formulate an alternative scenario for how the region could grow to the year 2050. New tools and solutions will help our communities achieve their local visions and support our regional vision. Together, we are tackling some of our biggest challenges.

Our mutual vision for the future of the Kern region includes:

- **Livable and safe** communities for everyone;
- **Economic development opportunities** linked to our education system and current and future industries to build a strong local economy and diverse employment opportunities;
- **Unique natural resources and open spaces—**a healthy environment in which to explore and recreate.

Now is the time to take action. The Kern regional Blueprint is a new resource and communication tool for our region that will help our local communities accommodate future growth in new ways that preserve their community values and achieve their visions. We can achieve this through improved regional and local decision-making and increased involvement of all interests and segments of the population. The program strives to strengthen local decisionmaking through regional collaboration and integrated planning.

THE FUTURE OF THE KERN REGION

Kern's communities will continue to be desirable places. The region's relatively affordable cost of living, space for continued growth, unique natural areas and many other desirable features will continue to draw new citizens. But what will this growth look like? What will be the true impact?

- **Population will NEARLY TRIPLE by the year 2050**: The Kern region's population is projected to grow from today's population of approximately 800,000 to 1,600,000 by the year 2030, and to 2,100,000 by the year 2050.
- **Vehicle miles traveled will NEARLY TRIPLE by the year 2050:** In 2008, Kern residents will have logged an estimated 19,400,000 vehicle miles. This number is expected to go up to 34,000,000 in 2030 and 60,000,000 in 2050.
- **Households will NEARLY TRIPLE by the year 2050:** The Kern region hosts approximately 256,000 households today, but is projected to host 429,000 by the year 2030 and 671,000 by the year 2050.
- **Over 90% of Kern's land is in use:** Air space, agriculture, flood plains, oil production, public lands, steep slopes, and urban areas account for the region's "in use" land, all of which are difficult or immovable barriers to expanding residential land uses.

The choices we make today will determine tomorrow's quality of life. Decisions about how our communities will grow in terms of mobility, housing, land use and the environment have a domino effect. Solving only transportation or housing concerns—or any other single challenge—will not be enough. Our region needs a multi-pronged approach to shape our communities in ways that preserve the quality of life we enjoy today, and to create positive changes in those aspects of our community that we believe should be different for future generations.

DEVELOPING THE BLUEPRINT: A PARTICIPATORY APPROACH

A participatory, inclusive approach to developing the Kern Regional Blueprint is not simply a component of the process—it is foundational and integral. By nature, the Blueprint represents the community's mutual vision for its future and is developed from a grassroots, bottoms-up approach.

As such, the Kern Regional Blueprint Program applied a thorough, phased approach to engaging the broadest-possible range of community members of all interests and backgrounds. The participation program extended its reach to all corners and pockets of the Kern region to include the public, elected officials, and representatives from a range of organizations and interest groups including public agencies, business and industry, education, social service, environmental, social justice, and many others. The participation program included a range of activities.

- Two rounds of **Town Hall Meetings** occurred over two phases throughout the region, amounting to 34 meetings with 1,147 participants. Through presentations from Kern COG staff, handout materials and display posters, participants learned about the purpose and objectives of the Blueprint Program, current and future growth trends, and key issue areas. Importantly, the meetings focused on involving participants in discussing and formulating key elements of the Kern Regional Blueprint including a mutual vision, values, guiding principles for growth, and an alternative scenario. Kern COG employed a range of discussion techniques in small and large group formats, including use of a "card game" that facilitated participants' decision-making process in indentifying priority growth issues, refining the guiding principles, and identifying an alternative scenario.
- Multiple **Roundtables** were convened throughout the process. These were designed to engage professionals and civic leaders across the widest possible range of interest areas including public agencies, business and industry, education, social service, environmental, social justice, and many others. Applying their specialized expertise, participants contributed to refining the Blueprint process outcomes and to developing other participatory techniques.
- Two **Quality of Life Surveys** conducted via telephone interviews with a total sample of 2,400 Kern County residents established a benchmark for future comparisons and long-term analyses of quality of life indicators
- **Focused meetings** and **community presentations** broadened the outreach to include select groups, interest organizations, and youth. These outreach efforts brought the Blueprint to those who could not be involved. Kern COG also conducted **special tribal consultation** with multiple Native American and related groups, which will continue as part of engaging tribal nations early and frequently in valley-wide issues in regional planning initiatives.

PRINCIPLES FOR GROWTH

How do we make our vision for more livable, healthy communities a reality? How do we implement a multi-pronged approach that addresses regional and local needs?

Kern Blueprint participants crafted a set of principles for growth in the Kern region that will help inform decision-making in our local communities. The principles will guide us in how to think globally and act locally. These principles will be applied in ways that best support local visions and needs.

One size does not fit all: our rural or unincorporated communities may apply these principles differently than our urban communities. Some decisions, particularly around land use, are best made locally, but can be informed by regional considerations, such as air quality and mobility.

Conserve energy and natural resources, and develop alternatives

We will use our energy resources more efficiently through improved technologies and conservation efforts. Our region's environment and economy could benefit from increased conservation and use of solar and wind power as resources and new economic engines, in addition to building to Leadership in Energy and Environmental Design (LEED) standards. Our natural resources are precious and require stewardship. Water, sensitive lands and habitats are important aspects of our ecology and environment.

Provide adequate and equitable services

Easy and equitable access to education, public safety, social and recreation services are integral to the livability of our communities. These services must keep pace with our growth, especially to support our expanding youth and senior populations.

Enhance economic vitality

Our economic engines can work more effectively for everyone when we link the development of current and new industries to job and workforce training. Our education and economic sectors must work closely to ensure that we are creating jobs for our region's residents. Additionally, we can consider developing alternative energy sources as new industries to diversify our

economic base.

Provide a variety of housing choices

To support a diverse economic base and preserve everyone's quality of life, we must create a range of housing choices and types for all ages, incomes, lifestyles and special needs—particularly seniors and young families. We can preserve and rehabilitate our suburban and rural housing stock while locating more housing options near shopping and employment centers.

Use and improve existing community assets and infrastructure

New development will require supporting infrastructure, which can be best accommodated on underused land in existing communities. We can link new projects to preserving and improving current infrastructure—such as water, sewer and road systems—which will use public funds most efficiently. We can also maintain our historic assets and community character.

Use compact, efficient development and/or mixed land uses where appropriate

When we concentrate new development in our town and city centers we will preserve our suburban and rural neighborhoods and our surrounding natural and open lands. Providing a convenient mix of retail, services and housing in these town and neighborhood centers will allow more people to walk for daily needs instead of travel to other communities, as well as provide opportunities to revitalize these centers.

Provide a variety of transportation choices

Each community requires its own tailored, balanced mix of transportation choices that work best for their community design. Urban communities may benefit most from increased transit service, sidewalks and bike paths linking town and neighborhood centers. Rural communities may benefit most from safer, expanded highways and inter-city transit services. Altogether, expanding our choices will contribute to enhancing air quality, reducing traffic congestion, and reducing our dependence on our personal vehicles.

Conserve undeveloped land and spaces

Our region's waterways, air spaces, natural areas and public lands support a healthy ecology and environment. Some of these spaces provide unique

recreational opportunities for locals and visitors, and other spaces contribute to our communities' character and local economy.

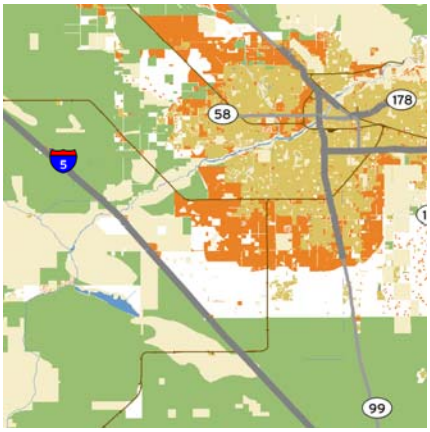
Increase civic and public engagement

Much more collaboration is needed to realize our mutual vision and to support healthy, livable communities in the Kern region. Our partnerships should include the broadest possible diversity of civic leaders, community members and special interests. Early and frequent involvement through transparent planning processes at the local and regional levels is important to create relevant solutions for each community.

The decisions we make in our local communities will shape our region's future. Creating healthy, livable, self-sufficient communities helps our entire region—thinking globally but acting locally. These decisions will be different for every community based on rural versus urban character, local visions, and growth impacts. But we can do more to ensure that we make the right decisions by better understanding the full range of choices, the associated trade-offs, and the potential impacts to local communities and the broader region.

ALTERNATIVE AND CURRENT TREND SCENARIOS

As a tool to understand how growth could impact the region, Kern COG employed a modeling program that displays potential growth "footprint" scenarios through the year 2050. The purpose of the modeling is to support the visioning and education processes as part of public involvement and coordination with local communities' elected officials and public agency staff.



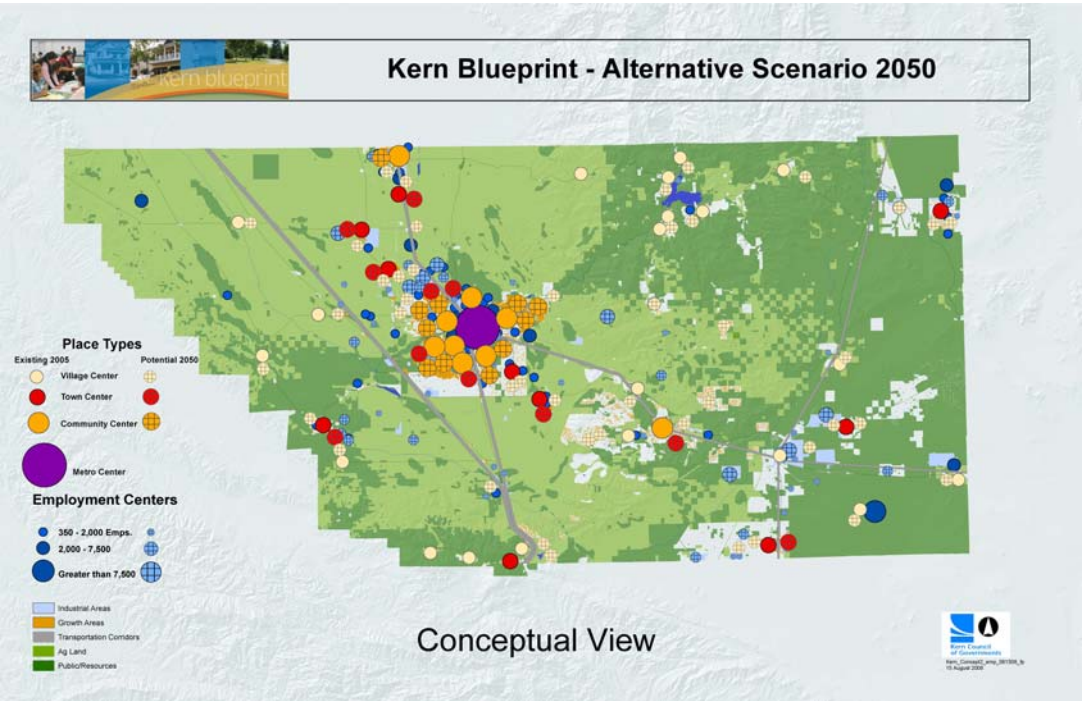
The scenario maps and associated charts of data displayed in Chapters 4 and 6 of this report illustrate the alternative scenario and the base model or current trend scenarios. The current trend scenario represents the growth footprint, planning themes and projected impacts to the year 2050, all of which are informed by current general plans, spheres of influence and local planning assumptions provided by the 11 cities and the County of Kern. The alternative scenario (Figure ES-1) represents the growth footprint, planning themes and projected impacts that reflect the region's mutual vision and guiding principles

for growth to the year 2050.

As part of the public participation process, Kern COG utilized the modeling program to generate scenarios that reflect the vision, values and growth principles identified by participants from the range of participation activities. The Roundtables reviewed the scenarios and provided additional input. The baseline model that identifies the current urban footprint was completed and accepted by the Planning Director's Roundtable in February 2007, and was featured in the first phase of Town Hall Meetings as part of discussions regarding visions and values.

Based on those outreach outcomes, scenario models were developed in September 2007 as part of the Phase 2 Town Hall Meetings and Roundtables, where participants reviewed and discussed their choices for an alternative scenario. Kern COG is currently using the alternative scenario to develop various alternative options for growth and transportation systems. The models and workshop procedures developed by Kern COG are now being used by many of the other COG's for their own Blueprint projects. Kern and the other eight COG's are now preparing valley-wide scenarios in addition to their local scenarios.

Figure ES-1: Alternative Scenario—Growth Centers (Conceptual View)



IMPLEMENTATION AND NEXT STEPS

The Kern Regional Blueprint provides the foundation for advancing decision-making for growth management at the local and regional levels. While the Blueprint is not a mandate, it does represent participants' mutual vision and guiding principles. Essentially, the Blueprint can be used to shape our region's future and each community may use it to inform how they shape their local community's future in the coming decades.

With a new blueprint comes the need for the right tools. What is needed regionally and locally to make this vision a reality and to apply the guiding principles in our decision-making processes? Just as the Blueprint represents a multi-faceted approach to achieving our vision, a multi-faceted "toolbox" of implementation tools will be necessary that address local and regional agencies' needs and to continue meaningfully involving all stakeholders in decision-making processes.

Kern COG staff will work with the Roundtables and each community throughout the region to:

- Develop strategies for implementation of the Blueprint;
- Develop and assign lead agency roles;
- Develop an action element;
- Develop a "toolbox" of best practices; and
- Design a course of training seminars for staff development.

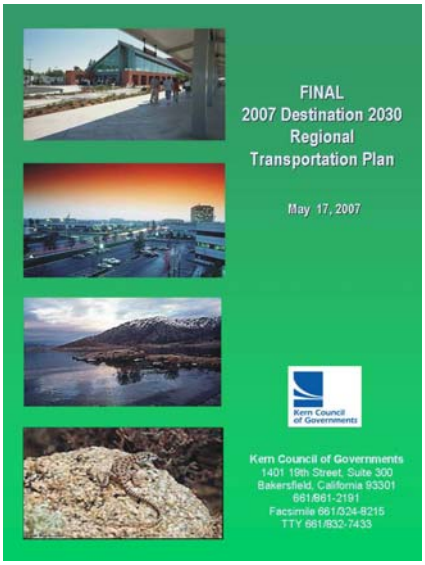
The "toolbox" will include locally-relevant tools to facilitate implementation of Blueprint. Following are examples of the types of tools that could be developed and applied in the coming months and years.

- **Growth modeling**: Apply and expand the growth modeling computer program and integrate new tools as appropriate.
- **Technical assistance:** Provide assistance to member agencies and the development community in support of developing plans and design projects that are consistent with the Blueprint guiding principles.
- **Best practices**: Compile and share best practices and models with the region that are consistent with the Blueprint guiding principles.

- **Community design program**: Provide parameters and incentives for capital and planning projects that apply the Blueprint guiding principles.
- **Awards program**: Track, acknowledge and publicize planning and development initiatives among member agencies and individual stakeholders that support Blueprint implementation.
- **Benchmarking system**: Track how the region is growing in ways that support the Blueprint.
- **Financing opportunities**: Identify funding options to assist in carrying out the guiding principles.

NEXT STEPS

In addition to focused implementation of the Kern Regional Blueprint, the region also looks ahead to other significant, regional planning initiatives.



The **Regional Transportation Plan** (RTP) is a long-term (20-30 year) plan for the Kern region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects and establishes air quality conformity as required by federal regulations. The document also discusses inter-modal and multi-modal transportation activities. For federal purposes the RTP contains an estimate of a likely or realistic development pattern for the region. This estimate informs the decision-making process for transportation funding. The forecasted growth pattern must be based upon "current planning assumptions" to assure that the air conformity provisions are meaningful. If the federal government determines that the growth development pattern is not realistic, it can withhold federal transportation funding.

As part of adopting the Kern Regional Blueprint, Kern COG's Board of Directors may establish the Blueprint alternative scenario as the baseline for land use and growth projections that will guide the next RTP update.

Continued participation of member agencies and all stakeholders will be a key step in developing the toolbox. Similar to participation activities completed to date, this would likely include continued conversations with

elected officials, executive staff, subject area experts and all community members. Activities could take the form of topical forums and workshops addressing specific growth issues such as land use, transportation, and water, possibly in conjunction with other planning and resource agencies. Additionally, Kern COG will conduct regular updates to the Blueprint guiding principles and alternative scenario in partnership with all stakeholders. Updates will occur whenever feasible, at minimum with updates to the RTP.

1. introduction

IMPORTANT CHOICES FOR OUR FUTURE

AS LONG-TERM RESIDENTS OF THE KERN REGION CAN ATTEST, growth has changed the nature, design and function of their communities in positive and negative ways. Growth will continue to influence the quality-of-life for Kern's residents, including the look and feel of neighborhoods, traffic congestion, air quality, community health, economic development, natural and open spaces, public services, and many other important aspects of community life.

The choices we make today will determine tomorrow's quality of life. Decisions about how our communities will grow in terms of mobility, housing, land use and the environment have a domino effect. Where we locate housing in relation to jobs and shopping affects our commute times and transportation choices. If we limit our transportation options primarily to cars, we could increase the time we spend driving due to increased roadway congestion. That, in turn, will degrade our air quality and cause more people in our community to suffer from respiratory illnesses, affecting our overall community health and increasing the demand for healthcare services. Furthermore, more time spent in daily travel will reduce our time enjoying other aspects of life like spending time with family and leading an active, healthy lifestyle.

Solving any single challenge will not be enough. Our region needs a multi-pronged approach to shape our communities in ways that preserve the quality of life we enjoy today, and to create positive changes in those aspects of our community that we believe should be different for future generations.

The decisions we make in our local communities will shape our region's future. Creating healthy, livable, self-sufficient communities helps our entire region—thinking globally but acting locally. These decisions will be different for every community based on rural versus urban character, local visions, and growth impacts. But we can do more to ensure that we make the right decisions by better understanding the full range of choices, the associated trade-offs, and the potential impacts to local communities and the broader region.

BLUEPRINT PLANNING: THINKING GLOBALLY, ACTING LOCALLY

The Regional Blueprint Planning Program is intended to better inform regional and local decision-making, through pro-active engagement of all interests and segments of the population to foster consensus on a vision and alternative scenario for long-term growth. Building the capacity to strengthen local decision-making through regional collaboration and integrated planning will enable communities and regions to more effectively plan to accommodate future growth in ways that preserve their community values and achieve their visions.

Specifically, the Blueprint Program aims to:

- Foster a more efficient land use pattern that:
    - supports improved mobility and reduced dependency on single-occupant vehicle trips;
    - accommodates an adequate supply of housing for all incomes;
    - reduces impacts on valuable habitat, productive farmland, and air quality;
    - increases efficient use of infrastructure resources; and
    - results in safe and vibrant neighborhoods.
- Provide consumers more housing and transportation choices.
- Improve California's economic competitiveness and quality of life.
- Reduce costs and time needed to deliver transportation projects through informed early public and resource agency involvement.
- Secure local government and community support, including that of under-represented groups, to achieve a comprehensive vision by including innovative computer models and public involvement activities.

- Establish a process for public and stakeholder engagement that can be replicated to build awareness of and support for critical infrastructure and housing needs.

THE FUTURE OF THE KERN REGION

Just as it has in past years, our population will continue to grow at a steady pace in the coming decades. The State of California will likely continue to be a highly desirable place to live, and the Kern region will likely continue to be one of the more affordable areas of the state.

With a relatively affordable cost-of-living, space for continued growth, unique natural areas, and many other desirable features, Kern's diverse communities will continue to draw new citizens. But what will this growth look like? What will be the true impact?

Population will NEARLY TRIPLE by the year 2050

The Kern region's population is projected to grow from a population today of approximately 800,000 to 1,600,000 by the year 2030, and to 2,100,000 by the year 2050 (see Chapter 4 sub-regional projections). Additionally, the proportion of senior citizens will grow in the next 20 years, creating greater demand for healthcare and support services. How will we accommodate these new residents and our changing demographics? Where will they live and how will they move around?

Vehicle miles traveled will NEARLY TRIPLE by the year 2050

In 2008, Kern residents will have logged an estimated 19,400,000 vehicle miles. In 2030, Kern residents are projected to log 34,000,000 vehicle miles and 60,000,000 in 2050. Over the same time period the highway system is projected to grow by only 10%. How will the increased traffic congestion affect our air quality? How much more time will we spend on daily trips?

Households will NEARLY TRIPLE by the year 2050

The Kern region hosts approximately 256,000 households today, but is projected to host 429,000 by the year 2030 and 671,000 by the year 2050. Based on the aggregated planning policies of jurisdictions in the region, in the year 2050 approximately 94% of new homes will be single-family, detached

style. How will public infrastructure keep up with this type of outward growth pattern? Will all community members be able to afford these types of homes?

Over 90% of Kern's land is in use

A wide range of uses affect a large portion of Kern's landscape, making additional outward growth extremely difficult. Air space, agriculture, flood plains, oil production, public lands, steep slopes, and urban areas account for the region's "in use" land, all of which are difficult or immovable barriers to expanding residential land uses. Where will we locate all of our new growth including housing, jobs, and services?

These are the best, most reasonable estimates for what the future holds for our region and local communities. In the end there may be upward or downward variations in these projections. But these trend lines from our past to our future are steady. Are our past and current approaches to managing growth adequate for the next 40 years?

THE KERN REGIONAL BLUEPRINT PROGRAM

The Kern region is proactively considering new ways to plan for its future by considering new solutions to old problems that result from population growth. Led by Kern Council of Governments (Kern COG), the Blueprint process has developed an alternative regional transportation, land use, and environmental vision that responds to the many challenges associated with population growth.

Since March 2007, communities throughout the Kern region have collaborated to understand the potential impacts of population and development growth. Most importantly, this collaboration produced a mutual regional vision based on local communities' visions, and an approach to managing the projected 1.3 million additional people in the region by the year 2050. A wide range of community members representing various interests are working together to address these questions:

- How should we grow?
- Where should we grow?

- How will we travel around the region?
- How will growth affect our environment?
- How will growth affect our quality of life?

The Kern Regional Blueprint will serve as the region's interface for sharing information and developing new tools and strategies that support local decision-making. Additionally, the Blueprint will function as a key communication tool for the Kern region's involvement in planning coordination with neighboring San Joaquin Valley counties.

Involving the full range of community stakeholders—including the public, businesses, service organizations, academia, and many others—in a meaningful way to provide input on mutual values, visions, growth management principles, and an alternative scenario for growth in the Kern region to the year 2050 is the foundation of the Blueprint process. To that end, Kern COG staff, in partnership with MIG, Inc. and Odyssey, conducted a phased, thorough public participation process throughout the region with informative, hands-on and interactive meetings that built new awareness of the growth challenges facing the region and local communities. More importantly, the process generated meaningful input in forming a mutual, regional vision for our long-term future based on localized visions and values.

OUR NEW, MUTUAL VISION

This Kern Regional Blueprint document represents and honors the collaborative effort of thousands of diverse community members from throughout the region to create a mutual vision for the region's future based on the vision and values of local communities. Essentially, while the following pages provide a detailed record of the planning process and technical data generated over months of work, and, ultimately, the identification of an alternative scenario for future growth, the Kern Regional Blueprint represents the beginning and not the end.

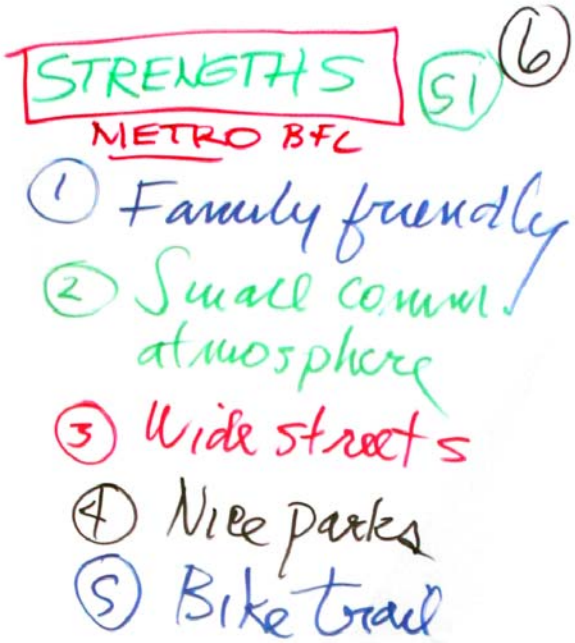
The Blueprint will continue to facilitate involvement in identifying new solutions to some of our oldest challenges such as traffic congestion, housing

affordability, air quality, and more. Creating healthy, livable, self-sufficient communities helps our entire region. The Blueprint will help support local decision-making processes with new tools to help preserve each of our communities' unique character, as well as achieve our local visions and our mutual regional vision. Well-coordinated planning will bring new benefits to our communities. Planning together will help us use our resources more efficiently and effectively. Collaboration will improve our positioning for state and federal funding programs that are increasingly demanding partnership-based approaches.

Working together with a mutual vision, guiding principles for growth, and an alternative scenario in the Kern region is an important start.

2. public participation program

A PARTICIPATORY, INCLUSIVE APPROACH TO DEVELOPING the Kern Regional Blueprint is not simply a component of the process—it is foundational and integral. By nature, the Blueprint represents the community's mutual vision for its future and is developed from a grassroots, bottoms-up approach.



As such, the Kern Regional Blueprint Program applied a thorough, phased approach to engaging the broadest-possible range of community members of all interests and backgrounds. The participation program extended its reach to all corners and pockets of the Kern region to include the public, elected officials, and representatives from a range of organizations and interest groups including public agencies, business and industry, education, social service, environmental, social justice, and many others.

OBJECTIVES

The public participation program was crafted to achieve a number of important objectives at key points in the process:

- Educate the community about the purpose of and process for the Blueprint;
- Facilitate and record participants' comments regarding their vision and values for the Kern region and their individual communities;
- Introduce a range of topic areas related to values, regional planning and growth;
- Identify the community's priority topic areas and values;
- Provide results of Phase 1 outreach efforts in each sub-region regarding visions, values, and top issues for the future;
- Present and educate about draft principles for growth that address community vision, values, and top issues for future growth in each sub-region;

- Facilitate community feedback about the draft principles, including effectiveness in achieving vision for each community;
- Present a "base case" and 3 illustrative "scenarios" for future growth in each sub-region, with each displaying:
    - areas of growth on the sub-region map;
    - varying levels of development density;
    - indicators of air quality, vehicle-miles-traveled, water usage, amount of developed land area, etc.;
- Facilitate community feedback about scenario preferences and associated data points for use in developing an alternative scenario; and
- Facilitate discussion about implementing Blueprint.

METHODS

The Kern Regional Blueprint Program included a number of participation methods that, as a whole, provided community members with a number of opportunities and venues to be involved in each phase of the process.

Roundtables

Multiple Roundtables occurred throughout the process, which were designed to engage professionals and civic leaders across the range of interest areas including public agencies, business and industry, education, social service, environmental, social justice, and many others. Participants of each Roundtable discussed similar items and participated in similar techniques as in the Town Hall Meetings. Applying their specialized expertise, participants contributed to refining the Blueprint process outcomes. The Roundtables also served as important "sounding-boards" to developing the participatory techniques employed in the Town Hall Meetings and to engaging policymakers with tailored information about the program.

The primary Roundtable group involved planning directors and community development directors from the Kern COG member agencies as their expertise is most directly related to Blueprint planning. Kern COG staff also engaged each member agency's staff throughout the process to ensure that the Kern Regional Blueprint data accurately reflects local planning policies.

Town Hall Meetings

Two rounds of Town Hall Meetings occurred during Phases I and II throughout the region, amounting to 34 meetings with 1,147 participants. Through presentations from Kern COG staff, handout materials and display posters, participants learned about the purpose and objectives of the Blueprint Program, current and future growth trends, and key issue areas. Importantly, the meetings focused on involving participants in discussing and formulating key elements of the Kern Regional Blueprint including a mutual vision, values, guiding principles for growth, and an alternative scenario. Kern COG employed a range of discussion techniques in small and large group formats, including use of a "card game" that facilitated participants' decision-making process in indentifying priority growth issues, refining the guiding principles, and identifying an alternative scenario. A majority of the Town Hall Meetings were conducted in English with Spanish translation available. Four Phase 1 meetings held in Metropolitan Bakersfield communities were conducted by Greater Bakersfield Vision 2020 participants. The Phase 1 and 2 meetings held in Lamont were presented in Spanish with English translation. Overall, more than 90% of participants rated the town hall meetings as "excellent" or "good" and over 97% indicated they would participate in more town hall meetings. More detailed information is available in subsequent chapters of this report.

Focused Meetings

Kern COG facilitated Phase 2 meetings exclusively for select organizations by request including the American Surveyors & Civil Engineers (48 participants) and the Department of Public Health (51 participants). Additionally, Kern COG reached a portion of the student population from the Kern High School District (15 participants) by coordinating with the Director of Instruction. The meeting with the students incorporated Phase 1 and 2 of the process. At the conclusion of the meeting one student expressed the following: "This was a great experience for me as a Senior at South High. I really enjoyed talking about the future and I am very happy that we as a whole want to improve our society." Another student stated: "Great experience! I enjoyed being able to have visuals while still being able to voice my own opinion. It was very

interesting and insightful." Currently, Kern COG is partnering with the local education community to create curricula for high school instruction based on the approach employed in Phases 1 and 2.

Special Tribal Consultation

In order to provide a forum for early input into local planning processes as required by the federal transportation bill adopted in 2005, Kern COG staff began consulting with Native American groups in May 2007. The meetings brought together members of the Santa Rosa Rancheria Tribe, Tubatulabals of Kern Valley, Chumash Council of Bakersfield, Tejon Indian Tribe, Kern Valley Indian Community, Tule River Indian Tribe, the Caltrans Native American Liaison, members of the Thomas Road Improvement Program staff, members of the Sierra Club, Kern COG staff and the public.

One of the key consultation products was the development of a Draft Action Plan which included identification of additional funding resources. As a result, a Caltrans Environmental Justice: Context-Sensitive Planning—Central Valley Tribal Collaboration Transportation Planning Grant was developed and funded in the amount of $250,000. The grant will be used to expand the outreach to all eight counties in the San Joaquin Valley. The participation of tribal nations in valleywide issues at an early level will help ensure that their varied interests are considered at the earliest stages of planning for our regions. Transportation Planning Grant program complements the Governor's Strategic Growth Plan for transportation, which reduces congestion below today's levels while accommodating future transportation needs from growth in population and the economy.

During consultation with Native Americans, Kern Regional Blueprint issues and principles have also been discussed. Native American groups are interested in all aspects of future growth including affordable housing, job opportunities, preservation of culturally sensitive lands, sustainability of natural resources, and improvement of health accessibility.

Community Presentations

Kern COG staff provided many presentations and project updates throughout

the process to regular meetings of community-based organizations and the region's city council bodies.

Quality of Life Surveys

In February 2007 and April 2008, Kern COG conducted telephone surveys to examine public attitudes and perceptions regarding several quality-of-life issues in the Kern region. Designed and administered by Price Research (2007) and Godbe Research (2008), the surveys established a benchmark for future comparisons and long-term analyses. The survey results are based on telephone interviews with a random sample of 1,200 Kern County residents for each survey across four geographical regions within the county: West Kern, Central Valley, Mountains, and East Kern. The survey sample was stratified to produce 600 respondents from the Central Valley (the largest population center) and 200 respondents from each of the other three regions. All of the findings in the survey were compared across various demographic variables, including age, gender, length of time a respondent had been a resident of Kern County, household income, level of education, ethnic identification, and region of the county. Many of the survey results are featured in this report as comparative to results of the Town Hall Meetings.

OUTREACH

kern regional blueprint program

Kern Quality-of-life Survey

Help shape your Community's Future - Join us at a follow-up town hall meeting!

Encuesta sobre calidad de vida en Kern

¡Ayude a moldear el futuro de su comunidad - Participe con nosotros en una reunión comunitaria de seguimiento!

The outreach process educated the public about the Kern Regional Blueprint Program and encouraged attendance at the Town Hall Meetings. Kern COG employed a number of outreach methods to reach the widest possible range of participants.

Newsletters and Mailers

As a primary outreach tool, Kern COG enlisted the support of MIG in designing outreach mailers and newsletters. For Phase 1, MIG developed a 2-page, full-color mailer in both English and Spanish that briefly explained the project and announced the dates, times, and locations of town hall meetings, including one workshop conducted in Spanish.

For Phase 2, MIG developed a newsletter that highlighted the outcomes of

Phase One outreach activities and advertised Phase Two town hall meetings. The newsletter featured a four-page, full-color design in both English and Spanish that updated the project status and announced the dates, times, and locations of town hall meetings, including one meeting conducted in Spanish. The design allowed for the newsletter to be mailed, which Kern COG distributed to its growing database of stakeholders. A second version of the newsletter was printed with updated meeting dates for the Metro Bakersfield communities.

Website

Kern COG features the The Kern Regional Blueprint Program as part of the Kern COG website, www.kerncog.org, with a number of informational links. These included information on the town hall meetings in English and Spanish and an automatic e-mail meeting registration that was sent to Kern COG staff. The website also provided summary reports from Phase 1 and 2 Town Hall Meetings.

Process

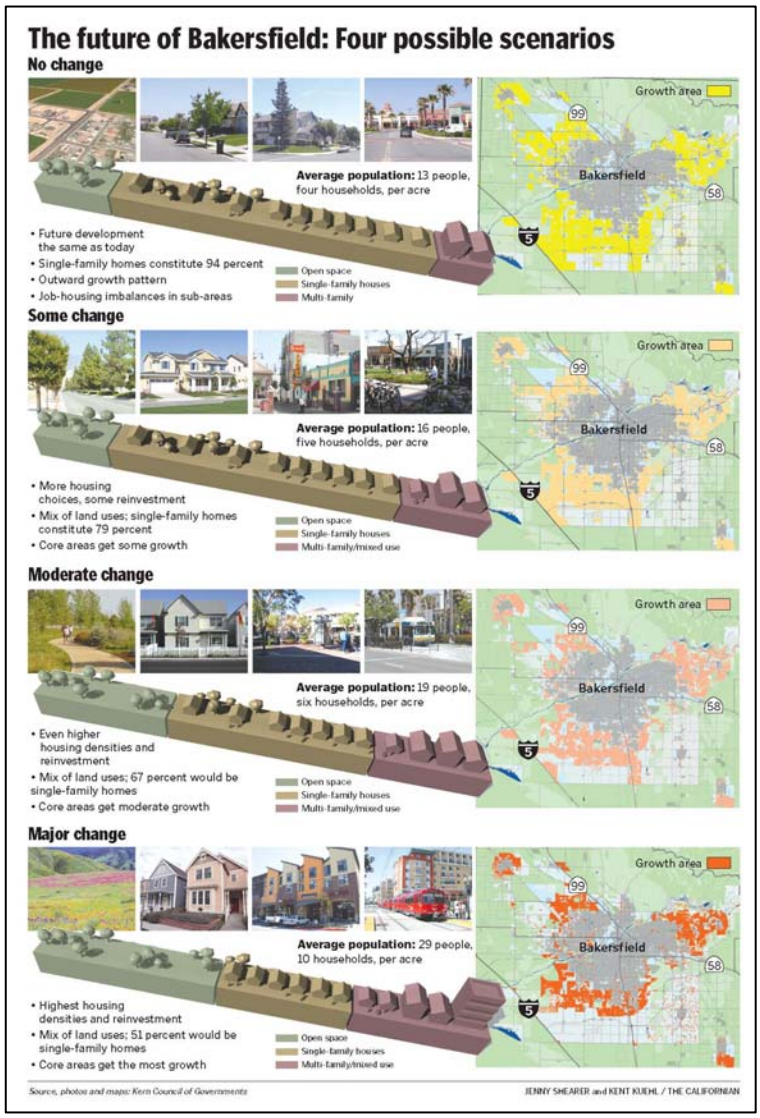
Odyssey undertook an extensive outreach process to encourage knowledge of, and attendance at, the Blueprint Town Hall Meetings. Odyssey staff started by obtaining Kern COG's contact lists. Staff sorted the lists into databases for each town hall meeting area, and added in any Odyssey organizational contacts. Staff then researched additional groups across a wide variety of categories to complete an initial database of organizations and intermediaries who might assist with publicizing the town hall meetings to members, constituencies, clients, residents and community members. Odyssey staff also helped draft newsletter articles and email announcements for each town hall meeting and provided content for the registration portion of Kern COG's website.

Odyssey began official outreach efforts in February 2007 and contacted organizations throughout the Kern region to issue invitations, publicize the town hall meetings, and encourage attendance.

Media Campaign

Kern COG coordinated media coverage of the town hall meetings, and articles announcing the meetings were sent to newspapers throughout Kern County. The media list used for Blueprint outreach consisted of 24 newspapers and other print publications, 9 television stations, and 25 radio stations.

More detailed information about the outreach process is available in the Phase 1 and Phase 2 summary reports.



Kern COG's media outreach efforts resulted in significant coverage of the Blueprint planning process. An article featured by the Bakerfield Californian included this graphic developed by reporting staff.

3. visions, values and issues

THIS CHAPTER SUMMARIZES THE OUTCOMES of phase 1 outreach efforts, which focused on developing a mutual regional vision and values, as well as understanding the key issues affecting and being impacted by growth. **Town Hall Meetings** were held March – September 2007 in the communities of Arvin, Delano, Frazier Park, Greenfield, Kern River Valley, Lamont, McFarland, Mojave, Ridgecrest, Shafter, Stallion Springs, Taft, Tehachapi, Wasco, and Metro Bakersfield. Also featured are excerpts from the **Quality-of-Life telephone survey** conducted in February 2007 by Kern COG, which are noted along-side results from the Town Hall Meetings. This statistically valid, random survey examined public attitudes and perceptions regarding several quality-of-life issues within Kern County.

FORMAT OF TOWN HALL MEETINGS

The dates and locations of the eighteen town hall meetings are shown below, along with the number of attendees: Of the 710 attendees, many filled out an anonymous demographic form, with the following results:

Table 3.0: Date And Locations Of Town Hall Meetings		
Date	**Location**	**# of Attendees**
Wednesday, March 14	Ridgecrest	83
Tuesday, March 20	Tehachapi/Stallion Springs	37
Wednesday, March 21	Taft/Maricopa	37
Wednesday, March 28	Delano/McFarland/Wasco	34
Thursday, March 29	Arvin/Lamont	32
Tuesday, April 10	Frazier Park	38
Wednesday, April 11	Kern River Valley	25
Tuesday, April 24	Greenfield Collaborative	18
Monday, May 7	Northeast Bakersfield*	54
Tuesday, May 8	Northwest Bakersfield*	34
Monday, May 21	Southeast Bakersfield*	40
Tuesday, May 22	Lamont (conducted in Spanish)	50
Thursday, May 31	Southwest Bakersfield*	69
Date	**Location**	**# of Attendees**
Wednesday, June 13	Shafter	37
Thursday, June 14	Wasco	9
Wednesday, June 27	Mojave/California City/Rosamond	34
Thursday, June 28	McFarland	15
Thursday, September 6	Stallion Springs	64
	Total	***710***

*Co-sponsored with Greater Bakersfield Vision 2020

Table 3.1: Gender of Participants		
Gender	**#**	**% of Total**
Male	108	43.4%
Female	141	56.6%

Table 3.2: Age of Participants		
Age	#	**% of Total**
Under 18	3	1.2%
18 - 29	40	15.6%
30-39	24	9.3%
40-49	33	12.8%
50-59	57	22.2%
60-69	57	22.2%
70-79	17	6.6%
80-89	15	5.8%
90 or over	11	4.3%

Table 3.3: Race/Ethnicity of Participants		
Race / Ethnicity	**#**	**% of Total**
White / Caucasian	167	75.2%
Hispanic / Latino	23	10.4%
Asian	3	1.4%
African American / Black	5	2.3%
American Indian	4	1.8%
Pacific Islander	0	0%
Other Race	5	2.3%
Two or More Races	15	6.8%

Table 3.4: Affiliation of Participants		
Attended the Meeting Representing:	**#**	**% of Total**
Resident	166	62.2%
Business Community	62	23.2%
Government Agency	16	6.0%
Other	38	14.2%

The following format for the town hall meetings was used at all but the Bakersfield meetings, which were designed and led by Greater Bakersfield Vision 2020 staff. Results were later folded into results from the non-Bakersfield meetings, although they are not entirely comparable.

The town hall meeting objectives were to:

- Share information about the Blueprint's purpose and process;
- Facilitate and record participant comments regarding their vision and values for Kern County;
- Introduce a range of growth related topics related to values;
- Identify and prioritize topic areas; and
- Identify, discuss and select initial approaches for priority topic areas.

Following a brief presentation from Kern COG regarding the purpose of and need for the Blueprint, participants joined small group discussions that were facilitated and recorded by Kern COG staff and other volunteers. Part 1 of the discussions involved participants sharing what they value most about their community, as well as their desired vision 40 years into the future. Part 2 involved participants playing and discussing a "card game" in their small groups that challenged them to prioritize top issues to be addressed in achieving their visions.

VISIONS AND VALUES

Maintaining a Sense of Community

Participants appreciate a strong sense of community that's reflected by friendly, neighborly people and a small-town atmosphere. Local communities tend to be family-oriented with a strong sense of mutual values, an ethic of hard work and pride that translate into active and involved community members (Table 3.5).

Participants look forward to expanding their participation in planning for their communities' future, knowing that community-based visioning and planning are essential to preserving and creating the neighborhoods and region that

they envision. Furthermore, the region's increasing population and broadening diversity—including age, social, and cultural demographics—will continue to add new perspectives to this ongoing process, with the hope of increasing community unity and pride.

Preserving Livable and Unique Communities

Participants believe the Kern region still enjoys a unique combination of: safe and friendly small towns, each with their own unique character; opportunities to live in rural or urban communities; a major metropolitan area and proximity to others statewide; a range of natural spaces and ecosystems; a diverse economy; and affordability. Furthermore, Kern's communities are livable for most residents—this is one of the last, relatively affordable places in California to raise a family, buy a home, and live the "American Dream".

However, participants understand that population growth will continue to challenge these valued aspects of life in the Kern region. Participants want to control growth impacts in ways that preserve livability and community character, but also ensure that public infrastructure improvements keep pace with growth to provide basic needs like safer streets and sidewalks, functional water-sewer-septic systems, and beautiful communities.

The survey results (Table 3.6) indicate that, generally, people in Kern County believe the quality-of-life in their community will improve (39.8%) or stay about the same (25.3%). This sentiment seems to be stronger in West Kern and East Kern.

Table 3.5: Price Research Survey – Community Desirability					
How do you feel about your community as a place to live?					
	Very Desirable	Somewhat Desirable	Somewhat Undesirable	Very Undesirable	DK/ NA
West Kern	41.5%	45.0%	7.0%	6.5%	
Central Valley	35.3%	48.5%	9.8%	5.7%	.7%
Mountains	70.0%	23.0%	6.0%	1.0%	
East Kern	47.0%	45.0%	4.0%	2.5%	1.5%
Total County	***44.1%***	***43.1%***	***7.8%***	***4.5%***	***.6%***

Table 3.6: Price Research Survey – Quality of Life in the Future				
Within the next 10 years, would you say that the quality of life in your community will improve, stay about the same, or become worse than it is today?				
	Improve	Stay About the Same	Become Worse	DK/NA
West Kern	50.0%	26.5%	18.0%	5.5%
Central Valley	34.5%	21.7%	35.2%	8.7%
Mountains	38.5%	27.5%	28.5%	5.5%
East Kern	46.5%	33.0%	14.0%	6.5%
Total County	***39.8%***	***25.3%***	***27.7%***	***7.3%***

Protecting the Diverse Environment

Kern's natural and rural areas include mountains, deserts, valleys, a significant river and lake system, agriculture, scenic views, wildlife and habitats—a combination that few other regions enjoy. Participants understand the benefit of these features to the overall ecosystem, local economies, and recreational opportunities.

Yet participants also understand that protecting the environment involves considering new and creative ways to manage growth. This involves contributions from everyone—residents, industry, and government—through a wide range of "greener" practices such as conserving water, utilizing solar and/or localized energy sources, designing and building with "green" best practices, and facilitating new levels of intergovernmental coordination and protection of natural areas.

Building the Economy

Participants appreciate the major industrial sectors of the region—including oil, agriculture, mining and military—but also understand that expanding these sectors will not be enough to create a more self-sustaining economy. Diversifying the region's economic bases in line with global market and business trends will create new job opportunities and encourage new educational and skills development of the local workforce. Participants also look forward to closing the economic gap and supporting more locally owned businesses.

The survey results (Table 3.7) indicate that 51.1% of respondents agree (16.2% strongly agree, 34.9% agree) that Kern County lacks opportunities for well-paying jobs.

Expanding Mobility

The broader region enjoys relative ease of mobility within and among communities with limited roadway congestion. Nevertheless, participants recognize the regional air quality, economic, and livability impacts of congested corridors in the metropolitan Bakersfield area, particularly State Route 99. Participants' recent experiences with the growing costs of driving a

personal vehicle further inspire their desire for new mobility options.

Participants envision a wide range of new and expanded options at all scales of travel: enhanced walking and biking infrastructure within neighborhoods; specialized transit services for an aging population; expanded roadway capacity; new regional bus and rail services; and new inter-regional access on statewide high speed rail.

The survey results (Table 3.8) concur with the desires of Phase 1 town hall meeting participants with 76.3% of respondents agreeing (30.3% strongly agree, 46.0% agree) that the region should expand bus and public transit systems.

Table 3.7: Price Research Survey– Jobs

Kern County lacks opportunities for well-paying jobs.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/ NA
West Kern	14.5%	29.0%	42.5%	5.5%	8.5%
Central Valley	17.2%	35.0%	36.7%	4.5%	6.7%
Mountains	13.0%	41.5%	26.0%	6.5%	13.0%
East Kern	18.0%	34.0%	33.0%	7.5%	7.5%
Total County	***16.2%***	***34.9%***	***35.3%***	***5.5%***	***8.2%***

Table 3.8: Price Research Survey – Bus and Public Transit Expansion

We should expand bus and public transit systems.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/ NA
West Kern	28.5%	50.0%	15.5%	3.5%	2.5%
Central Valley	29.7%	45.3%	17.2%	3.7%	4.2%
Mountains	31.5%	45.0%	17.5%	3.0%	3.0%
East Kern	32.5%	45.0%	15.0%	2.5%	5.0%
Total County	***30.3%***	***46.0%***	***16.6%***	***3.3%***	***3.8%***

Preparing Youth for the Future

Participants are committed to Kern's youth. Quality education is important and participants value schools that offer vocational opportunities and extracurricular activities. Nevertheless, participants expect to see new developments in the area of additional college preparatory offerings, special education curricula, teachers, and after school and child care services. Participants also look forward to expanding the breadth of Kern's academic excellence at all levels of education, particularly higher education, including more four-year university opportunities and technical and vocational training.

Preserving our Health and Safety

Most participants believe that Kern's communities are safer and have lower crime rates than the average town or city. Participants also feel relatively safe in terms of environmental factors, specifically air quality, which has varying quality levels depending upon different areas of the region.

Today, thanks partially to ongoing efforts to manage the region's air quality, participants are more educated about and sensitive to managing related environmental hazards such as the location of dairies and waste dumps near communities. With rising levels of chronic disease and an aging population, participants envision more localized, comprehensive health and medical services in both large and small communities. To preserve the safety of Kern's communities, participants want to see improved control of illegal drugs and gang activities.

Table 3.9: Price Research Survey – Healthcare Evaluation

Letter Grade Evaluation - Healthcare						
	A	B	C	D	F	Unable to Evaluate
West Kern	5.0%	10.0%	22.5%	32.5%	29.0%	1.0%
Central Valley	12.2%	34.2%	29.2%	14.5%	6.8%	3.2%
Mountains	6.0%	25.5%	30.0%	22.5%	12.5%	3.5%
East Kern	5.0%	24.0%	39.5%	16.0%	10.5%	5.0%
Total County	***8.8%***	***27.0%***	***29.9%***	***19.1%***	***12.1%***	***3.2%***

Enhancing Parks and Recreation

Participants appreciate the range of parks and natural spaces that locals and visitors regularly enjoy throughout the region, such as forests, mountains, and parks. These spaces afford many recreational opportunities, from hiking, hunting, fishing, boating, camping, golf, and off-road driving.

To continue enjoying these activities and places, and to preserve them for future generations, participants envision enhancements that maintain or improve their conditions and functions. Additionally, participants see opportunities to encourage more tourism through promotion of unique parks and recreation features. Furthermore, improving and connecting neighborhood and community parks that serve local residents of all ages with new activities and improved design will increase the community's appreciation and use of its parks, as well as contributing to the community's overall health.

Expanding Coordinated Planning

Participants appreciate their civic leaders throughout the region, but also recognize that new levels of coordinated planning are necessary to address challenges from future growth. Participants suggest that improved coordination should occur from the local to the inter-regional levels and among all sectors of government and focus areas.

The survey results (Table 3.10) concur with the opinions of Phase 1 participants concerning governmental coordination, as 87.5% believe (41.0% strongly agree, 46.5% agree) that governments should work together to develop a common plan for transportation, housing and land use in their region.

Table 3.10: Price Research Survey – Coordinated Planning					
We should require local governments to work together to have a common plan for transportation and housing development and land use in their region.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/ NA
West Kern	42.5%	46.0%	6.5%	1.5%	3.5%
Central Valley	42.0%	45.8%	6.8%	1.7%	3.7%
Mountains	40.5%	47.5%	5.5%	1.0%	5.5%
East Kern	37.0%	48.0%	9.0%	2.0%	4.0%
Total County	***41.0%***	***46.5%***	***6.9%***	***1.6%***	***4.0%***

Table 3.11: Values From Phase I Town Hall Meetings

VALUES													BAKERSFIELD			
What do you like most about your community?	**Arvin**	**Delano**	**Frazier Park**	**Kern River Valley**	**McFarland**	**Mojave**	**Indian Wells**	**Shafter**	**Taft**	**Tehachapi**	**Wasco**	**Lamont**	**Northeast**	**Northwest**	**Southeast**	**Southwest**
Community spirit	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Low crime/sense of safety	X	X	X	X	X	X	X	X	X	X	X	X				
Location/proximity		X	X	X	X		X	X	X	X			X	X	X	X
Educational system	X	X	X	X			X	X	X	X		X		X		X
Rural tranquility	X	X	X	X			X	X	X	X		X				
Clean water		X	X		X	X			X	X	X	X		X		
Parks/recreational opportunities		X	X	X		X	X		X	X			X	X		
Government/public services		X					X	X	X		X	X	X	X		X
Affordable housing		X	X		X		X		X	X			X	X	X	
Agriculture/ranching	X			X				X		X		X	X	X	X	X
Limited traffic congestion	X	X	X	X			X	X	X			X				
Environment/open space	X		X	X		X		X		X	X		X			
Cultural diversity	X	X		X				X				X			X	X
Clean air			X			X	X		X	X	X					
Business opportunities		X				X	X	X			X					
Land use planning/growth			X	X			X	X		X						
Walkable community	X							X	X							
Good climate			X	X						X						
Small community size	X	X										X				
Cultural activities				X	X											
Diverse economy													X	X		

Table 3.12: Visions From Phase I Town Hall Meetings

VISIONS													BAKERSFIELD			
In the year 2050, what do you hope to see in your community?	**Arvin**	**Delano**	**Frazier Park**	**Kern River Valley**	**McFarland**	**Mojave**	**Indian Wells**	**Shafter**	**Taft**	**Tehachapi**	**Wasco**	**Lamont**	**Northeast**	**Northwest**	**Southeast**	**Southwest**
Improved educational system and youth activities	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Planned and managed growth that responds to needs	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Improved infrastructure and public services	X	X	X	X	X	X		X	X		X	X	X	X	X	X
More parks and recreational programs	X	X	X	X	X		X	X	X	X	X	X	X			X
Improved public safety (less crime)	X	X				X	X	X	X	X	X	X	X	X	X	X
Improved bikeways, roads, highways		X	X	X		X	X	X	X	X	X	X	X	X	X	X
More public transit	X	X	X			X	X	X	X	X		X	X	X	X	X
Smart growth (infill, mixed-use, redevelopment, compact development, housing choices, walkable, focus on downtowns)	X	X	X	X	X		X	X	X	X			X	X	X	X
Improved local medical services	X	X	X	X		X	X	X	X	X	X	X		X		
Maintain/improve air quality	X	X	X	X	X		X	X			X	X	X	X	X	X
Diverse, affordable housing choices	X	X	X	X		X		X		X	X	X	X			X
Economic diversity, job development	X	X	X		X	X	X	X	X	X	X	X				
Maintain/improve water quality and quantity	X	X	X	X		X	X	X	X		X	X		X		
Improved local government and leadership	X	X	X				X	X					X	X	X	X
Increased use of alternative energy			X					X	X	X	X		X	X	X	X
More and better local retail	X	X	X		X	X				X	X	X				
Agriculture and ranching		X		X				X		X		X		X		X
Maintain/enhance quality of life		X	X				X	X				X		X	X	

Table 3.12: Visions From Phase I Town Hall Meetings

VISIONS													BAKERSFIELD			
In the year 2050, what do you hope to see in your community?	**Arvin**	**Delano**	**Frazier Park**	**Kern River Valley**	**McFarland**	**Mojave**	**Indian Wells**	**Shafter**	**Taft**	**Tehachapi**	**Wasco**	**Lamont**	**Northeast**	**Northwest**	**Southeast**	**Southwest**
Protected ecosystem			X	X	X		X		X	X						
Community spirit	X		X				X	X		X		X				
Identified new funding sources													X	X	X	X
Improved community image	X								X	X	X					
Reduced traffic congestion													X	X	X	X
More tourism (including eco-tourism)		X				X	X			X						
No more prisons	X	X						X			X					
Cultural, racial and age diversity							X				X		X			X
More cultural opportunities			X			X		X		X						
Expanded airports						X	X			X		X				
Expanded tree and landscaping plantings													X	X		X
No more dairies		X						X								
Separate and distinct cities	X			X												

TOP ISSUES FOR THE FUTURE

As part of the small group discussions, participants played a "card game" that challenged them to prioritize what they consider to be the top issues to address in achieving Kern's regional vision for the future. Each participant chose their top five issues from a selection of nine issues. Participants also had the option of submitting their own issues, but the vast majority worked with the original nine. (The Metro Bakersfield meetings did not feature the card game during the small group discussions.) The following figures and table displays the number of times each issue was chosen as part of participants' top five.

After facilitators tallied the top five issues within each small group, each participant received sets of cards corresponding to his small group's mutual top five issues. Each set of cards included 4 "suited" cards for an issue that correspond to general preferences for policy directions:

- **Spades**: **No change**. Maintaining today's current approach, plans and conditions;
- **Hearts**: **Some change**. Providing new levels of incentives and/or voluntary measures to encourage change;
- **Diamonds**: **Moderate change**. Establishing new levels of regulations and dedicating significant public resources to manage the issue; and
- **Clubs**: **Major change**. Aggressively managing the issue through a stronger regulatory framework and incentives with major resource impacts on the public and private sectors.

Each suited card also featured "discussion points" describing potential outcomes for choosing that particular policy direction such as restrictions on activities, or higher costs to public and/or private entities. The following table displays the number of choices of each suited card for each issue:

Essentially, the frequent choice of clubs and diamonds—which represent major and moderate levels of policy change, respectively—represent participants' desire for significant policy changes related to these issues as part of achieving Kern's regional vision. Following is a summary of participants' discussions related to each issue:

Figure 3.0: Card Game - Top Issues for Kern's Future*

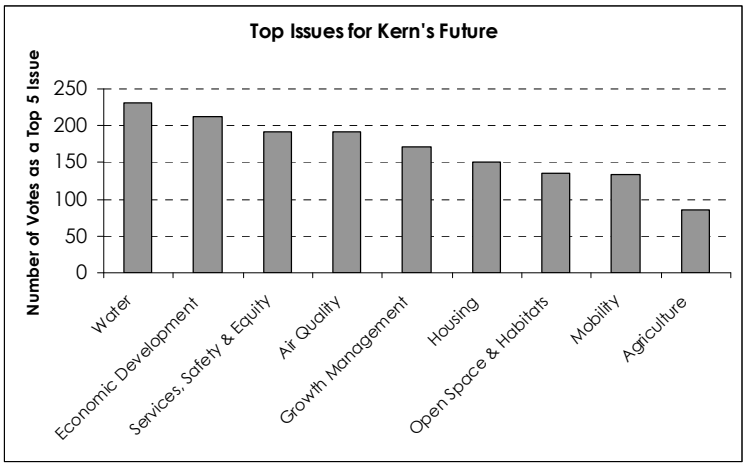


Figure 3.1: Top Issues for the Future of Metro Bakersfield

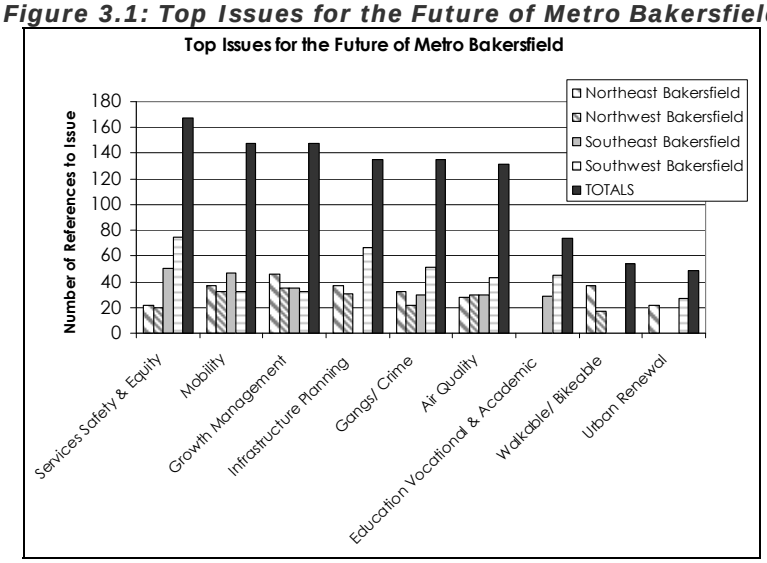
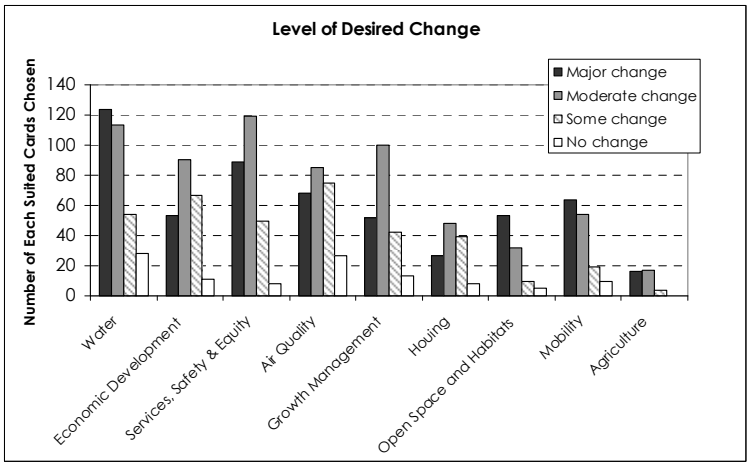


Figure 3.2: Card Game – Level of Desired Change*



**The Metro Bakersfield meetings did not feature the card game.*

Table 3.13: Card Game – Level of Desired Change

LEVEL OF DESIRED CHANGE BY TOWN HALL MEETING*

	Arvin	Delano	Frazier Park	Kern River Valley	McFarland	Mojave	Indian Wells Valley	Shafter	Taft	Tehachapi	Lamont	*TOTAL*
Water												
♣ Major change	12	9	19	12	2	7	15	7		15	26	***124***
♦ Moderate change	5	15	13	8	2	18	18	8		18	8	***113***
♥ Some change	8	4	3	3	1	5	9	6		9	6	***54***
♠ No change	3	1	0	0	1	1	10	2		10	0	***28***
Economic Development												
♣ Major change		14	3	4	1	5	10	4	0	0	12	***53***
♦ Moderate change		11	4	5	3	15	30	10	5	5	2	***90***
♥ Some change		5	0	7	1	10	21	9	2	2	10	***67***
♠ No change		2	0	0	1	2	3	0	1	1	1	***11***
Services, Safety & Equity												
♣ Major change	5	20	7	8		7	14	4	14	4	6	***89***
♦ Moderate change	13	11	6	6		17	23	9	18	10	6	***119***
♥ Some change	4	0	1	2		7	19	3	2	2	10	***50***
♠ No change	3	1	1	0		0	0	0	1	1	1	***8***
Air Quality												
♣ Major change		11	5	10	0		5	3	10	5	19	***68***
♦ Moderate change		17	12	11	2		10	8	11	10	4	***85***
♥ Some change		3	3	2	4		14	5	13	14	17	***75***
♠ No change		0	3	1	0		10	1	2	10	0	***27***
Growth Management												
♣ Major change			9		2	4	7	2	14	14		***52***
♦ Moderate change			9		4	12	31	20	12	12		***100***
♥ Some change			6		0	4	14	6	6	6		***42***
♠ No change			2		0	1	3	1	3	3		***13***
Housing												
♣ Major change	2	3				3		0	5		14	***27***
♦ Moderate change	4	1				12		6	19		6	***48***
♥ Some change	8	0				10		7	10		4	***39***
♠ No change	0	0				6		1	1		0	***8***
Open Space & Habitats												
♣ Major change	5		20	15						13		***53***
♦ Moderate change	1		8	9						14		***32***
♥ Some change	0		7	0						3		***10***
♠ No change	1		0	0						4		***5***

Table 3.13: Card Game – Level of Desired Change

LEVEL OF DESIRED CHANGE BY TOWN HALL MEETING*

	Arvin	Delano	Frazier Park	Kern River Valley	McFarland	Mojave	Indian Wells Valley	Shafter	Taft	Tehachapi	Lamont	*TOTAL*
Mobility												
♣ Major change	5	15	12			7	7	6	12			***64***
♦ Moderate change	4	11	8			2	10	14	5			***54***
♥ Some change	2	3	4			2	4	3	1			***19***
♠ No change	1	0	0			8	1	0	0			***10***
Agriculture												
♣ Major change				10	1			3		2	8	***16***
♦ Moderate change				5	5			2		5	10	***17***
♥ Some change				0	0			2		2	12	***4***
♠ No change				0	0			0		0	1	***0***

**The Metro Bakersfield meetings did not feature the card game.*

Water

Many participants acknowledged the importance of maintaining an adequate water supply and noted that water quantity and quality are essential to supporting future growth. Participants recognized water as a limited resource and generally agreed that moderate to major change be initiated through proactive comprehensive planning of future development, and significant government regulation. Conservation will be necessary both at household and industrial levels. Many also noted the local impacts of exporting local water supplies. Some participants suggested considering new water quality standards, expanding use of gray water, developing mutual-cost programs, improving supply management, implementing price inflation adjustments for low-income community members, and promoting xeriscape landscaping. Additionally, some participants noted that flood protection should be a key element addressed in new developments.

Economic Development

Participants agreed with the need to strengthen their local economies in a manner that maintains the spirit of a small town community. Many participants stressed the need to diversify local economies with new industries to reduce dependence on existing industries. To do so, participants discussed expanding the number of mid-level and skilled employment opportunities, coordinated educational and training opportunities, and focusing on industries such as tourism and technology that could build on current regional assets and economic sectors. Additionally, many participants suggested that economic development initiatives should focus on closing the growing gap between high- and low-income levels, as well as supporting local, specialized businesses. Some participants suggested that implementing such changes should be primarily market-driven, but that preserving natural and agricultural areas should remain a high priority. Some participants suggested that such efforts would help to keep future generations from leaving the region.

According to the survey (Table 3.4), less than 8% of residents would give an “A” rating to job opportunities in Kern County.

Services, Safety and Equity

Participants indicated the need to provide an array of services for all community members that support community growth and quality of life. Services necessary include: emergency response, fire protection, health care, emergency services and facilities, and social services. Additional primary care facilities should focus on serving children and families, especially for those of a lower income. Education initiatives should be expanded to include a wider array of service and trade skills, a local 4-year university, and upgraded facilities. Local health care services should be expanded to include comprehensive care and more specialties to prevent the need to travel to other regions. Public safety suggestions include controlling the growing gang presence, expanding prevention initiatives, and increasing the number of law enforcement officers. Participants stressed the need to create a mutual sense of inclusion for all members of the community—including those with a language barrier—who feel their needs are insignificant and not addressed by community leaders.

The survey (Table 3.15) indicates that citizens countywide agree (37.3% strongly agree, 45.0% agree) there is a gang violence problem in Kern County.

Air Quality

Depending on their part of the region, participants proposed varying levels of policy changes to addressing air quality. Generally, those with relatively bad air quality suggested higher levels of change, while those with relatively good air quality suggested less aggressive measures, but still expressed concern about future air quality levels becoming worse and negatively affecting public health. Some participants suggested that much of the focus should be on increasing regulations in Metropolitan Bakersfield, which they believe to be the source of much of the region's air pollution. Participants also suggested a wide range of approaches, from encouraging to requiring more energy efficient practices, public transportation, alternative fuels, compact urban growth, and public education. The survey results (Table 3.17) concur with Phase 1 participants' opinions concerning air quality As 78.3% agree (41.0% strongly agree, 37.3% agree) that the region has a serious air pollution problem.

Table 3.14: Price Research Survey – Job Opportunities						
Letter Grade Evaluation – Job Opportunities						
	A	B	C	D	F	Unable to Evaluate
West Kern	10.5%	23.5%	34.0%	17.0%	11.0%	4.0%
Central Valley	9.0%	30.7%	37.5%	13.5%	5.3%	4.0%
Mountains	6.0%	25.5%	30.0%	22.5%	12.5%	3.5%
East Kern	7.0%	22.0%	26.5%	27.0%	13.5%	4.0%
Total County	***7.8%***	***25.3%***	***34.3%***	***18.8%***	***9.8%***	***4.2%***

Table 3.15: Price Research Survey – Community Strengths					
Kern County has a major gang violence problem.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
West Kern	45.5%	41.4%	9.0%		4.0%
Central Valley	43.0%	46.0%	7.0%	1.0%	3.0%
Mountains	35.5%	46.0%	9.5%	3.5%	5.5%
East Kern	14.0%	44.5%	21.5%	4.5%`	15.5%
Total County	***37.3%***	***45.0%***	***10.2%***	***1.8%***	***5.7%***

Table 3.16: Price Research Survey – Community Strengths					
Kern County has a serious problem with childhood asthma.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
West Kern	25.5%	40.0%	7.5%	1.5%	25.5%
Central Valley	28.3%	39.3%	9.8%	1.2%	21.3%
Mountains	20.5%	32.0%	12.0%	2.5%	33.0%
East Kern	8.5%	20.5%	20.5%	2.0%	48.5%
Total County	***23.3%***	***35.1%***	***11.6%***	***1.6%***	***28.5%***

Table 3.17: Price Research Survey – Air Pollution					
Kern County has a serious air pollution problem.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
West Kern	46.0%	42.0%	9.0%	2.0%	1.0%
Central Valley	51.3%	38.3%	8.3%	.5%	1.5%
Mountains	37.5%	39.0%	16.5%	3.5%	3.5%
East Kern	8.5%	28.0%	43.5%	11.0%	9.0%
Total County	***41.0%***	***37.3%***	***15.7%***	***3.0%***	***3.0%***

Growth Management

Participants suggested that urban growth should be managed, limited, and well planned to avoid sprawl, develop the current town centers, uplift blighted and abandoned areas, and maintain communities' small town character. Communities should offer a diversity of housing types and affordability levels, integrated with businesses and services in walkable environments. Growth initiatives should be sensitive to impacts on natural habitats and air quality, and should also encourage improved coordination and integration of planning efforts between governmental agencies while maintaining local control and decision-making. Furthermore, long-term planning should ensure provision of adequate infrastructure and services including improved sidewalks and bike lanes, as well as expanded public transit. Over 50% (Table 3.20) of the Kern citizens rate their local government average when it comes to housing and land use policies.

Housing

Participants in favor of significant changes to address housing issues emphasized the need to provide more diversity of housing types, but particularly affordable housing options for families, seniors/retirees, low/fixed income residents, and young people. Participants also indicated that affordable housing should not be substandard and should support unique, small town and safe community character. Participants suggested locating housing near employment and retail centers and public transportation to increase opportunities for living close to work and shopping areas.

Table 3.18: Price Research Survey – Affordable Housing

Letter Grade Evaluation – Affordable Housing						
	A	B	C	D	F	Unable to Evaluate
West Kern	4.5%	17.5%	32.5%	30.0%	12.0%	3.5%
Central Valley	9.0%	23.5%	35.3%	18.8%	9.8%	3.5%
Mountains	7.5%	24.5%	35.5%	18.5%	9.0%	5.0%
East Kern	11.0%	22.0%	34.0%	18.5%	10.0%	4.5%
Total County	***4.5%***	***17.5%***	***32.5%***	***30.0%***	***12.0%***	***3.5%***

Table 3.19: Price Research Survey – New Housing					
We should require local governments to provide new housing that is affordable for the workforce in the area.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
West Kern	21.5%	37.5%	25.5%	13.0%	2.5%
Central Valley	22.5%	35.8%	24.8%	13.7%	3.2%
Mountains	20.0%	34.0%	29.0%	15.0%	2.0%
East Kern	22.5%	32.0%	29.0%	12.5%	4.0%
Total County	***21.9%***	***35.2%***	***26.3%***	***13.6%***	***3.0%***

Table 3.20: Price Research Survey – Housing and Land Use Policies						
How would you rate your local government when it comes to housing and land-use policies in your community?						
	Excellent	Above Average	Average	Below Average	Poor	DK/ NA
West Kern	3.0%	8.0%	55.5%	16.0%	15.5%	2.0%
Central Valley	3.0%	9.5%	54.0%	16.3%	13.3%	3.8%
Mountains	2.5%	15.5%	48.0%	16.0%	14.0%	4.0%
East Kern	2.5%	9.5%	57.5%	14.5%	11.5%	4.5%
Total County	***2.8%***	***10.3%***	***53.8%***	***15.9%***	***13.5%***	***3.7%***

Table 3.21: Price Research Survey – Future Development					
We should restrict future development to existing suburban and urban areas rather than expanding development into the existing rural areas.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
West Kern	21.0%	48.5%	19.0%	6.5%	5.0%
Central Valley	20.7%	42.0%	23.3%	7.0%	7.0%
Mountains	26.5%	36.0%	26.5%	6.0%	5.0%
East Kern	19.5%	34.0%	37.0%	4.5%	5.0%
Total County	***21.5%***	***40.8%***	***25.4%***	***6.3%***	***6.0%***

Open Space and Habitats

Most participants agreed that, with the pressures for future growth and development, there is significant need for long-term measures that protect Kern's unique open space, habitats, and public lands. Some participants who live in more rural and natural areas suggested that these areas are important to preserving the unique culture and character of their communities. Other participants supported increasing the use of open space for recreational uses. Some participants suggested that local governments, the County, and public lands agencies increase coordination to improve maintenance and protection of these areas.

Mobility

While some participants emphasized the need for improved and expanded public transportation service, others focused on the need to improve and widen roads for automobile access, and yet others suggested that a combination of these solutions is necessary. Public transportation improvements should include increasing local bus services, as well as developing high-speed rail to other regions. Roadway planning should include additional lanes on heavily traveled corridors; safety improvements to better protect pedestrians, cyclists and drivers; and improvements to highway entrances and exits. The survey (Table 3.24) indicates that citizens are generally split on the issue of whether local governments have adequate funding to provide roads and public transportation projects to accommodate future growth. Additionally, (Table 3.22) 66.0% disagree (24.9% strongly disagree, 41.1% disagree) that roads throughout the county are safe and adequate to handle the current population.

Table 3.22: Price Research Survey – Road Safety					
Roads throughout Kern County are safe and adequate to handle the current population.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/ NA
West Kern	2.5%	24.0%	41.5%	29.0%	3.0%
Central Valley	4.3%	24.7%	41.3%	28.7%	1.0%
Mountains	4.5%	30.5%	42.5%	21.0%	1.5%
East Kern	5.0%	41.5%	38.5%	13.5%	1.5%
Total County	***4.2%***	***28.3%***	***41.1%***	***24.9%***	***1.5%***

Table 3.23: Price Research Survey –Transportation to Work							
What is your usual method of transportation to and from work?							
	Drive Alone	Car Pool	Public Transit	Walk/ Bike	Othe r	No Outside Work	DK/NA
West Kern	51.5%	9.5%	2.0%	2.0%	.5%	27.5%	7.0%
Central Valley	60.2%	7.2%	2.7%	1.3%	.8%	21.5%	6.3%
Mountains	53.5%	5.5%	1.5%	1.0%	3.0%	25.0%	11.0%
East Kern	56.0%	8.0%		3.5%	.5%	25.0%	7.0%
Total County	***51.5%***	***9.5%***	***2.0%***	***2.0%***	***.5%***	***27.5%***	***7.0%***

Table 3.24: Price Research Survey – Funding for the Future					
Local governments have adequate funding to provide the roads and public transportation projects needed to accommodate future population growth.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/ NA
West Kern	11.0%	33.0%	30.0%	16.0%	10.0%
Central Valley	13.2%	34.2%	30.5%	14.0%	8.2%
Mountains	7.0%	25.0%	33.5%	22.5%	12.0%
East Kern	5.0%	21.5%	40.5%	24.0%	9.0%
Total County	***10.4%***	***30.3%***	***32.6%***	***17.4%***	***9.3%***

Agriculture

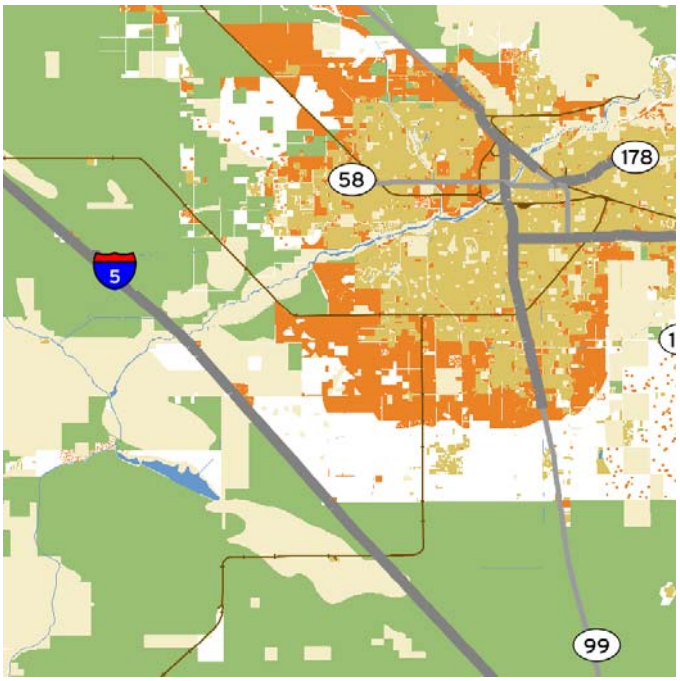
Of the few participants who discussed agriculture, most agreed that significant levels of protection are necessary to protect this valuable industry and its land use.

Table 3.25: Price Research Survey Results—Loss of Farm and Agricultural Lands					
How much of a problem is the loss of farm and agricultural land in Kern County?					
	Major Problem	Problem	Minor Problem	Not a Problem	DK/ NA
West Kern	50.0%	26.0%	13.5%	7.0%	3.5%
Central Valley	47.8%	24.8%	13.0%	10.5%	3.8%
Mountains	50.0%	24.5%	11.5%	7.5%	6.5%
East Kern	35.0%	23.0%	10.5%	13.5%	18.0%
Total County	***46.4%***	***24.7%***	***12.4%***	***9.9%***	***6.6%***

Table 3.26: Price Research Survey Results—Development on Farm and Agricultural Lands					
We should forbid urban and suburban development on farm and agricultural lands					
	Strongly Agree	Agree	Disagre e	Strongly Disagree	DK/NA
West Kern	29.0%	32.5%	25.0%	7.5%	6.0%
Central Valley	25.0%	33.8%	29.0%	8.2%	4.0%
Mountains	29.5%	33.5%	20.0%	12.5%	4.5%
East Kern	24.0%	38.5%	25.5%	6.0%	6.0%
Total County	***29.0%***	***32.5%***	***25.0%***	***7.5%***	***6.0%***

4. scenarios development

One of the required tasks of the Blueprint process is modeling and displaying potential growth "footprint" scenarios through the year 2050 in visually representative ways. The purpose of the modeling is to support the visioning and education processes as part of public involvement and coordination with local communities' elected officials and public agency staff.



A sample growth "footprint" scenario of Metro Bakersfield generated by the UPlan modeling tool

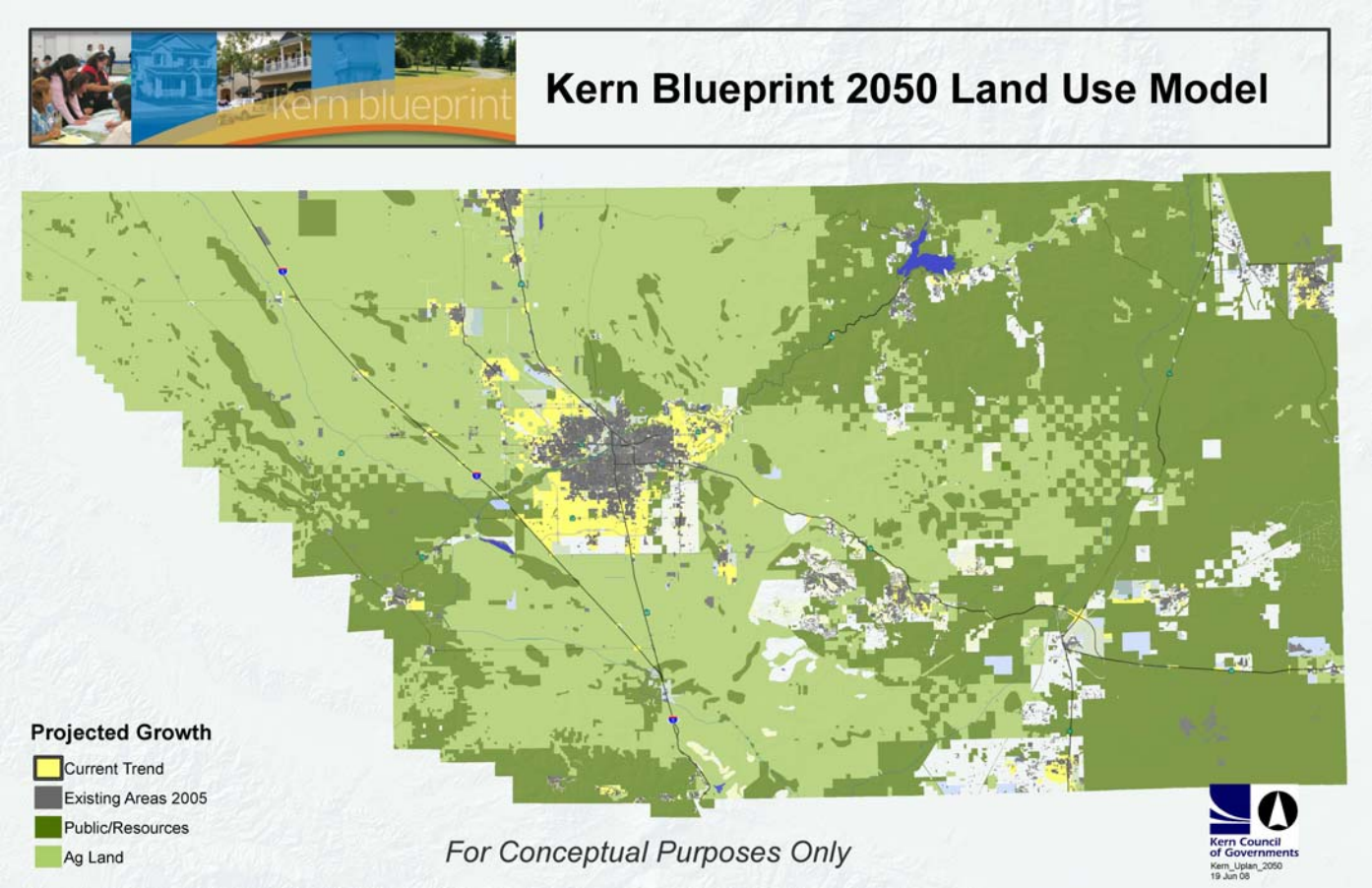
Kern COG uses a combination of computer based Geographic Information System, or "GIS" tools to conduct the modeling. The primary tool, UPlan, developed by the University of California, Davis, is a land use modeling software used to generate future growth models by using population data, general plan land use, along with other attraction layers such as existing urban areas and spheres of influence. Discouragement layers were used to limit growth into areas such as public lands and certain environmentally sensitive areas. UPlan is used in conjunction with ESRI's ArcGIS software, allowing the results of UPlan models to be displayed visually as easy to understand maps.

As part of the modeling process and data analysis, Kern County is divided into eight sub areas; Metro Bakersfield, Westside Kern, North Central Kern, Frazier Park, Tehachapi, Southeast Kern, Lake Isabella, and Indian Wells. UPlan models are run to project the potential effects of future growth within each sub-area related to farmland, grazing land, public lands, habitat, military flight corridors, and others. The modeling outputs maps that display where and to what extent growth could occur under different scenarios. In addition, the modeling program computes data of acreage consumed or preserved by each

scenario.

As part of the Blueprint public participation process, Kern COG utilized UPlan to generate scenarios that reflect the vision, values and growth principles identified by participants from the range of participation activities. The baseline model that identifies the current urban footprint was completed and accepted by the County and local jurisdictions in February 2007, and was featured in the Phase 1 Town Hall Meetings as part of discussions regarding visions and values (Figure 4.0).

Figure 4.0: Kern County 2050 Base Case



Based on those outreach outcomes, scenario models were developed in September 2007 as part of the Phase 2 Town Hall Meetings and Roundtables, where participants reviewed and discussed their choices for an alternative scenario. Kern COG is currently using the alternative scenario to develop various alternative options for growth and transportation systems. The models and workshop procedures developed by Kern COG are now being used by many of the other COG's for their own Blueprint projects. Kern and the other eight COG's are now preparing valley-wide scenarios in addition to their local scenarios.

In addition to the on-going Blueprint modeling, Kern COG has begun to develop the technology and processes for integrating the Uplan land use model with transportation models. This composite modeling tool will provide local communities and the Kern region as a whole with richer data about how transportation and land use scenarios could interact to support or detract from creating communities that maximize mobility, mitigate poor air quality, and use spaces efficiently.

METHODOLOGY

The key components of UPlan modeling are projected populations, land use policies from the general plan of each jurisdiction, attraction areas, discouragement areas, and masks. Planning professionals and elected officials from jurisdictions in the Kern region consulted with Kern COG staff on modifying the UPlan default areas and parameters to provide the most locally-relevant inputs for the model. Additionally, data was also derived from a 2006 GIS based buildout analysis provided by the City of Bakersfield Planning Department for metropolitan Bakersfield area. The population projections are based on California Department of Finance data. This forecast is higher than the Kern COG adopted growth forecast, and was used to provide consistency between the models being developed for the seven other County Blueprints to the North.

The scenario models were created by inputting a range of increasing densities,

or levels of compact development, from the base model. Four scenarios (Figures 4.1 - 4.4) were developed as follows:

- **No change**, or maintaining development patterns as projected in today's local land use planning policies (a.k.a. status quo, current trends, recent trends, base case)
- **Some change**, or some increase in compact development
- **Moderate change**, or a moderate increase in compact development
- **Major change**, or a major increase in compact development

Example images, indicators, and a graphics were developed for each scenario, which displayed the potential changes in the urban footprint between the scenarios. Additionally, scenarios are viewed at the sub-regional level to support more detailed understanding of potential changes to local communities.

The alternative scenario (see Chapter 6) was derived by summarizing the numerical values of the scenarios selected by participants in the Phase 2 Town Hall Meetings. The countywide average was 3.17, which represents somewhat higher than "Moderate change" (3.00).

Population Projections

The UPlan population projections (Table 4.0) are the basis for generating the UPlan base case and alternative scenarios. Sub-area population distribution is derived from Kern COG's adopted forecast from 2005, updated in September 2007 to the California Department of Finance projections. The distribution percentages for each sub area were modified after consultation with planners from all jurisdictions.

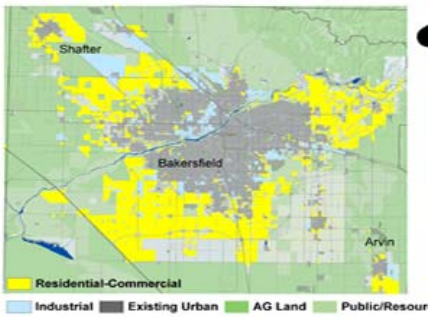
Table 4.0: Sub Areas 2050 Population		
Sub Areas	**2050 Population**	**Percent of total**
Westside Kern	27,378	1.3%
No Central Kern	143,210	6.8%
Frazier Park	29,484	1.4%
Tehachapi	52,703	2.5%
Metro Bakersfield	1,682,713	79.9%
Southeast Kern	103,195	4.9%
Lake Isabella	18,954	0.9%
Indian Wells Valley	48,439	2.3%
Total County	***2,106,024***	***100%***

KERN BLUEPRINT 2050 – PHASE II SCENARIOS

No Change

Figure 4.1: Kern Blueprint 2050 – Phase II, No Change

Average Pop. 13 / Acre (4 households)



PLANNING THEME:
* Future development same as today
  94% Single Family
* Outward growth pattern
* Job-housing imbalances in sub-areas.

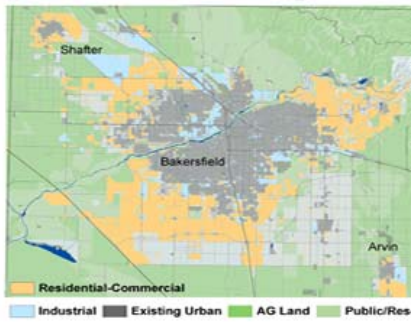
COUNTY WIDE IMPACTS:

Air Quality - CO2 tons/yr	3,384,000
Ag/Open Space - Acres consumed	102,000
Water Quality - Acre/ft consumed	95,000
Mobility - Annual Vehicle Miles	42,000

Some Change

Figure 4.2: Kern Blueprint 2050 – Phase II, Some Change

Average Pop. 16 / Acre (5 households)



PLANNING THEME:
* More housing choices, some re-investment level
* Mix of land uses - 79% Single Family
* Core areas get some growth.

COUNTY WIDE IMPACTS:

Air Quality - CO2 tons/yr	2,938,000
Ag/Open Space - Acres consumed	86,000
Water Quality - Acre/ft consumed	82,000
Mobility - Annual Vehicle Miles	38,000

Kern Blueprint 2050 - Phase II

Compact Development

- Provide Mixed Use Communites
- Locate housing, jobs, shopping and services close together.
- Walkable neighborhoods
- Public transit

Urban Growth Concepts

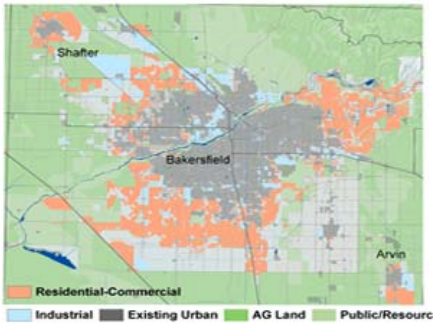
Population 2050

Kern County = 2,100,000
Greater Metro= 1,590,000

Moderate Change

Figure 4.3: Kern Blueprint 2050 – Phase II, Moderate Change

Average Pop. 19 / Acre (6 households)



PLANNING THEME:
* Slightly higher housing densities and re-investment levels than Some Change
* Mix of land uses - 67% Single Family
* Core areas get moderate growth.

COUNTY WIDE IMPACTS:

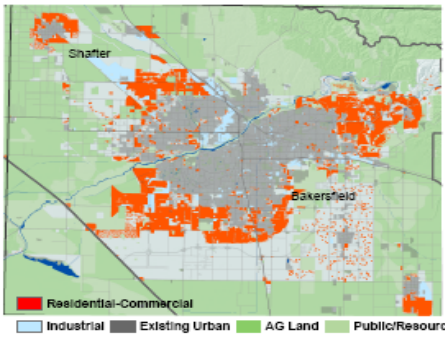
Air Quality - CO2 tons/yr	2,591,000
Ag/Open Space - Acres consumed	71,000
Water Quality - Acre/ft consumed	73,000
Mobility - Annual Vehicle Miles	31,000

Major Change

Figure 4.4: Kern Blueprint 2050 – Phase II, Major Change

Average Pop. 29 / Acre (10 households)

Major Change



PLANNING THEME:
* Highest housing densities and re-investment levels
* Mix of land uses - 51% Single Family
* Core areas get the most growth.

COUNTY WIDE IMPACTS:

Air Quality - CO2 tons/yr	2,045,000
Ag/Open Space - Acres consumed	47,000
Water Quality - Acre/ft consumed	54,000
Mobility - Annual Vehicle Miles	24,000

PERFORMANCE MEASURES

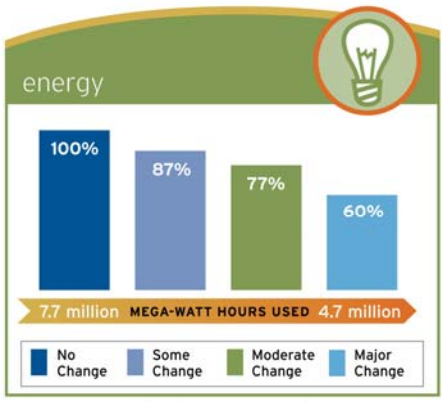
To better understand the potential impact of alternative scenarios, performance measures provide measurable and reasonable estimates of how varying intensities of compact development could impact a range of quality-of-life indicators. The following performance measures offer perspective about the potential impacts—both positivevand negative—that could derive from the scenarios.

Scenarios

Energy

- Index: Household electric consumption by residential land use density for each scenario
- Source: EIA 2001 Residential Energy Consumption Survey
- Method: Annual kilowatt-hours per housing type (1, 2-4, 5+ dwelling units) multiplied by households per land use scenario

Figure 4.5: Performance Measures - Energy

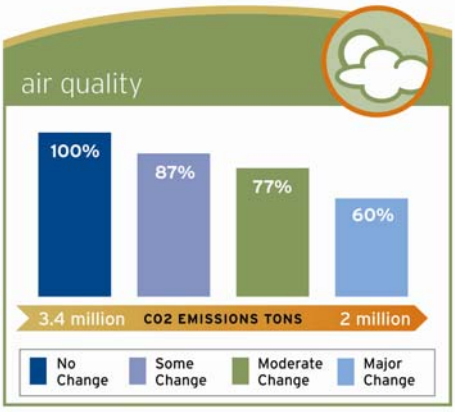


Source: EIA 2001 Residential energy Consumption Survey.

Air Quality

- Index: Household energy consumption by average CO2 per Megawatt-hour (MWH) in California for each scenario
- Method: State average CO2 generation per MWH multiplied by household energy consumption by Uplan land use, per scenario. CO2 was used over NOx as an air quality indicator because many of the CO2 reduction techniques also improve NOx
- Source: EPA's eGRID database 2004
- State Rate: CO2 .lbs / MWH = 879

Figure 4.6 Performance Measures – Air Quality



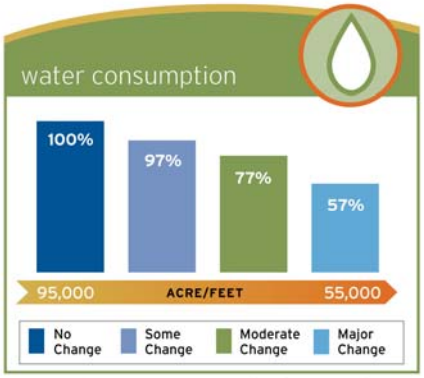
Source: EPA's eGRID database 2004.

Scenarios (continued)

Water Consumption

- Index: Household by land use for each scenario
- Method: Acre-feet per year per land use multiplied by household per land use, per scenario
- Source: City of Redwood City "2005 Urban Water Management Plan" projected to the year 2030. (Water rates for Kern County not available.)
- San Mateo County consumption rates (Redwood City):
  -Single family home = 5,771 acre-feet
  -Multi family home = 2,994 acre-feet

Figure 4.7 Performance Measures – Water Consumption

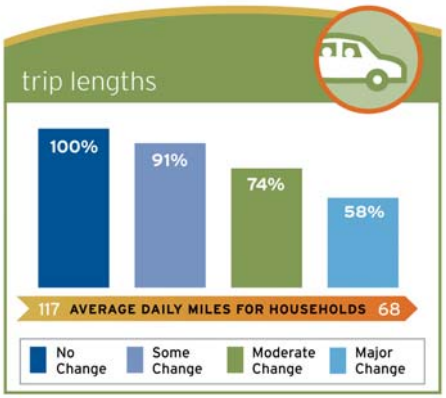


Source: EPA "Protecting Water Resources with Higher Density Development", 2005. City of Redwood City "2005 Urban Water Management Plan" Projected 2030.

Trip Lengths

- Index: Daily vehicle miles traveled by single family and multi family households for each scenario
- Method: Average daily trips for single family and multi family households (statewide) multiplied by the average trip length from the Kern regional travel model to establish average trip length by housing type. Kern average trip lengths by housing type were multiplied by households per Uplan land use for each scenario.
- Sources: Kern COG Travel Model; California DOT 2000-2001 California Statewide Household Travel Survey Final Report (June 2002).
- Kern County daily trip rates by household type:
  -Single family = 12 trips X 9.78 miles (avg. trip length)
  -Multi family = 6 trips X 9.78 miles

Figure 4.8 Performance Measures – Trip Lengths



Source: California DOT 2000-2001 California Statewide Household Travel Survey Final Report (June 2002).

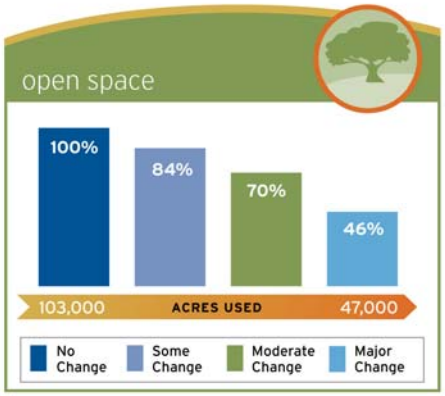
Scenarios (continued)

Open Space

Includes resource areas of agriculture, range lands, oil fields, public lands, and military air space.

- Index: Acres used by residential land uses for each scenario.
- Method: Acres used by residential land uses are direct from Uplan.
- Source: Uplan model run output data Kern COG 2007.
- County residential land use rates (dwelling units per acre):
    - Very low = 1 DU / ac.
    - Low = 4 DU / ac.
    - Medium = 8 DU / ac.
    - High = 12 DU /ac.

Figure 4.9 Performance Measures – Open Space

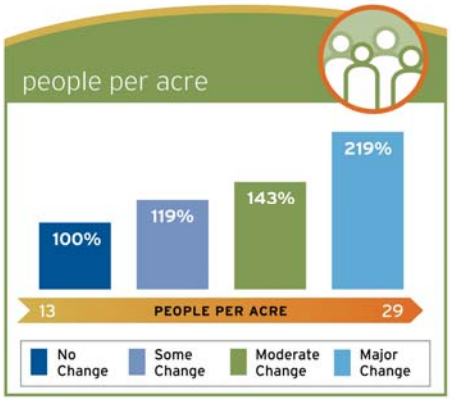


Source: Uplan model run output data.

People per Acre

- Index: Acres used by residential land use divided by the net population growth for each scenario
- Method: Net population growth divided by acres used by residential land uses for each scenario.
- Source: Uplan model run output data Kern COG 2007
- County Rates: (see Open Space)

Figure 4.10: Performance Measures – People Per Acre



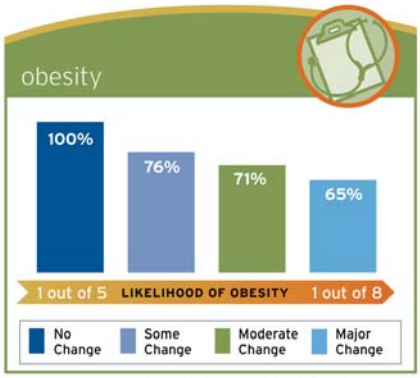
Source: Uplan data divided by population data.

Scenarios (continued)

Obesity

- Index: "The Likelihood of Obesity" factor was multiplied by the total population per scenario
- Method: Data totals (numerical) categorized in the groups of "major, some change, and no change". "Moderate" was interpolated by taking the midpoint between "major" and "some"
- Source: "Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars." LD. Frank, PhD, MA. Andresen, MA, TL. Schmid, PhD, 2004 American Journal of Preventive Medicine.
- Metropolitan Atlanta probability rates for the likelihood of obesity:
    - No change = .22
    - Some change = .17 (interpolated)
    - Moderate change = .16 (interpolated)
    - Major change = .15

Figure 4.11: Performance Measures – Obesity

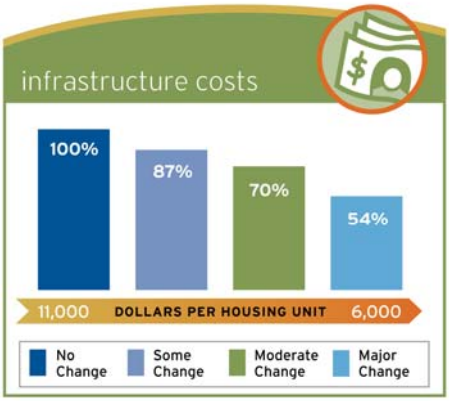


Source: Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars." 2004 American Journal of Preventative Medicine.

Infrastructure Costs

- Index: Infrastructure costs per residential land use density multiplied by the population per scenario. The data given were in the groups of "major, some, and no change." "Moderate" was interpolated as the midpoint between major and some.
- Source: "Residential Development Fees, California Cities and Counties, " California Department of Housing and Community Development- Division of Housing Policy South San Joaquin Valley average.
- Kern rates (dollars per housing unit):
    - Major change = $6,029/DU
    - Moderate Change = $7,831/DU (interpolated)
    - Some Change = $9,632/DU
    - No Change = $11,123/DU

Figure 4.12: Performance Measures – Infrastructure Costs



Source: "Residential Development Fees, California and Counties". California Department of Housingand Community Development

5. guiding principles and scenarios assessment

This chapter summarizes Phase 2 outreach efforts, which focused on engaging the community in reviewing guiding principles for growth and assessing potential scenarios for future growth. **Town Hall Meetings** were held October 2007 – February 2008 in the communities of Arvin, Delano, Frazier Park, Greenfield, Kern River Valley, Lamont, McFarland, Mojave, Ridgecrest, Shafter, Taft, Tehachapi, Wasco, and Metro Bakersfield. Also featured are excerpts from the **Community telephone survey** conducted in April 2008 by Kern COG, which are noted along-side results from the Town Hall Meetings. This statistically valid, random survey examined public attitudes and perceptions regarding several quality-of-life issues within Kern County.

FORMAT OF TOWN HALL MEETINGS

The dates and locations of the sixteen town hall meetings can be seen in Table 5.0, along with the number of attendees. Additional meetings that occurred with specific organizations are shown in Table 5.1. Of the 551 attendees, many filled out an anonymous demographic form. Results can be seen following in Tables 5.2 through 5.5.

Table 5.0: Dates and Locations of Town Hall Meetings		
Date	**Location**	**# of Attendees**
Wednesday, October 3, 2007	Mojave/Rosamond/California City	9
Tuesday, October 9	Tehachapi/Stallion Springs	55
Wednesday, October 10	Taft/Maricopa/Buttonwillow	24
Tuesday, October 16	Lamont (Spanish language)	22
Wednesday, October 17	Arvin	22
Tuesday, October 23	Delano	17
Wednesday, October 24	Kern River Valley	25
Friday, October 26	Greenfield Walking Group	39
Tuesday, October 30	McFarland	9
Wednesday, November 14	Ridgecrest/Inyokern	42
Tuesday, November 27	Shafter	15
Wednesday, November 28	Wasco	18
Tuesday, December 11	Frazier Park	17
Tuesday, January 29	Bakersfield*	29
Wednesday, January 30	Bakersfield*	15
Wednesday, February 6	Bakersfield*	79
	Total	***437***

*Co-sponsored with Greater Bakersfield Vision 2020

Table 5.1: Additional Meeting Dates and Locations		
Date	**Location**	**# of Attendees**
Wednesday, January 16, 2008	American Surveyors and Civil Engineers	48
Thursday, February 14	Department of Public Health	51
March 7, 2008	Kern High School District Students & Instructors	15
	Total	***114***

Table 5.2: Gender of Participants		
Gender	**#**	**% of Total**
Male	130	46.1%
Female	138	48.9%

Table 5.3: Age of Participants		
Age	#	**% of Total**
Under 18	5	2%
18 - 29	21	7%
30-39	27	10%
40-49	51	18%
50-59	85	30%
60-69	58	21%
70-79	23	8%
80-89	4	1%

Table 5.4: Race/Ethnicity of Participants		
Race / Ethnicity	**#**	**% of Total**
White / Caucasian	165	59%
Hispanic / Latino	66	23%
Asian	7	2%
African American / Black	11	4%
American Indian	6	2%
Pacific Islander	2	0.7%
Two or More Races	8	3%

Table 5.5: Affiliation of Participants		
Attended the Meeting Representing:	**#**	**% of Total**
Resident	174	62%
Business Community	40	14%
Government Agency	43	15%
Other	33	12%

The town hall meeting objectives were to:

- Share information about the Blueprint's purpose and process;
- Report on the outcomes of Phase One outreach activities including visions and values for the Kern region;
- Facilitate and record participant comments regarding draft principles for growth management in the region;
- Introduce conceptual growth scenarios and associated performance measures; and
- Facilitate and record participant comments regarding the scenarios.

Following a brief Kern COG presentation regarding the purpose of and need for the Blueprint and results from Phase One outreach activities, participants joined small group discussions that Kern COG staff and other volunteers facilitated and recorded. Part 1 of the discussions involved participants reviewing draft principles for achieving the regional vision, and providing input as to how effective each principle might be in doing so. Part 2 involved participants reviewing maps of draft scenarios for growth and associated performance measures at the sub-regional level and indicating their alternative scenario for growth.

GUIDING PRINCIPLES

Conserve energy and natural resources, and develop alternatives

Water was the most frequently discussed of the many natural resources participants identified (Table 5.6). A majority expressed concern about water supply meeting growing demand and suggested that conservation, regulation, and management initiatives require consideration. Additionally, participants suggested that solar, wind, geothermal, and bio-fuels could be effective resources for many Kern communities, not only in providing energy, but also in serving as new economic development initiatives as well. Participants suggested that green building standards, energy efficiency requirements, and solar power infrastructure as part of new development could be helpful conservation measures. Some participants linked the need for clean air and water resources to preserving community health.

Table 5.6: Effect of Energy and Natural Resources Conservation				
♣ **Major effect**	♦ **Moderate effect**	♥ **Small effect**	♠ **No effect**	***X Delete***
81%	**13%**	**4%**	**1%**	**1%**

Provide adequate and equitable services

This principle received the highest support with participants suggesting that comprehensive community services for health, education, safety and recreation are integral to quality-of-life (Table 5.7). Such services should be maintained and developed to keep pace with growth. Regarding education, many participants suggested that standards and achievement levels should be increased along with providing adequate facilities, both in K-12 and higher education sectors. Some participants indicated that adults would also benefit from new vocational and workforce training opportunities. Many other participants suggested the need is growing for expanded medical services and facilities including hospitals, urgent care, and clinics, which are lacking in many communities throughout the region despite increasing costs for care. The growing youth and senior populations will continue to increase demand for these services and facilities. Participants also suggested that youth require new and expanded park and recreation opportunities that address their physical activity and care needs. Some participants indicated the need for providing adequate levels of public safety services including law enforcement and fire protection. Finally, in the broadest sense of service needs, some participants suggested that some communities have greater needs than others, and that ensuring equitable distribution is important for maintaining quality-of-life for all community members.

Table 5.7: Effect of Adequate and Equitable Services				
♣ **Major effect**	♦ **Moderate effect**	♥ **Small effect**	♠ **No effect**	***X Delete***
85%	**10%**	**4%**	**1%**	**<1%**

Table 5.8: Godbe Research Survey - Effect of Adequate and Equitable Services					
Looking ahead to the next 20 years, on a scale of 0 to 4, 0 being not important to 4 being extremely important, how important is_____?					
	Total County	West Kern	Central Valley	Moun-tains	East Kern
Improving fire and emergency medical services	3.3	3.4	3.4	3.1	3.3
Improving local health care and social services	3.4	3.4	3.4	3.1	3.3
Improving crime prevention and gang prevention programs	3.6	3.5	3.6	3.3	3.4
Improving the quality of public education	3.6	3.6	3.6	3.4	3.4

Enhance economic vitality

Participants identified economic development as a key driver to quality of life and linked it to other principles (Table 5.9). Specifically, they indicated higher education and economic development initiatives should be linked to ensure that current and future industries have a strong base of local workers to sustain their operations. A majority of participants supported providing jobs, vocational training opportunities and mentorships to current residents, especially youth, to better enable them to stay as long-term residents. Some participants stressed the need to diversify employment opportunities across the spectrum of skill and income levels. Others linked the need to provide housing choices that support workforce development. Additionally, some participants suggested that alternative energy initiatives could form the basis

of new industries for the region including wind and solar power. Others suggested that economic development within local communities is important to ensuring a strong sales tax base.

Table 5.9: Effect of Enhanced Economic Vitality

♣ Major effect	♦ Moderate effect	♥ Small effect	♠ No effect	*X Delete*
65%	**25%**	**8%**	**2%**	**0%**

Table 5.10: Godbe Research Survey – Economic Development

Looking ahead to the next 20 years, on a scale of 0 to 4, 0 being not important to 4 being extremely important, how important is_____?

	Total County	West Kern	Central Valley	Moun-tains	East Kern
Creating more high paying jobs	3.4	3.4	3.5	3.2	3.4
Encouraging new businesses to relocate to the County in order to diversify the local economy	3.2	3.2	3.2	3.1	3.3

Provide a variety of housing choices

Participants supported the concept of providing a range of housing types to meet the varied needs of all residents related to age, family size, mobility, culture and income (Table 5.11). While many participants supported the need for more affordable housing options, some participants expressed concern about the potential effect that such housing may have on crime levels. Many participants suggested that developing housing stock should be closely linked with economic development and workforce projections in each community to better enable residents to live and work in the same community and reduce traffic congestion. Others suggested that the market is the primary driver of housing choices, and that public sector influences may not be effective. Some participants expressed concern that current housing stock not be lost for the

sake of new housing, and that communities should consider opportunities to preserve and rehabilitate current stock. Furthermore, some participants suggested that new housing stock should be designed with "green"/sustainable practices, be located in walkable communities, and minimize the amount of necessary land and space. Others indicated the need for ownership and rental opportunities, as well as supportive home-buying and loan programs.

In 2008, the Godbe Research Survey of 1200 participants (Tables 5.12 – 5.14) in Kern found the following views about peoples' housing preferences:

- 84 percent of the residents would consider a single-family home with a large yard and 65percent would consider one with a small yard. This preference for single-family homes was consistent across the four regions of the County.
- In contrast, 40 percent of residents would consider a townhouse or condominium, and only 29 percent and 21 percent would consider an apartment or housing in a mixed-use building, respectively.
- The survey also assessed factors that influence housing choices, and the results revealed that energy efficient housing and a neighborhood with yards or land separating the homes are the most important to residents. The benefits of high-density housing, such as a closer proximity to work and services, were relatively lower in importance.
- The compact housing choices (townhomes, condos, apartments) were more popular in the Valley and Westside regions than in the mountain and desert regions.

Table 5.11: Effect of Increasing Housing Choice

♣ **Major effect**	♦ **Moderate effect**	♥ **Small effect**	♠ **No effect**	***X Delete***
50%	**35%**	**11%**	**2%**	**2%**

Table 5.12: Godbe Research Survey – Importance of Housing Development

Looking ahead to the next 20 years, on a scale of 0 to 4, 0 being not important to 4 being extremely important, how important is_____?

	Total County	West Kern	Central Valley	Moun-tains	East Kern
Creating more affordable housing	3.1	3.2	3.2	2.4	2.9
Developing a variety of housing options, including apartments, town-homes and condominium	2.5	2.5	2.6	1.8	2.3

Table 5.13: Godbe Research Survey – Housing Typology Preference

Given your household income, would you consider living in _____ if you were to relocate within Kern County in the next 10 years?

	Definitely Yes	Probably Yes	No	DK/NA
A single-family home with a small yard	28%	37%	34%	0%
A single-family home with a large yard	57%	27%	15%	0%
A townhouse or condominium	13%	27%	58%	1%
A building with offices and stores on the first floor and condominiums on the upper floors	8%	13%	78%	1%
An apartment	10%	19%	71%	1%

Table 5.14: Godbe Research Survey – Housing Option Preference							
Please rate how important the housing option would be to you personally if you were to relocate within Kern County on a scale of 0 to 4, 0 being not important to 4 being extremely important.							
	Mean Score	Not Important 0	1	2	3	Extremely Important 4	DK/NA
Housing close to your work	3.0	7%	5%	15%	27%	45%	1%
Housing within walking distance to shopping, restaurants and entertainment	2.8	7%	8%	22%	26%	36%	0%
Housing within driving distance to shopping, restaurants and entertainment	3.2	2%	3%	16%	29%	50%	0%
Housing close to health care and professional services	3.2	3%	3%	16%	28%	49%	0%
Housing with access to public transportation	3.0	7%	5%	18%	25%	45%	0%
Housing within walking distance to parks and recreation programs	3.2	5%	3%	15%	26%	52%	0%
A neighborhood with yards or land separating the houses	3.4	3%	1%	10%	26%	59%	0%
Energy efficient housing	3.6	2%	1%	6%	17%	74%	0%
Housing close to quality public schools	3.3	6%	3%	10%	17%	64%	0%

Use and improve existing community assets and infrastructure

Many participants linked the need to improve existing community assets and infrastructure with new compact development and infill in existing urban areas and town centers (Table 5.15). Redevelopment and infill projects can be opportunities to rejuvenate or rehabilitate existing communities, preserve historic assets and community character, and to rehabilitate or replace old and dilapidated infrastructure such as water, sewer and roads systems. Some participants also suggested that arts, museums and multi-functional facilities would benefit communities. Others stressed the need to ensure that assets and infrastructure be of high quality, and that new funding mechanisms are necessary to achieve major infrastructure projects.

Table 5.15: Effect of Existing Assets

♣ **Major effect**	♦ **Moderate effect**	♥ **Small effect**	♠ **No effect**	***X Delete***
65%	**29%**	**6%**	**0%**	**<1%**

Table 5.16: Godbe Research Survey - Importance of Revitalization

Looking ahead to the next 20 years, on a scale of 0 to 4, 0 being not important to 4 being extremely important, how important is_____?

	Total County	West Kern	Central Valley	Moun-tains	East Kern
Revitalizing older neighborhoods and business districts that are becoming rundown	3.3	3.2	3.4	2.8	3.2

Use compact, efficient development and/or mixed land uses where appropriate

Participants supported the use of compact development and mixed land uses for many reasons (Table 5.17). First, they suggested that such development would likely be best in existing urban neighborhoods and town centers with a mix of services and housing that are conducive to walking and other non-

automobile transportation options, all of which would be particularly beneficial to seniors and those with limited mobility.

Table 5.17: Effect of Compact, Efficient Development				
♣ Major effect	♦ Moderate effect	♥ Small effect	♠ No effect	*X Delete*
53%	31%	11%	2%	3%

Furthermore, participants indicated that rural communities should retain a rural character and are less conducive to compact, mixed use development. Second, participants suggested that such development could be strategically linked to community revitalization/rehabilitation efforts and new public infrastructure such as roads, sewers and the like. However, a few participants expressed concerns about the ability to influence such development as it may be very market-driven. Finally, participants valued compact development's positive effect on preserving energy and land and using existing public infrastructure, or at least requiring less infrastructure as compared to less-compact development.

Provide a variety of transportation choices

Depending upon their community, participants suggested a range of transportation choices that would best serve their mobility needs (Table 5.18). Some suggested the best balance of transportation choices should be closely linked to the types of land uses and community designs that best support those choices. Other participants recognized environmental and economic benefits of alternative forms of transportation. Participants in more urban communities generally supported more multi-modal options such as transit, bicycling and walking, while those in more rural areas stressed the need for safe and efficient road systems to connect communities and specialized transit services such as dial-a-ride. Additional transportation-related comments included reducing traffic congestion levels, improving transportation safety among all modes, and providing more inter-regional options such as high

speed rail.

Table 5.18: Effect of Expanded Tranportation Choice				
♣ **Major effect**	♦ **Moderate effect**	♥ **Small effect**	♠ **No effect**	***X Delete***
54%	**30%**	**13%**	**2%**	**<1%**

Table 5.19: Godbe Research Survey – Importance of Transportation Improvements					
Looking ahead to the next 20 years, on a scale of 0 to 4, 0 being not important to 4 being extremely important, how important is_____?					
	Total County	West Kern	Central Valley	Moun-tains	East Kern
Expanding highways	3.0	3.0	3.1	2.3	2.8
Reducing traffic congestion	3.2	2.6	3.5	2.5	2.3
Maintaining local streets and roads	3.5	3.4	3.5	3.3	3.5
Expanding local bus services	2.9	2.6	3.0	2.5	2.8
Improving public transportation to other cities	3.0	3.0	3.0	2.7	2.8
Maintaining and improving sidewalks and bike lanes	3.0	2.8	3.1	2.2	2.8

Table 5.20: Godbe Research Survey – Alternative Transportation	
What would encourage you to use alternative transportation, such as carpooling or bus service?	
Nothing/Not interested	25%
Public transit stop near my house/work	14%
Better transit schedule/More buses	13%
Higher gas prices	12%
Carpool planning from my employer	9%
Cheaper/discounted transit fares	6%
Express bus service	5%
Extreme circumstances that make me unable to drive	3%
Environmental issues/Reducing pollution	2%
Better roads and traffic conditions	2%
Informationa bout transit/schedules	1%
Other	2%
DK/NA	16%

Conserve undeveloped land and spaces

Participants suggested this principle supports conservation of ecology, habitats, watersheds, vistas, wildlife, wildflowers, open spaces, and diverse mountain areas (Table 5.21). Some participants suggested that such features improve quality-of-life and the desirability of those communities situated in close proximity. From an economic perspective, some participants stressed the need to preserve military air space and agriculture lands as important parts of the region's economic base. Others noted the value in preserving the spaces to control sprawl, slow development or maintain buffers between communities. Some participants suggested creating more parks and recreation opportunities within these spaces where appropriate.

Table 5.21: Effect of Undeveloped Land Conservation				
♣ Major effect	♦ Moderate effect	♥ Small effect	♠ No effect	*X Delete*
62%	22%	12%	2%	2%

Increase civic and public engagement

Participants supported early and frequent civic and public engagement initiatives to address growth issues, develop solutions, and preserve community values (Table 5.22). All community members of all backgrounds, interests and ages should be involved in such initiatives. Some suggested that new community spaces be developed to accommodate such meetings, or to conduct meetings at community sites such as community centers or schools. Additionally, extensive outreach will build awareness and could include using the Internet, television advertisements and billboards. In terms of political leadership, some suggested that elected officials must be more open and representative of all needs and interests in the community. Furthermore, civic leaders should ensure their deliberations are conducted in open, transparent processes, and that the community's visions and principles for the future should be honored and carried forward in the years to come.

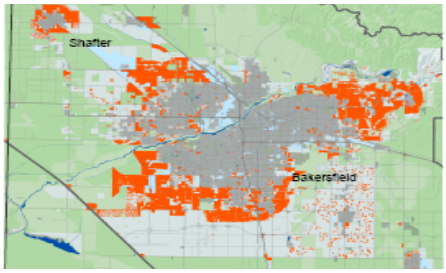
Table 5.22: Effect of Increased Civic and Public Engagement				
♣ Major effect	♦ Moderate effect	♥ Small effect	♠ No effect	*X Delete*
64%	27%	7%	1%	1%

Table 5.23: Godbe Research Survey – Government Management of Issues								
With respect to_____, are local government agencies doing too much, not enough, or just right to manage this issue?								
	Too Much	Just Right	Not Enough	DK/NA	West Kern	Central Valley	Moun-tains	East Kern
Preserving farm lands and open space and managing urban growth	4%	40%	52%	3%	-0.4	-0.5	-0.5	-0.4
Improving air quality	6%	29%	63%	2%	-0.5	-0.6	-0.4	-0.3
Improving local flood protection, water supply, and water quality	4%	44%	47%	4%	-0.3	-0.5	-0.5	-0.5
Reducing traffic congestion and improving public transportation	3%	34%	61%	2%	-0.4	-0.6	-0.5	-0.5
Supporting new businesses and industries, education programs and job opportunities	4%	33%	60%	3%	-0.5	-0.6	-0.6	-0.6
Improving housing affordability and encouraging the development of more housing options	14%	35%	48%	2%	-0.4	-0.4	-0.2	-0.3
Improving services, such as police and fire services and local healthcare and social services	6%	42%	49%	2%	-0.4	-0.4	-0.4	-0.5

Computation of mean scores: "Too Much" = +1, "Just Right" = 0, and "Not Enough" = -1

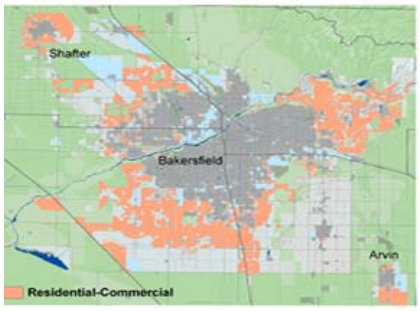
DRAFT SCENARIOS

Major Change



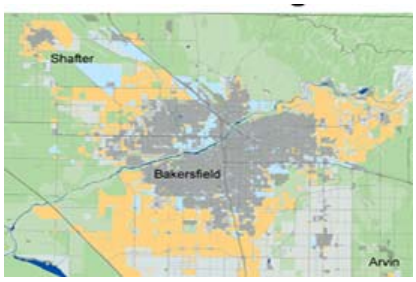
Participants who favored this scenario appreciated how it minimizes impacts on the environment and natural resources such as water, air quality and open spaces (Table 5.24). Many stressed that growth in this scenario should be concentrated in downtowns or town centers, and outlying, rural areas should remain as such. This would help to avoid loss of more rural areas and character to suburban sprawl. These town centers would provide a mix of housing and services that would allow more people to walk for daily needs and reduce the need to travel to other areas. Participants also appreciated that this scenario utilizes infrastructure efficiently and would provide many housing options and an affordable lifestyle for more people. However, some indicated that this level of change would require proactive, community-based planning in land use and transportation with strong political leadership. Those participants who did not support this scenario suggested that the level of change is too extreme and not realistic. Others expressed concern that some current neighborhoods might be removed to accommodate new growth, or a more-urban character might develop in current rural communities.

Moderate Change



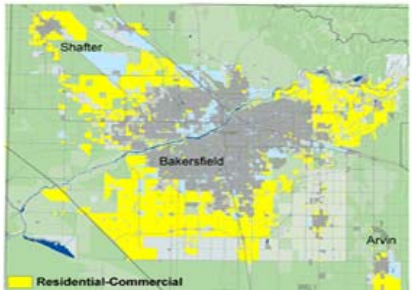
More participants selected this scenario than the others (Table 5.24). Some suggested that the level of change is more feasible as compared to the “major change” option. Participants suggested that this scenario would adequately control growth, provide new choices, and would help many communities develop the right scale and mix of development types. As in the previous scenario, participants indicated that growth and development should occur in downtowns and town centers, while preserving more residential and rural neighborhoods. This will help to reduce the amount of commuting to other communities for jobs and services. They also appreciated the opportunities to use infrastructure more efficiently and cost-effectively, and that communities would be afforded a broader range of housing options and affordability levels. Furthermore, other participants appreciated the reduced impacts on water, air quality, open spaces and agricultural lands.

Some Change



The relatively few participants who selected this scenario did so for a range of reasons (Table 5.24). Some participants suggested that this scenario is more realistic based on the market-driven nature of growth. Others preferred the stronger emphasis on single-family, detached homes, or do not want to introduce other housing types or higher building heights that might change their neighborhood character. Some participants indicated that this scenario accommodates growth adequately in terms of preserving open spaces and lands.

No Change



The few participants who selected this scenario provided little information to explain their decision (Table 5.24). A few this scenario supports a rural development pattern, or that the market will drive development of single-family, detached homes. Participants who rejected this scenario indicated that it either does not solve growth problems, is self-destructive, does not provide housing choices, enables more crime, neglects town centers, loses too much open space, or uses resources inefficiently.

Table 5.24: Effect of the Four Scenarios

Major change	Moderate change	Small change	No change
39%	**43%**	**15%**	**3%**

6. alternative scenario

The primary outcomes of Phase 2 outreach and technical planning efforts lead to development of guiding principles and an alternative scenario for growth in the Kern region for the next 40 plus years. To generate the current trend scenario and alternative scenario, Kern COG staff used the Uplan modeling software (described in more detail in Chapter 4.) By incorporating the outcomes of the Phase 2 outreach efforts, staff developed an alternative scenario for growth to the year 2050 that better reflects the region's mutual vision and guiding principles for growth.

The alternative scenario was derived by summarizing the numerical values of the scenarios selected by participants in the Phase 2 outreach efforts, which most closely represented the "moderate change" scenario. The performance measures were updated to reflect the alternative scenario's projected outcomes. In addition, to the input data from the participants in the Phase 2 outreach, the results were supplemented by a random phone survey of 1200 participants.

It is important to note that the Uplan model used to develop the alternative scenario had limitations in illustrating future growth in rural areas. To help compensate for this limitation, a conceptual view alternative scenario was developed using the output from the Uplan alternative scenario (Figure 6.4). The focus of the conceptual view is to better illustrate the guiding principles, which are the primary focus of the Blueprint, much more so than the map and performance measures. Many of the guiding principles are not conveyed in the map. For this reason the 9 written principles better reflect the results of the public outreach than the alternative scenario maps.

OUTREACH TO MEMBER AGENCIES

Having completed substantial public and technical outreach to shape the guiding principles and alternative scenario, Kern COG conducted targeted outreach to its 12 member agencies (including the 11 incorporated cities and the County) to planning staff members and elected officials. The purpose of this outreach was to update the agencies on the outreach efforts, review the refined guiding principles and emerging alternative scenario, and refine these elements based on each agency's input. Outreach included Kern COG technical staff engaging planning staff members from each agency and COG executive management engaging elected officials from each agency. Additionally, Kern COG hosted the Kern Regional Blueprint Summit on June 26, 2008, which provided presentation and workshop format for policymakers, executive staff and all interested stakeholders to review and comment on the refined guiding principles and draft alternative scenario.

Elected Officials

Kern COG executive staff members met one-on-one with 33 elected officials from each member agency in Spring and Summer 2008. While Kern COG presented updates about the Blueprint at City Council meetings, these one-on-one meetings allowed elected officials to hear updated information in a more informal format. Furthermore, Kern COG executive staff answered questions about the process outcomes and potential future steps, and heard elected officials' ideas and concerns about moving forward in the process.

Planning Staff

Throughout the Blueprint planning process, Kern COG staff members met with planning staff from each member agency in roundtable meetings and one-on-one. The meetings allowed staff from member agencies to ask questions about the process and discuss technical methodologies and approaches to integrate local planning processes with the Blueprint. Discussions regarding the alternative scenario enabled member agencies' planning staff members to direct Kern COG staff members in how to refine the base scenario and the alternative scenario, with particular emphasis on ensuring that the growth footprint displayed in the scenario represents local planning forecasts and

growth policies.

Summit

On June 26, 2008, Kern COG hosted the Kern Regional Blueprint Summit with over 170 elected officials, members of city management and other community leaders. The purpose of this summit was: (a) to orient these leaders to the Blueprint process; (b) to provide an overview of past outreach activities and other progress; (c) to present the guiding principles and elicit feedback; and (d) to facilitate a discussion about the alternative scenario. Overall, Summit participants echoed input heard from the community throughout the Phase 1 and 2 outreach efforts, and supported the alternative scenario conceptual view.

ALTERNATIVE AND CURRENT TREND SCENARIOS

The following maps and charts illustrate the alternative scenario and the base model or current trend scenarios. The current trend scenario (Figure 6.1) represents the growth footprint, planning themes and projected impacts to the year 2050, all of which are informed by current general plans, spheres of influence and local planning assumptions provided by the 11 cities and the County of Kern. The alternative scenario (Figure 6.2) represents the growth footprint, planning themes and projected impacts that reflect the region's mutual vision and guiding principles for growth to the year 2050.

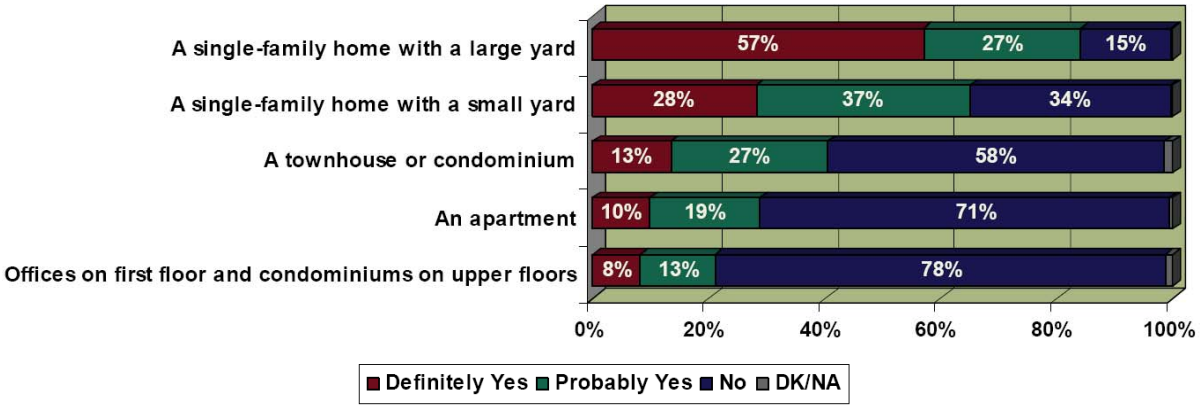
The Alternative scenario is a hybrid of the 4 scenarios presented during the Phase 2 outreach. The last exercise in each town hall meeting consisted of a poster and a menu-sized handout depicting the 4 scenarios: No Change, Some Change, Moderate Change, and Major Change. Participants at the meeting selected the scenario they felt was most appropriate for their community to help achieve their vision and values. After the Phase 2 outreach the participant's selections were compiled using the following scoring system.

No Change = 1 point
Some Change = 2 points
Moderate Change = 3 points
Major Change = 4 points

Each of the 8 sub areas were totaled and provided a score. The scores were averaged within each sub area and used to determine the mix of compact development in that area. Rural areas tended to have a lower number of compact development than the outlying areas. The over all score was slightly higher than the Moderate Change score.

These results are somewhat supported by housing choice preference question in the 2008 Community Survey by Godbe Research. A sample of 1,200 residents were surveyed in Spring of 2008 and asked what type of housing they would consider relocating to within Kern County in the next 10 years, given their household income (Figure 6.0).

Figure 6.0: Housing Typology Preference



Sixty percent would consider single family homes with small yards, 40% would consider townhomes or condominiums, 29% would consider apartments and 21% would consider condos in a mixed use building. There was less interest in the more compact housing forms in the outlying mountain and desert sub areas of the county, but greater interest in the Valley portion of the county and the Westside. A total of 476 of the residents were from Metropolitan Bakersfield area and their feedback mirrored the countywide results with the exception of a slightly lower score for houses with small yards. The more compact forms were most popular among persons 18-24 and 65+, Hispanics, renters, and persons who had been residents less than 10 years. It is

important to note that 84% would consider living in homes with large yards if they could afford it, 15% would not want a large yard and 1% was not sure. The survey would seem to suggest that the number of compact housing units needed lies somewhere between 15% and 40%. The alternative scenario proposes 39% mixed use and multi-family housing by 2050, 3 percentage points higher than the moderate scenario.

In addition, trends such as our population aging and new residents moving to the region from more compact coastal areas may increase the market for more compact housing. Kern COG will continue to monitor housing preference in future community surveys.

Alternative Scenario—Conceptual View

As displayed in Figure 6.4, the conceptual view map provides a different approach to illustrating the Blueprint guiding principles. The map illustrates the concept of creating more compact centers rather than a piecemeal implementation of compact development. The concept includes each center with a walkable core and coordinated access to transit and other services. The centers are organized roughly by population size. Existing centers represent the current distribution of population. Potential centers are based on existing general plans and the alternative scenario.

Following are descriptions of the center types, transportation corridors and conservation and resource areas featured on the conceptual view map.

Metropolitan Center

- Population greater than 50,000
- The region's primary business, civic, commercial, and cultural center
- Mid-to-high density residential, office and commercial development
- High levels of employment
- Draws activity from throughout the region
- Served by numerous transportation services
- Future enhancements:
    - Mid-to-high rise story mixed use (residential, office, and commercial) buildings

- Walkable design, improved public transit service, tourism
- High speed rail station

Community Center

- Population of 15,000 to 50,000
- Sub-regional business, civic, commercial, and cultural centers
- Mid-to-low density residential, office and commercial development
- Medium levels of employment
- Draws activity from sub-regional areas
- Future enhancements:
    - Multi-story mixed use (residential, office, and commercial) buildings
    - Walkable design, improved public transit service, tourism

Town Center

- A town center has a population of 5,000 to 15,000 population
- Town center for business activity, may include civic and cultural activities areas
- Mid-to-low density residential, office and commercial development
- Low levels of employment
- Draws activity from the town and immediate areas
- Future enhancements
    - 2-story mixed use (residential, office, and commercial) buildings
    - Walkable design, improved public transit service, tourism

Village Center

- Population of 50 to 5,000 population
- Village center for business activity and essential local services
- Low density residential, office and commercial development
- Low levels of employment
- Draws activity from the immediate area
- Provides essential services to surrounding rural areas
- Future enhancements:
    - Mixed use (residential, office, and commercial) buildings
    - Walkable design, improved public transit service, tourism

Transportation Corridors

The linear features on the conceptual view depict major transportation corridors linking the place types and employment centers.

Conservation and Resource Areas

Green resource areas on the maps are based on local general plan land use and input from local planners. Development of conservation plans to identify conservation areas can be conducted by local jurisdictions such as the several habitat conservation plans in the region. Not all areas have these plans which are extremely resource intensive to develop. The purpose of depicting these areas is to focus efforts to provide funding for development of conservation planning documents by local communities, in order to comply with grant requirements.

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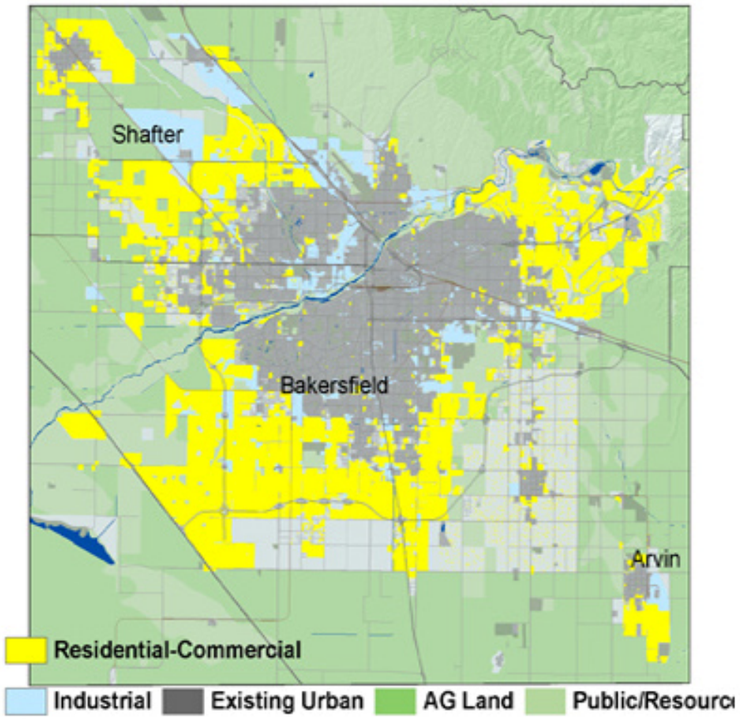
Figure 6.1: Current Trend Scenario – Data View

Average Pop. 13 / Acre (4 households)



PLANNING THEME:

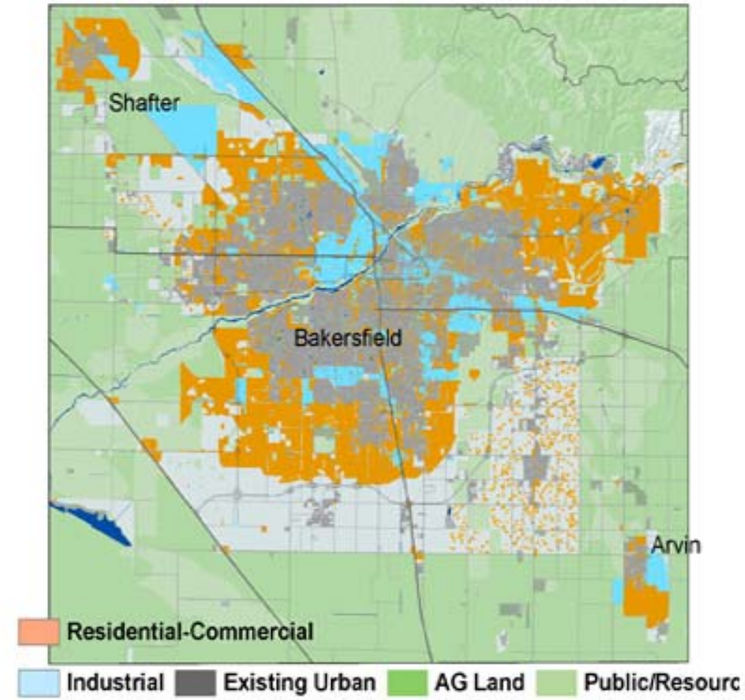
* Future development same as today
  94% Single Family
* Outward growth pattern
* Job-housing imbalances in sub-areas.

COUNTY WIDE IMPACTS:

Air Quality - CO2 tons/yr	3,384,000
Ag/Open Space - Acres consumed	102,000
Water Quality - Acre/ft consumed	95,000
Mobility - Annual Vehicle Miles	42,000

Figure 6.2: Alternative Scenario – Data View

Average Pop. 19 / Acre (6 households)



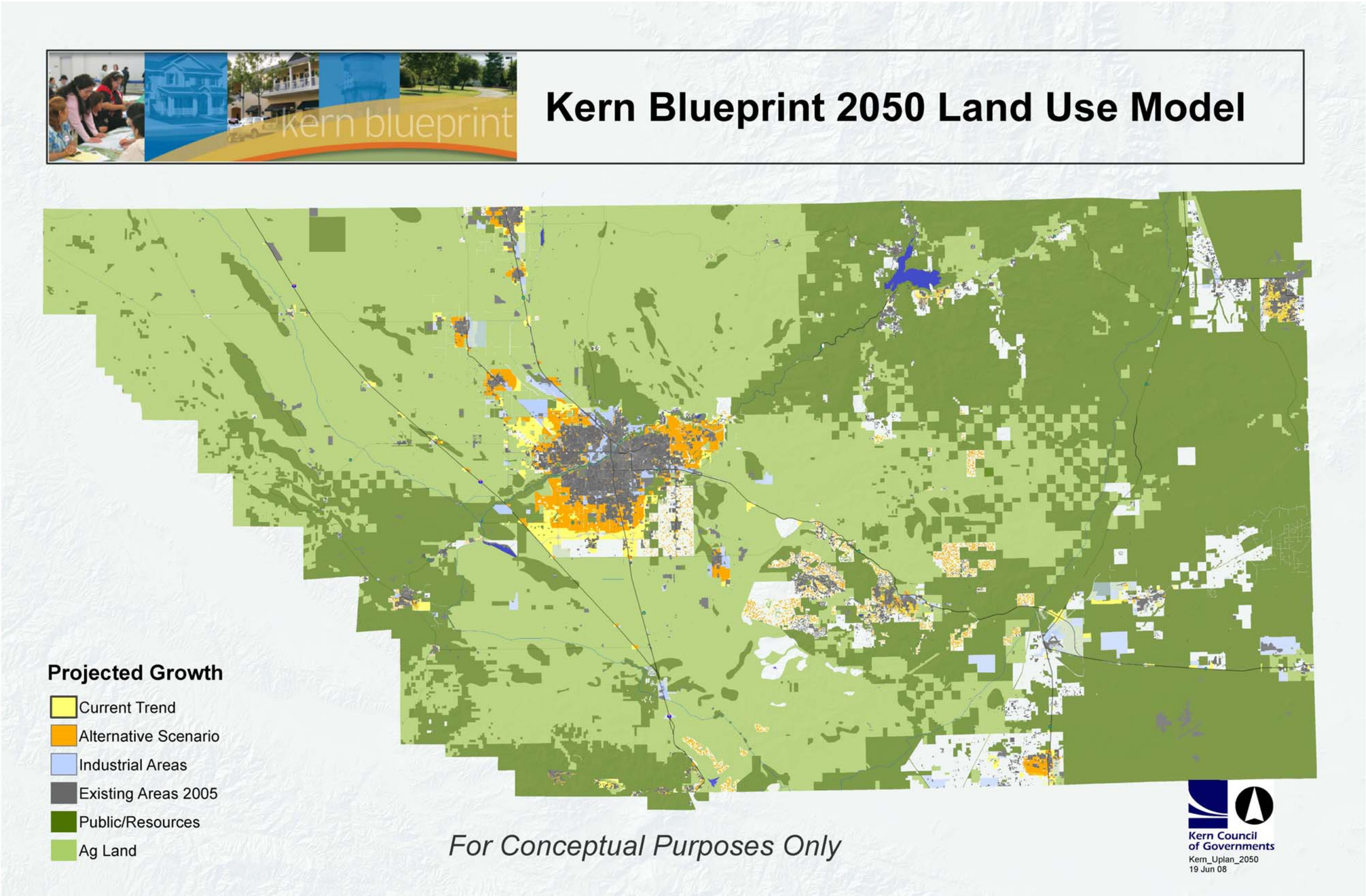
PLANNING THEME:

* Slightly higher housing densities and re-investment levels than Some Change
* Mix of land uses - 67% Single Family
* Core areas get moderate growth.

COUNTY WIDE IMPACTS:

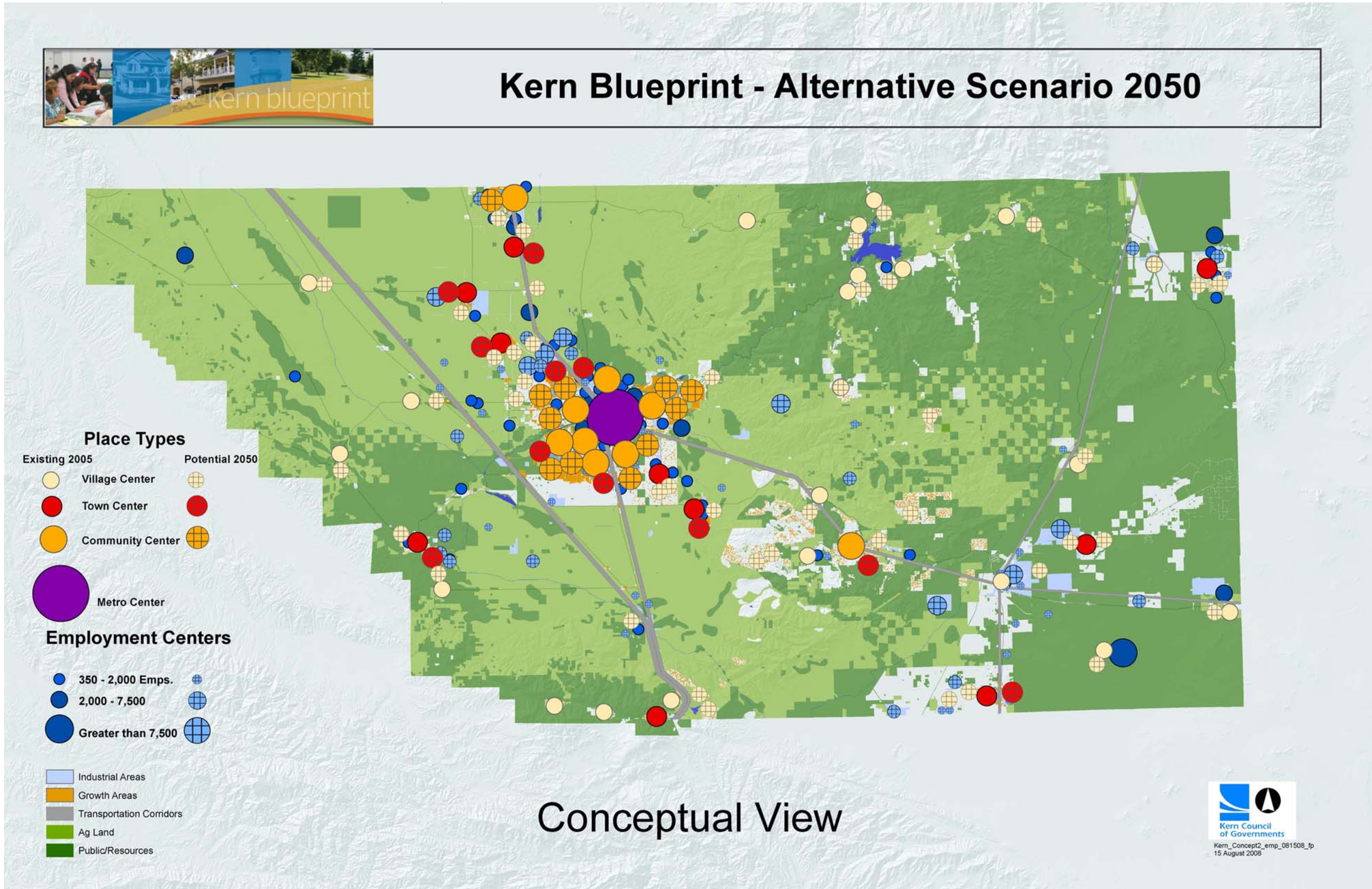
Air Quality - CO2 tons/yr	2,591,000
Ag/Open Space - Acres consumed	71,000
Water Quality - Acre/ft consumed	73,000
Mobility - Annual Vehicle Miles	31,000

Figure 6.3: 2050 Land Use Model—Current Trend and Alternative Scenarios



alternative scenario

Figure 6.4: Alternative Scenario

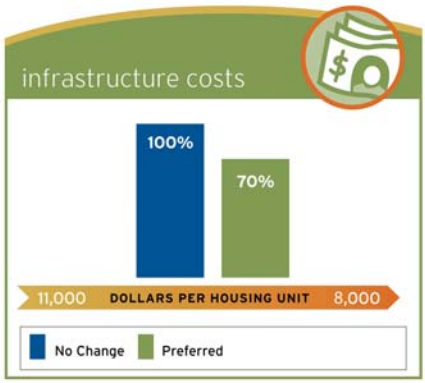


For definitions of these place types, please see pages 75-77.

PERFORMANCE MEASURES

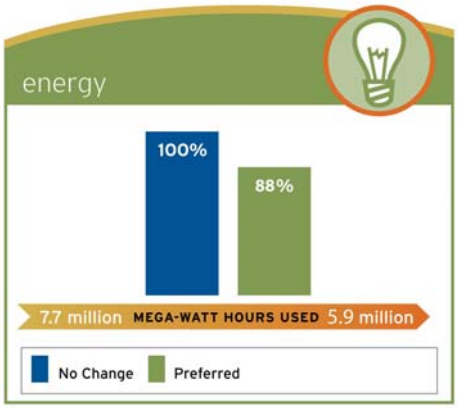
The following performance measures illustrate relative, estimated impacts—both positive and negative—that the current trend and alternative scenarios may have on a range of quality-of-life indicators. The methodology for deriving each performance measure is described in more detail in Chapter 4.

Figure 6.5: Performance Measures- Infrastructure Costs



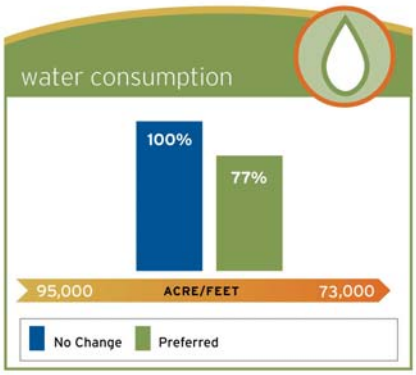
Source: "Residential Development Fees, California and Counties", California Department of Housingand Community Development

Figure 6.6: Performance Measures- Energy



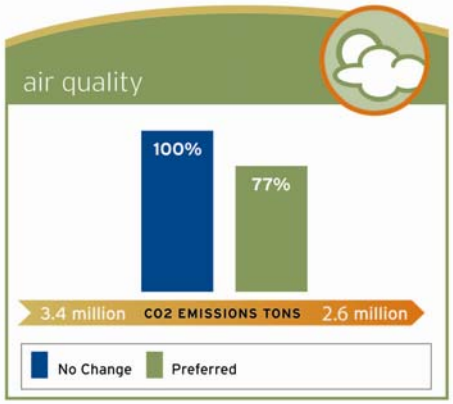
Source: EIA 2001 Residential energy Consumption Survey.
Methodology used for deriving energy measure was modified after Phase II Town Hall meetings and are not comparable with the charts in Chapter 4.

Figure 6.7: Performance Measures- Water Consumption



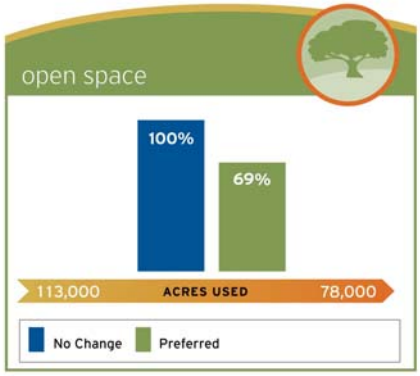
Source: EPA "Protecting Water Resources with Higher Density Development", 2005. City of Redwood City "2005 Urban Water Management Plan" Projected 2030.

Figure 6.8: Performance Measures-Air Quality



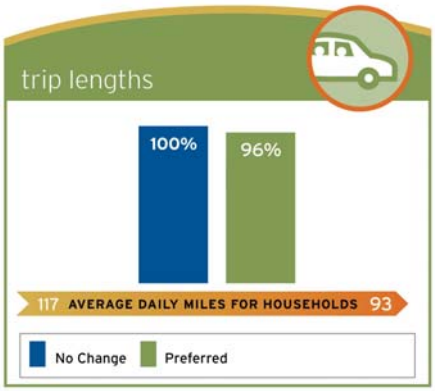
Source: EPA's eGRID database 2004.

Figure 6.9: Performance Measures-Open Space



Source: Uplan model run output data.

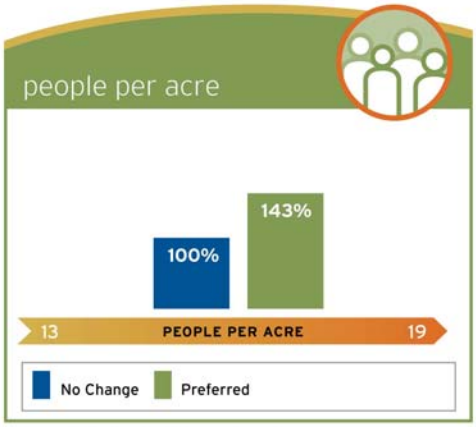
Figure 6.10: Performance Measures-Trip Lengths



Source: California DOT 2000-2001 California Statewide Household Travel Survey Final Report (June 2002).

Methodology used for deriving trip lengths was modified after Phase II Town Hall meetings and are not comparable with the charts in Chapter 4.

Figure 6.11: Performance Measures- People Per Acre



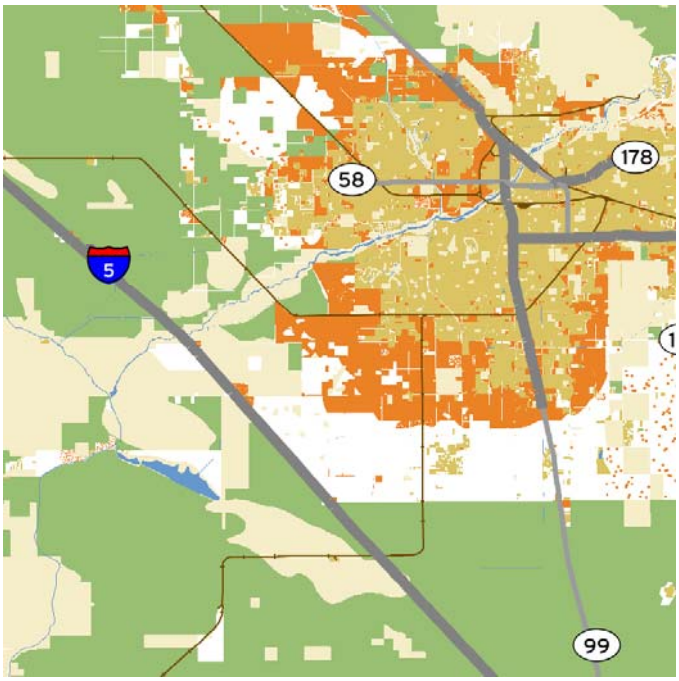
Source: Uplan data divided by population data.

Figure 6.12: Performance Measures-Obesity

Source: Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars." 2004 American Journal of Preventative Medicine.

7. implementation and next steps

The Kern Regional Blueprint provides the foundation for advancing decision-making for growth management at the local and regional levels. While the Blueprint does not mandate policies for decision-making, it does represent the region's mutual vision and guiding principles. Essentially, it provides the "blueprint" to shape our region's future that each community may use to inform how they shape their local community's future and how to collaborate regionally in the coming decades.



A sample growth "footprint" scenario of Metro Bakersfield generated by the UPlan modeling tool

With a new blueprint comes the need for the right tools. What do our region and local commu nities require to make our vision a reality and to apply the guiding principles in our decision-making processes? As the Blueprint represents a multi-faceted approach to achieving our vision, a multi-faceted "toolbox" of implementation tools for all types of communities will be necessary that address the needs of local and regional agencies and continue to meaningfully involve all stakeholders in decision-making processes.

Kern COG staff will work with the Blueprint Roundtables to:

- Develop strategies for implementation of the Blueprint;
- Develop and assign lead agency roles;
- Develop an action element;
- Develop a "Toolbox" of best bractices; and
- Design a course of training seminars for staff development.

OPTIONS FOR THE KERN REGIONAL BLUEPRINT "TOOLBOX"

Kern COG will continue to engage its member agencies and all stakeholders through ongoing involvement and collaborative planning activities to develop locally-relevant tools to facilitate implementation of the Kern Regional Blueprint. Following are examples of the types of tools that could be developed and applied in the coming months and years.

Growth Modeling

Kern COG planning staff will continue to apply and expand the Uplan modeling tool and integrate new modeling tools as appropriate. In addition to providing regional data and outputs, upon request Kern COG staff will support local planning agencies in modeling growth at the community level as part of general plan update processes or similar efforts.

Technical Assistance

In addition to the growth modeling tools, Kern COG planning staff will provide technical assistance to member agencies and the development community in support of developing plans and design projects that are consistent with the Blueprint guiding principles. Such assistance could take many forms including analysis of development proposals and providing facilitation services at community workshops.

Best Practices

A range of best practices and models that are consistent with the Blueprint guiding principles could be compiled and made available to the Kern region. These could include model development codes, guidebooks for applying the principles, street design guidelines, and model public involvement practices and techniques. Many examples exist from other Blueprint planning efforts across California and regional planning efforts across the nation.

Community Design Program

Similar to those developed in the Sacramento, San Diego, Los Angeles and Bay Area regions, a community design program would provide parameters and incentives for capital and planning projects that apply the Blueprint guiding

principles.

Awards Program

As part of continued community awareness of Blueprint, Kern COG could manage an awards program that tracks and publicizes planning and development initiatives among member agencies and individual stakeholders that support Blueprint implementation.

Benchmarking System

A benchmarking system could occur on a regular basis with the intent of tracking how the region is growing in ways that support the Blueprint. Specifically, the system could monitor transportation systems performance (e.g. congestion, travel times, trip distances, types of trips), type and amount of housing constructed, air emissions, mix of land uses, and amount of new land devoted to urbanization.

Financing Opportunities

The need to find funding options to assist in carrying out the guiding principles will be particularly challenging. The state has set aside some of the recent bond funding as an incentive for carrying out regional blueprints. Other regions have enacted local sales tax measures to provide infrastructure for sustainable community projects. Current economic challenges will likely make this a daunting task in the near term. However, Kern is one of the few regions in California with a diverse economy that is relatively insulated from economic downturns in the housing market. It also serves as a gateway region for the Southern California megalopolis, a magnet for foreign investment during tough global economic times.

NEXT STEPS

Regional Transportation Plan Update

The Regional Transportation Plan (RTP) is a long-term (20-30 year) plan for the Kern region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects, and establishes air quality conformity as required by federal regulations. The document also discusses

inter-modal and multi-modal transportation activities. For federal purposes the RTP contains an estimate of a likely or realistic development pattern for the region. This estimate informs the decision-making process for transportation funding. The forecasted growth pattern must be based upon "current planning assumptions" to assure that the air conformity provisions are meaningful. If the federal government determines that the growth development pattern is not realistic, it can withhold federal transportation funding.

As part of its adoption of the Kern Regional Blueprint, the Kern COG Board of Directors may establish the Blueprint alternative scenario as the baseline for land use and growth projections that will guide the next RTP update.

Public Participation and Blueprint Updates

A key step in developing the toolbox will be continued participation of member agencies and all stakeholders. Similar to participation activities completed to date, this would likely include continued engagement with elected officials, executive staff, subject area experts, and all community members. Activities could take the form of topical forums and workshops addressing specific growth issues such as land use, transportation, and water, possibly in conjunction with other planning and resource agencies.

Additionally, Kern COG will conduct regular updates to the Blueprint guiding principles and alternative scenario in partnership with all stakeholders. Updates will occur whenever feasible, at minimum with updates to the RTP.

All project documents, maps, handouts, and this document are available on the Kern COG website (www.kerncog.org). Public comment and survey forms will be available on the website in the future.

additional resources

Phase 1 Final Report & Appendices

http://www.kerncog.org/blueprint/

Phase 2 Final Report & Appendices

http://www.kerncog.org/blueprint/

Phase 1 & 2 Individual Meeting Reports

http://www.kerncog.org/blueprint/events/public.html

2007 Community Survey

http://www.kerncog.org/survey.php

2008 Community Survey

http://www.kerncog.org/pdf/20080601_Community_Survey.pdf

OTHER BLUEPRINT PLANNING RESOURCES

San Joaquin Valley Blueprint

http://www.greatvalley.org/blueprint/

Sacramento Region Blueprint

http://www.sacregionblueprint.org/sacregionblueprint/home.cfm

Envision Utah

http://www.envisionutah.org/

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UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service

Sewer Infrastructure Improvement Project
For
The City of California City, California
New Sewer Backbone Lines Construction

April 2006

Prepared by:
Helt Engineering, Inc
2930 Union Ave.
Bakersfield, CA 93305
661.323.6045

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3. NEED FOR PROJECT

A. HEALTH, SANITATION, AND SECURITY…….……3

1. GENERAL

The wastewater treatment system operated by California City now includes 36.26 miles of sewer lines serving approximately 1333 residences and business'.

This project is part of the City's sewer infrastructure improvement program being implemented to provide a safe and reliable waste water system for the citizens of California City.

A. Project Benefits

- Ensures an safe, efficient and reliable sewer system for California City residents
- Increases capacity to accommodate future growth

B. Project Objective

The main objective of this project is to construct new sewer backbone lines and improve the reliability of the sewer system. We are experiencing problems with increased demand requiring immediate corrective action. Our job is to ensure there are enough sewer linel;ll system in place to protect people's health and the environment as the population grows. This project is part of the City's effort to ensure the system continues to deliver cost-effective, reliable, and environmentally responsible wastewater treatment services.

2. SERVICE AREA

A. Location

The Sewer backbone project includes new construction of 23,178 feet of sewer main to provide municipal sewer service to properties with failing septic systems. The California City Public Works Department identified potential sewer system problems within the City, through analyses. See attached maps indicating legal and natural boundaries.

B. Growth Areas and Population Trends

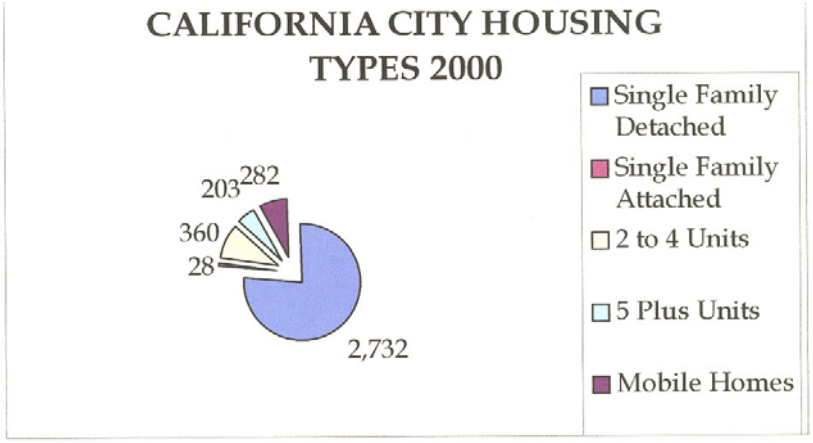
Located in the High Desert at the northern end of the Antelope Valley, California City is a mere 15 minutes away from Edwards Air Force Base, one of Kern County's major employers, and NASA Dryden Research Center.

The City area is 204 square miles, currently operates one waste water treatment plant
The City is continually working on its reliability plan through a No-Waste Ordinance, voluntary rationing, and water conservation programs.

The City's population of 8,385 in 2000 has grown at an average rate of 32.5% over the last 3 years however; the following information for future service area population and demand was used for this report.

Year	Population
1990	5,995[1]
2000	8,385[1]
2003	11,111[1]
2004	12,020[2]
2010	17,472[2]
2020	26,559[2]

[1]Source: 1990, 2000 Census of Population and Housing; California Department of Finance, Kern County Assessor Records
[2] Estimated



Source: California Department of Finance Report E5, January 2000

A. Location Map

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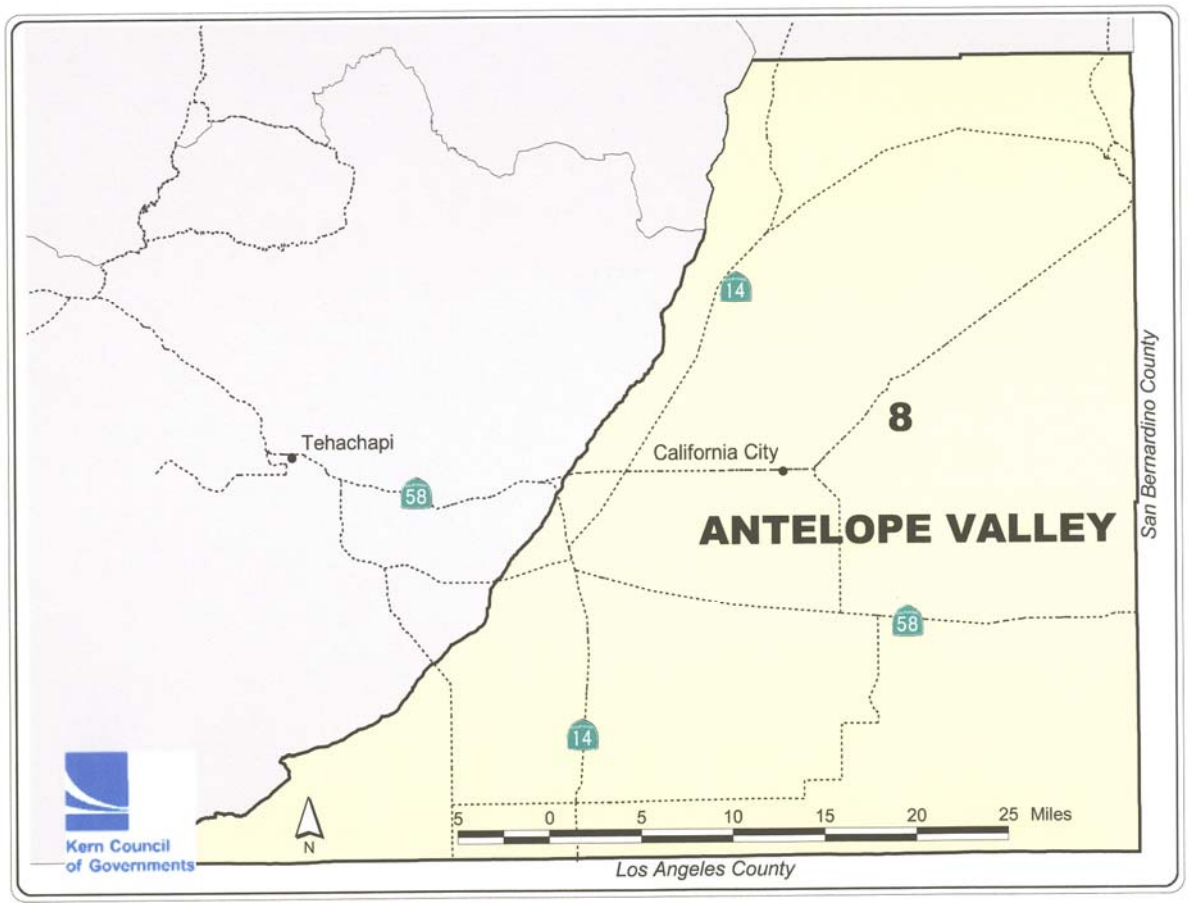
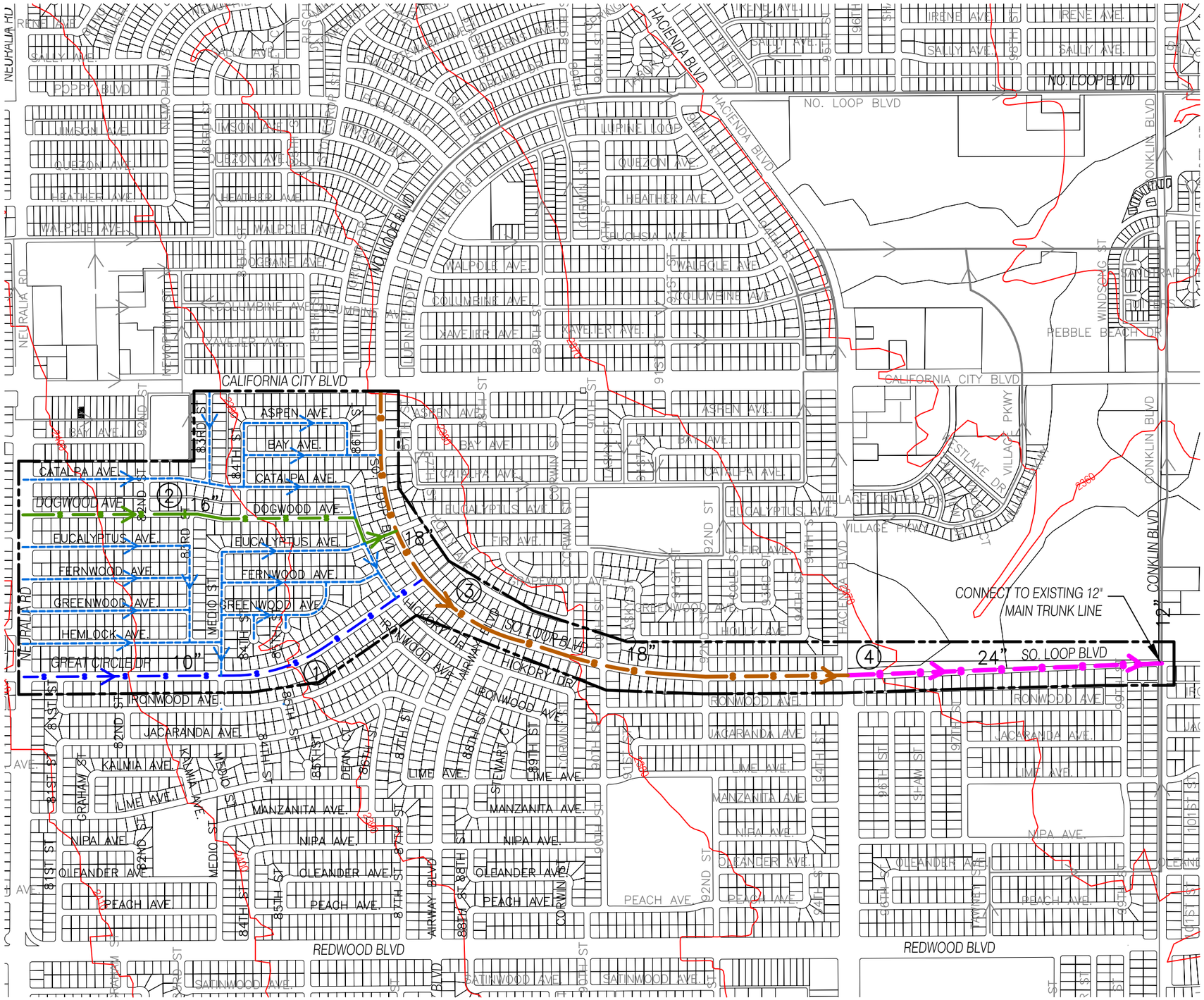


4. NEED FOR PROJECT

A. Health, Sanitation, And Security

- **On-site disposal systems.** Septic tanks, lateral fields, and seepage pits are not suitable wastewater disposal options for densely populated neighborhoods and may pose a health risk.

During routine use, material build up and contamination of a water system can and will occur. The build up of these substances, on the inner surface of the system can and will provide a place for microorganisms to take hold. The organic material can supply nutrients for growth and multiplication of microbes such as E.coli. Every time the citizens consume water they will be exposed to an increased microbial load through the drinking water, which could result in gastrointestinal diseases.



SECTION 1 - 10" SEWER BACKBONE

START POINT: INTERSECTION OF NEURALIA RD. AND GREAT CIRCLE DR.
DIRECTION: EAST TO NORTH EAST ON GREAT CIRCLE DR.
END POINT: INTERSECTION OF GREAT CIRCLE DR. AND SOUTH LOOP BLVD.

TOTAL LENGTH: ±4,000 FT.

SECTION 2 - 16" SEWER MAIN

START POINT: INTERSECTION OF NEURALIA RD AND DOGWOOD AVE.
DIRECTION: EAST ON DOGWOOD AVE.
END POINT: INTERSECTION OF SO. LOOP BLVD. AND EUCALYPTUS AVE.

TOTAL LENGTH: ±3,700 FT.

SECTION 3 - 18" SEWER MAIN

START POINT: INTERSECTION OF CALIFORNIA CITY BLVD AND SO. LOOP BLVD.
DIRECTION: EAST-SOUTH EAST ON SO. LOOP BLVD
END POINT: INTERSECTION OF SO LOOP BLVD. AND HACIENDA BLVD.

TOTAL LENGTH: ±6,050 FT.

SECTION 4 - 24" SEWER MAIN

START POINT: INTERSECTION OF SO. LOOP BLVD. AND HACIENDA BLVD.
DIRECTION: EAST ON SO. LOOP BLVD.
END POINT: INTERSECTION OF SO. LOOP BLVD. AND CONKLIN BLVD.

TOTAL LENGTH: ±2,950 FT.

CITY OF CALIFORNIA CITY
SEWER BACKBONE PROJECT

LEGEND:

- EXISTING SEWER LINE
- PROPOSED 24" SEWER LINE
- PROPOSED 18" SEWER LINE
- PROPOSED 16" SEWER LINE
- PROPOSED 10" SEWER LINE
- PROPOSED 8" SEWER LINE

N
W E
S

0' 500' 1000' 2000'

SCALE 1"=1000'

JOB NO.	DATE: 02/23/08 SCALE: AS-NOTED DRAWN BY: RP CK'D BY: JMP DATE CK'D: 02/26/08	REVISIONS	CK'D BY	DATE CK'D
06408				

HELT ENGINEERING, INC.
CIVIL ENGINEERING · LAND SURVEYING · BUILDING DESIGN · AERIAL PHOTOGRAPHY
2930 UNION AVE., BAKERSFIELD, CA 93305
PHONE: (661) 323-6045 FAX: (661) 323-0799

CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
PROPOSED SEWER BACKBONE PROJECT
EXHIBIT A

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April 23, 2010

Mr. John Nilon, CAO
Kern County Administrative Office
1115 Truxtun Avenue, Fifth Floor
Bakersfield, CA 93301

Re: Mitigation for Impacts to Public Services from the Beacon Solar Energy Project

Dear Mr. Nilon:

Beacon Solar, LLC ("Beacon") is currently proposing the development of the Beacon Solar Energy Project (the "Project"), a nominal 250 megawatt solar thermal power plant in eastern Kern County ("County") near California City. The Project would provide a much needed jump start to Kern County's solar power generation industry since the last utility-scale solar power plants were built in California in the early 1980s. As a County Planning Department representative noted at the Project's evidentiary hearing before the California Energy Commission ("Commission"), solar power generation in Kern County would bring significant economic and environmental benefits to both the County and to the State as a whole, and would be of great help in achieving California's renewable energy and greenhouse gas goals.

During the Project's application process before the Commission, Beacon has worked with the County and the local community to understand and, as much as possible, address questions and concerns. Beacon appreciates the efforts by County employees to respond to our requests and discuss County requirements. As you know, a representative from the County Planning Department expressed the County's support at the Project's recent evidentiary hearing. A request for local impact fees by Kern County is the only unresolved local request. This request contained in letters dated January 15, 2010 and March 22, 2010 and reiterated at the Project's evidentiary hearing on March 22, 2010, requests the payment of $31,813,170 over a period of 30 years, which translates to an annual fee of $1,060,439. For the reasons discussed below, this local impact fee is excessive and not allowed by law.

We understand Kern County has recently proposed using either the Capital Improvement Plan (CIP) program cost or a project-specific fiscal impact analysis. The analysis below shows how the CIP cost is inapplicable to a solar thermal project like this Project.

1. The California Energy Commission Thoroughly Reviewed the Project's Impacts to Public Services and Concluded They Will Be Less Than Significant.

The County claims, based on its Capital Improvement Plan and other recent studies, that the property taxes paid by Beacon to the County for the Project and its lands will not cover the costs of the public services and facilities necessary to service the Project over its anticipated 30-year life. As part of the Project's review, the Commission analyzed impacts to public services. During construction, the Project will require an average of 477 employees, with a peak month of 836 workers. During operations, the Project will require approximately 66 workers. This relatively small number of workers would not have a significant impact on law enforcement services, medical services, or fire protection. (California Energy Commission, Final Staff Assessment for the Beacon Solar Energy Project [August 2009] [Docket 08-AFC-2] ["FSA"] at 4.8-9 to 4.8-10, and 4.14-11 to 4.14-13.) The fire risks at the proposed facility do not pose significant demands on local fire protection services. (FSA at 4.14-13.) Commission staff has also concluded that the Kern County Hazmat Team and the Kern County Fire Department ("KCFD") are adequately equipped and staffed to respond to hazardous materials accidents at the proposed facility within an acceptable response time. (FSA at 4.14-1.) Commission staff consulted with KCFD to determine the impacts of the Project on emergency services. (FSA at 4.14-3, 4.14-4, 4.14-11, 4.14-12.) Staff also evaluated the need for emergency medical services at the facility and found no significant impacts. (FSA at 4.14-13.)

Commission staff also reviewed the cumulative impacts the Project could have on the fire and emergency service capabilities of the KCFD. Commission staff and Beacon agree that the combined impacts would not be significant and that existing local services would adequately provide emergency service. (FSA at 4.14-13)

2. Courts Have Made Clear that the California and Federal Constitutions Require that a Reasonable Nexus Exist Between the Fees that Are Imposed as a Condition of Development and the Actual Cost of the Anticipated Impact.

The federal and state constitutions, as well as California's Mitigation Fee Act, codified at Government Code §§ 66000 *et seq.*, require a factually-sustainable proportionality (*i.e.,* a "nexus" or "reasonable relationship") between fees imposed as a condition of development and the impacts to be addressed through the fees. The imposition of impact fees, and the relationship of the fees to the impact, was the subject of a seminal California inverse condemnation case in *Ehrlich v. Culver City* (1996) 12 Cal.4th 854. In *Ehrlich*, the developer contested a fee imposed as a condition of development and governed by the version of the Mitigation Fee Act in place at that time. Just prior to *Ehrlich*, the U.S. Supreme Court had held that a federal Fifth Amendment taking occurred where the government demanded a dedication of property as a condition of development, unless the dedication was "roughly proportional" to the impact caused by the development. (*Dolan v. City of Tigard* [1994] 512 U.S. 374.) In deciding *Ehrlich*, the California Supreme Court held that this federal "rough proportionality" standard also applies to a local government exactions of a fee as a condition of development. (*Ehrlich,* 12 Cal.4th at 881.) In so holding, the Court confirmed that the required proportionality must be *demonstrated* by "some

sort of *individualized* determination," *i.e.,* the local government must demonstrate "a factually-sustainable proportionality between the effects of a proposed land use and a given exaction . . ." (*Id.* at 880-81 [emphasis added].) A "requirement that local government demonstrate a factually sustainable proportionality between effects of proposed land use and a given exaction helps to ensure that land use condition at issue is more than theoretically or even plausibly related to legitimate regulatory ends." (*Id.* at 880.)

3. The California Government Code Requires a Reasonable Nexus Exist Between the Fees That Are Imposed as a Condition of Development and the Actual Cost of the Anticipated Impact.

Apparently in response to the U.S. Supreme Court's holding in *Dolan* and the California Supreme Court's holding in *Ehrlich*, the California legislature substantially amended the Mitigation Fee Act in 1996. The amendments to the Mitigation Fee Act placed limits upon the use of development fees by requiring a nexus between the services required by a specific development and imposition of a fee to fund those services. Specifically, the Mitigation Fee Act puts the burden on the local government imposing the fee to identify: (1) the purpose of the fee; (2) the use to which the fee will be put; and (3) a reasonable relationship between (a) the fee's use and the type of development project on which the fee is imposed; and (b) the need for the facility and type of development project on which the fee is imposed. (Gov. Code § 66001[a].) Government Code section 66005 reiterates that, when an exaction fee is imposed, it should not exceed the estimated reasonable cost of providing the service or facility for which the fee or exaction is imposed, and that it was the Legislature's intent in enacting these amendments to codify existing constitutional and decisional law on the subject.

4. Kern County's Request for $30 Million Is Not a Reasonable, Individualized Estimate of the Service Needs of the Project.

In order to meet the constitutional and statutory nexus requirement, a local agency must "make some sort of individualized determination that the required dedication is related *both in nature and extent* to the impact of the proposed development." (*See Ehrlich v. Culver City* (1996) 12 Cal.4th at 873 [citing *Dolan v. City of Tigard,* 512 U.S. at 391].) Unfortunately, the studies and calculations provided by the County to date fall short of meeting that requirement. As best as can be ascertained by the letters and studies provided by the County, the County has calculated the requested annual fee based on the fact that it considers the Project to be an industrial facility. Industrial facility fees, according to the May 2009 Kern County Impact Fee Report ("Impact Fee Report", submitted with the County's January 15, 2010 letter), are based upon an assumed employment density of 1.67 workers per 1,000 square feet. (Impact Fee Report at 14.)

It should be self-evident, however, that such an assumption is clearly unfounded for a project the size and nature of the Project. Applying that calculation even to just 1,226 of the Project's acreage would result in a presumption of 89,186 employees. By contrast, the Project will have only an average of 477 employees on-site per day over the entire 25-month construction period, with a peak month of just 836 workers. (Ex. 15 at 5.11-14.) Following construction, the Project is expected to employ a total of 66 workers during operation. (*Id.* at 5.11-26.) The County's

calculation of a public services fee based on pure square footage, implicitly assuming the presence of 89,186 workers over the Project's entire 30-year lifetime, and utilizing none of the Project-specific data set forth in the Project's Application for Certification, is unreasonable and bears no reasonable nexus to the estimated reasonable cost of providing public services to the Project.

5. Kern County Should Work With Beacon to Establish an Impact Fee Based on the Estimated Reasonable Cost of Providing Public Services to the Project.

Beacon understands the budget issues facing the County, but the fact remains that the County's proposed impact fee is disproportionate to the public services impacts which would result from the Project. Commission staff has recognized this fact and, in its opening brief for the Project, has encouraged the County and Beacon to develop a fee plan that is mutually agreeable and has a nexus to the actual expected impacts from the Project. Beacon thanks the County for supporting the Project, and looks forward to developing an appropriate impact fee amount.

Very truly yours,

Frank Chetalo
Project Director
Beacon Solar, LLC

CC:

Kathleen Krause
Ray Watson
Jon McQuiston
Don Maben
Michael Maggard
Michael Rubio
Ted James
Lorelei Oviatt
Jane Luckhardt
Ryan O'Keefe
Scott Busa
Meg Russell
Jill Toothman
Mikel Greene

Kern County Administrative Office

County Administrative Center
1115 Truxtun Avenue, Fifth Floor • Bakersfield, CA 93301-4639
Telephone 661-868-3198 • FAX 661-868-3190 • TTY Relay 800-735-2929

JOHN NILON
County Administrative Officer

April 27, 2010

Board of Supervisors
Kern County Administrative Center
1115 Truxtun Avenue
Bakersfield, CA 93301

STATUS REPORT ON CEQA MITIGATION METHODOLOGY
Fiscal Impact: None

On March 23, 2010, the Board considered a report on the County's Capital Improvement Plan, its companion document the Draft Impact Fee study, and proposed method for developing CEQA mitigation for projects that impact the County's ability to provide public services. At that time, the Board requested further information in several areas. This response to those requests has been jointly developed by the County Administrative Office and the Resource Management Agency, in consultation with the Planning Department.

At the March 23 meeting, the Board specifically requested information on the history of the Capital Improvement Plan, how the population growth rate in the plan was determined, and the potential to reduce fees for renewal energy and smart-growth projects, and job generating projects. The Board also requested that a process be put in place so that projects approved by the California Energy Commission (CEC) are brought before the Board before being heard by the CEC, and that staff review ways to simplify the CEQA process. These areas are addressed briefly below; detailed information is contained in the attached report.

In 2005, the Board contracted with a consultant to conduct a three-phased study: County capital facility needs based on anticipated growth, the impact of development on County services, and a proposed County development impact fee based on the outcome of the initial two phases of the study. To date, the consultant has completed the County's Capital Improvement Plan and a draft facilities impact fee study based on that plan. A full and detailed account of this process is presented in the attached report.

Another Board inquiry was about renewable energy projects. Two recently approved renewable energy projects included mitigation for public facility impacts on Fire, Sheriff, and countywide public protection by applying the monetary factors in the draft facilities impact fee study for industrial projects. The passive nature of those projects discounted the factors by 50%; energy projects which are not passive, such as geothermal projects are currently proposed at 100% of the mitigation factors. Future renewable energy projects will be brought before the Board for discussion of public service impacts and mitigation when the Planning Department is formally notified by the CEC that an application has been submitted.

The Board also asked about the potential to reduce mitigation for job-generating projects. The Board recently asked that the County's Economic Incentive Program be updated. This effort will be undertaken shortly. Because there is not a direct correlation between job generation and the ability of the County to

fund services, an alternative to reducing mitigation for these projects, which will lead to inequity among industry groups, could be to strengthen the job generation component of the Economic Incentive Program to more substantially encourage projects that create employment opportunities.

The County Capital Improvement Plan lists out potential funding sources for specific facilities. The attached report discusses these options and provides additional detail in Attachment III of that document. Included in the assessment are State bonds, city/County partnerships, establishing community facility districts, grants, and the use of financing mechanisms.

In response to the Board's questions on March 23, staff met with industry groups to further discuss the Capital Improvement Plan. The result of that meeting was a proposal to form a working group of affected parties to validate and/or update the assumptions contained within the Capital Improvement Plan. It is expected that the efforts of this working group will be concurrent with that of this office in determining appropriate mitigation and the continuation of the consultant's work. It is proposed that the Resource Management Agency convene a group to provide input to this process and to subsequent activities to implement the Capital Improvement Plan. It is noted that industry stakeholders also served on the committee that recommended the consultant that developed the Capital Improvement Plan and resulting facility impact fee.

The Board did request further information on the growth assumption of 1.2% within the plan. Given the time span covered by the plan (through 2030), this assumption is conservative, and is based on projections by the State Department of Finance and the Kern Council of Governments. Detailed information regarding all assumptions used for the study is contained in the attached report.

In response to the Board's inquiry regarding simplifying the CEQA process, the use of monetary mitigation factors in lieu of individual fiscal studies does expedite the processing of proposed projects. Additionally, the Planning Department intends to create an additional streamlining mechanism in the update of the Metropolitan Bakersfield General Plan, a project level Environmental Impact Report, which would avoid the necessity of preparing Environmental Impact Reports for some projects.

This office has requested mitigation based on the monetary factors for three projects in the County and two City of Bakersfield projects: one within the incorporated area and one proposed for annexation. The City's projects have Environmental Impact Reports out for public comment. For the County's projects, Environmental Impact Reports are ready to be sent out for comment, with timeframes to meet the fall General Plan Amendment window. There are two primary options for determining appropriate mitigation, as follows.

- Adopt the monetary factors, which originate from the draft Impact Fee Study. This option offers certainty to proposed development projects and equitable mitigation for impacts on public facilities.

- Revert to the practice of requiring applicants to submit project-specific fiscal studies, which can be costly and adds to the time required for Environmental Impact Report completion. This methodology also necessitates the developer's consultation with the County Administrative Office on behalf of affected County departments. The potential for inequities among proposed

development projects exists with the approach. Reversion to this practice will also delay those projects already being processed.

It is noted that the Board has the ability to modify proposed CEQA mitigation during the project approval process if the Board makes certain findings, such as a determination that there is no feasible way to lessen a particular project impact.

Summary

In 2005, the Board hired a consultant to develop a County Capital Improvement Plan, determine impacts on County services resulting from new growth, and to develop an impact fee. The consultant developed a companion study following Board adoption of the Capital Improvement Plan that calculated monetary factors that could be used to determine mitigation for public facility impacts created by proposed projects. It is noted that monetary factor mitigation is for only public facilities and only for projects that impact the County's ability to provide services due to growth without degrading the ability to provide services to current citizens at the existing level. The monetary factors have been applied to three County projects and two City of Bakersfield projects (one in the incorporated area and one proposed for annexation). At this juncture, the County can 1) continue using the mitigation factors; or 2) revert to project-specific fiscal impact analysis and methodical deliberations with departments and developers.

Therefore, IT IS RECOMMENDED that your Board receive and file the attached report and provide direction to staff.

Sincerely,

John Nilon
County Administrative Officer

JN/ACK/POLGEN_CEQA2

Attachment

cc: All Cities
Home Builder's Association of Kern County
Kern County Taxpayers Association
County Counsel
Fire Department
Library
Public Health Department
Parks Department
Planning Department
Resource Management Agency
Sheriff's Department
Waste Management Department

OVERVIEW OF COUNTY CAPITAL IMPROVEMENT PLAN AND STATUS OF PROGRAM TO IMPLEMENT PUBLIC FACILITY MITIGATION ON NEW DEVELOPMENT PROJECTS

On March 23, 2010, the County Administrative Office provided the Board of Supervisors with a status report on the methods used to determine the public services required for new development projects to avoid degrading the County's current service levels. During the Board of Supervisors' discussion of the matter, there were questions raised about the status of the County's Capital Improvement Plan (CIP) program, the companion Draft Public Facilities Development Impact Fee Study, whether new development should incur all costs for needed County services, and whether other funds are available to address public facility program costs. Additionally, there were other questions related to the level of service and monetary factors used to determine the mitigation costs of new urban development and renewable energy projects.

OVERVIEW

The CIP, adopted by the Board in May 2008, identifies the public facilities that will be needed for new development through 2030. In May 2009, the County's consultant completed a companion document, the Draft Development Impact Fee Study, which calculates the monetary factors associated with the projects contained in the CIP. The County's operational costs associated with new growth and its related impact on the General Fund is under study and will be reported to the Board at a future date.

Long-standing policies in the Metropolitan Bakersfield General Plan and the Kern County General Plan require new development to pay its "proportional share of the government service and infrastructure improvements needed to support the new development." To ensure compliance with these policies, new development proposals have been required to complete a fiscal impact analysis since the 1990s to determine their impact on public facilities, and to identify the need for appropriate mitigation. Since 2000, the County Administrative Office has coordinated this review for affected County departments and proposed to the developer the mitigation required under the California Environmental Quality Act (CEQA). Due to varying departmental needs, this approach had the potential for creating inequities among projects. To establish a more equitable and consistent process, in 2009 the County Administrative Office began using the CIP's monetary factors to determine the public facilities mitigation for projects that required preparation of an Environmental Impact Report (EIR). Proposed projects in adjacent jurisdictions that impact County public facilities are also recommended for monetary mitigation. In addition, the County Administrative Office has worked with the Planning Department to develop a mitigation measure that addresses the payment of a development impact fee in the future, if one is imposed on future projects subject to vesting map provisions.

Two recently approved renewable energy projects included mitigation for public facility impacts through the application of the monetary factors. The passive nature of those projects discounted the application of the factors by 50%; energy projects that are not passive will be proposed at 100% of the applicable mitigation factors. Future renewable energy projects will be brought before the Board for discussion of public service impacts and mitigation when the Planning Department is formally notified by the California Energy Commission (CEC) that an application has been submitted.

To facilitate growth that is consistent with the Board's vision, the Resource Management Agency will identify opportunities to encourage projects that involve renewable energy, "smart growth" concepts and that are transit-friendly. Adequate provision of public facilities needed for new development will be planned through a regularly updated CIP, and an industry stakeholder group will be convened to guide and provide input to the process. At the same time, the group will provide input to an update of the monetary factors presented in the Draft Impact Fee Study and their application, as well as provide input to any future effort to develop an impact fee program.

DISCUSSION

Initiation of Countywide Capital Improvement Plan Program and Fee Study

Due to the rapid development trends occurring in 2005 and the need to provide a more comprehensive, uniform approach to address the County services required for long-range growth, the Resource Management Agency (RMA) in coordination with the County Administrative Office initiated a program to develop a CIP and related studies for unincorporated Kern County. A fiscal consultant was retained by the County to prepare 1) a Countywide CIP; 2) a Public Facilities Impact Fee Study; and 3) a fiscal study of operational costs for use in evaluating new development's impact on the County's General Fund.

A Draft CIP was developed by the consultant following the compilation and analysis of data of the County's service needs and fiscal resources. The plan identifies standards for each facility service category and presents a plan through the year 2030 for major capital improvement projects for the following facility categories:

- Public Protection (detention facilities)
- Patrol and Investigation (substations)
- Fire
- Library
- Parks
- Animal Control
- Waste Management
- General Government
- Public Health

Application of the facility standards as part of the CIP are intended to ensure that proposed new development projects do not erode the levels of service currently provided by such facilities to County residents. The assumptions and standards used in developing the CIP and the standards it reflects are found in Attachment I.

Following meetings with industry groups and countywide public workshops, the Board of Supervisors adopted the CIP on May 27, 2008. During the Board discussion of the matter, the Board inquired as to what the funding sources would be since the projected cost for facilities through 2030 would be substantial. Also requested was further information on sources other than the General Fund that could fund needed facilities. The Board also noted that there may not be sufficient monies to build the planned facilities and that the CIP may need to be tailored to acknowledge fiscal realities, and also noted that operation and maintenance costs need to be considered in addressing the County's ultimate public facility needs.

In May 2009, the County's consultant completed the companion Phase II Draft Impact Fee Study that identifies monetary factors for the CIP's adopted facility standards. Use of the monetary factors established in the study, in conjunction with the planned facilities in the adopted CIP, provides a more standardized approach to identifying required CEQA mitigation than the aforementioned case-by-case method. The factors are calculated regionally by Valley, Mountain and Desert areas and for specific service categories. Excerpts showing the final results are reflected in Attachment II.

In June 2009, the RMA and County Administrative Office staff briefed the Board members in individual meetings about the Draft Fiscal Impact Fee Study and provided a copy of the report to each Board member. Using the service levels (standards) adopted in the CIP along with estimated costs for land acquisition and improvement, building construction, and capitalized equipment acquisition, the consultant calculated the total cost of planned facilities at more than $900 million. Approximately 78% of this amount is attributable to new growth and the remainder addresses existing deficiencies. When the RMA presented the CIP to your Board in May 2008, staff outlined a number of possible funding sources for capital projects. These alternative funding sources and their feasibility for funding the planned projects given the current economic conditions are found in Attachment III. With the exception of Waste Management's parcel assessments and tipping fees, development impact fees are assumed to be the primary funding source for the CIP's planned projects. The use of shared facilities between government entities such as school districts is another possible option though liability, conflicting missions, and scheduling issues will need to be overcome.

On October 27, 2009, the Board of Supervisors received a letter from the RMA noting the reassignment of the CIP fiscal study agreement to a new consultant as a result of a consultant firm merger. The letter additionally informed the Board that the RMA was concerned about introducing an impact fee proposal during the present economic downturn and that staff would engage with the industry in a dialogue on the fee study and on developing a workable program to implement in the future when the economy recovered. Lastly, it is noted that the County's consultant is completing an analysis of the operational costs of new development, and its impact on the General Fund, which will be the subject of a future report to your Board.

General Plan and CEQA Authority for Public Facilities Mitigation

Both the Metropolitan Bakersfield General Plan and the County General Plan have had long-standing policies specifying that new development be required to pay its proportional share of the government service and infrastructure improvements needed to support the new development. The policies within the General Plan, in combination with diminishing discretionary revenue sources, provide the basis for mitigating new development impacts to public services.

CEQA also provides a basis for the County to mitigate the effects that new development will have on County public services (Fire, Sheriff, Parks, Libraries, etc.). However, under CEQA, the County may approve a project even though it would cause a significant effect on the environment if the agency makes a publicly disclosed decision supported by findings that there is no feasible way to lessen or avoid the significant effect; and that identified project benefits outweigh measures of reducing or avoiding significant environmental impacts of the project (Sections 15091 and 15093, CEQA Guidelines).

To ensure that new development projects comply with the County's General Plan public facility policy provisions, consultant-generated fiscal impact studies were required beginning in the 1990s for all projects involving the preparation of an Environmental Impact Report (EIR). Mitigation for impacts on public facilities has been addressed historically through requirements to form public facility (Mello Roos) districts, County Service Areas, or through the provision of specific facilities or equipment (dedicating and constructing fire facilities or providing equipment) prior to the recordation of land division maps or the issuance of grading/building permits.

To better coordinate the requirements for identifying and mitigating for public facilities, the Board approved a policy on August 15, 2000 directing that the County Administrative Office serve as the lead department for determining mitigation needed from a countywide perspective. This policy does not apply to those mitigation measures ordinarily required of a development for roads, drainage, school fees, habitat conservation, or other matters covered by State statute. It does, however, apply to the facilities and equipment of the Fire, Sheriff, Library, and Parks Departments, and other direct service provider departments. To fulfill this role, the County Administrative Office was charged with consulting with affected County departments and ultimately with the developer to arrive at reasoned mitigation measures. However, this methodology had the potential of leading to inequities among proposed development projects and/or County departments due to varying departmental needs and the unique characteristics of the proposed project.

County Administrative Office Practice for Mitigating Public Facility Impacts under CEQA

As an alternative to relying on the preparation of expensive and time consuming project-specific fiscal studies, the County Administrative Office has recently applied the monetary factors calculated in the Draft Impact Fee Study to address required public facilities mitigation. Although the County has not adopted the Draft Impact Fee Study, the monetary factors that correlate with the CIP's facility standards form a reasonable basis for public facility mitigation and a suitable alternative that provides more uniformity than the project-by-project fiscal study previously used. This method is being applied to three projects for which EIRs are currently being circulated: Beech Avenue, Rosedale & Renfro, and Liberty V Biofuels Power. Additionally, this method was

used to request mitigation on two City of Bakersfield projects: The Commons, in the incorporated area and Stockdale Ranch, which is proposed for annexation.

As provided in the transmittal letter to this report, Board direction is being requested on the following options:

1) Continued use of the monetary factors, which originate from the unadopted Draft Impact Fee Study but offer certainty to proposed development projects and equitable mitigation for impacts on public facilities;

2) Return to the practice that required submitting project-specific fiscal studies, which may be costly and will delay current projects during their preparation, and which will necessitate the developer's consultation with the County Administrative Office on behalf of affected County departments. The potential for inequities among proposed development projects exists with the approach as outlined earlier in this report; and

3) Under certain conditions, the Board may also make findings of overriding considerations when considering a specific project based on infeasibility resulting from economic considerations and determine that modified mitigation is appropriate. However, any deficiencies created by this action could not legally be addressed through future impact fees but would have to be addressed through another funding source, most likely the General Fund.

In addition, the County Administrative Office has worked with the Planning Department to develop a mitigation measure that requires the payment of a development impact fee if one is imposed prior to the issuance of building permits, for the project regardless of any vesting map provisions. The Planning Department has been including the following mitigation measure as a recommended condition of approval on projects for which a mitigated negative declaration is prepared:

> "Prior to the issuance of building permits, the applicant shall be subject to any development impact fees for public services adopted by the Board of Supervisors. Payment of that fee will be considered full mitigation for impacts to public services referenced in the development impact fee."

This wording does not assume that a development impact fee will be adopted but rather, requires the project to comply with any fee adopted at the time of the issuance of building permits. With this mitigation, the project could not shelter under any vesting map provisions to avoid payment of the adopted fee.

Renewable Energy Public Facility Mitigation

The application of the CIP monetary factors for CEQA public facility mitigation for affected County services was included in two recently approved projects for solar large scale photovoltaic over 10 MW: 1) a 40 MW Photovoltaic (PV) project in Tehachapi and 2) a 10 MW PV project in Eastern Kern County. Due to the passive nature of these two projects, the mitigation factors were reduced by 50% and only included Fire, Sheriff, and countywide public protection. There are approximately 17 upcoming solar PV projects proposed for the desert and valley, and the monetary factors are intended to be used to mitigate identified CEQA impacts, providing an equitable and consistent approach for all similar projects. For energy production projects that are not passive, such as solar thermal, which requires boilers, steam generation, etc., it is proposed that the monetary CEQA mitigation be applied at 100% for affected County services. Staff has previously reported to your Board that solar projects have an exemption from reassessment for property taxes granted by the legislation that wind projects and other renewable energy projects do not have. Therefore, their impacts are even further underfunded for the facility impacts on Fire, Sheriff and countywide public protection particularly in the area of rural vandalism.

During the March 23, 2010 Board of Supervisors' meeting, the Board requested that a process be developed such that renewable energy projects under the jurisdiction of the California Energy Commission (CEC) can be brought before the Board of Supervisors for consideration of public service impact mitigation prior to CEC action to approve projects. The CEC has jurisdiction for siting and approval of power plants over 50 MW, including solar thermal plants. The CEC works collaboratively with staff of the Planning Department to solicit comments and develop conditions of certification that address local issues and impacts. Planning staff is familiar with the CEC process and proposes to place future projects on the Board of Supervisors agenda for discussion after being formally notified by the CEC or the Bureau of Land Management of the application submittal. While applicants often approach the staff and Board members at the early stages of a project, changes often occur prior to application submittal. The implementation of this process will provide an opportunity for the Board to be informed to the applicant's project and give staff direction on proposed comments on public services. Staff is also recommending this approach for energy intensive projects proposed on Bureau of Land Management Land. Such industrial scale projects exceed the provision of services contemplated by the existing memorandum of understanding with the Interior Department for shared services and where not anticipated by the current Payment in Lieu of Taxes (PILT) structure which is designed to cover such events as recreational user accidents, wild fires and criminal activities.

CEQA Streamlining of Public Facility Mitigation and Incentives for Specified Projects

A Board member also inquired about CEQA streamlining and reduced fiscal fees for renewable energy, infill and "smart growth" projects. Having a uniform fiscal mitigation program such as is being provided by the CIP and the Draft Impact Fee Study help to streamline the process of addressing public facility mitigation without having to prepare individual fiscal impact studies for proposed development projects. As the Planning Department is working on the update of the Metropolitan Bakersfield General Plan, it is the intention to create a project level EIR document that will streamline fiscal and other environmental mitigation to prepare subsequent environmental documents for specific projects.

As the RMA works towards implementing the CIP program, incorporating incentives such as reduced fees for renewable energy projects, "smart growth" and transit-friendly projects are options that can be pursued to incentivize the types of projects that are consistent with the Board's vision for future growth.

City Development Project Effects on County Public Facility Services

Projects within other jurisdictions have the potential to impact County facilities and hence the ability to provide service. In a coordinative role, the County Administrative Office comments on other jurisdictions' proposed projects. Monetary CEQA mitigation was requested recently on two developments that will impact facilities from which services are provided countywide, such as libraries and non-patrol law enforcement responsibilities. Although one of the proposed projects is now in the unincorporated area, the City of Bakersfield is the lead agency for the Environmental Impact Report as this property is proposed for annexation to the City.

CONCLUSION

Prior to the adoption of the CIP and the issuance of the companion Draft Impact Fee Study, mitigation for impacts under CEQA was determined on a case-by-case basis and resulted in variable outcomes. The use of the CIP and its standards creates the framework for a more consistent and equitable approach, results in certainty of the process for the development community, meets statutory requirements under CEQA, and fulfills the Board's policies within the County General Plan and Metropolitan Bakersfield General Plans. It is noted that the Board continues to have the discretion to reduce or eliminate CEQA mitigation with an appropriate finding, such as economic considerations. However, any resulting deficiencies in public facilities may not legally be made up through future impact fees and the deficit would have to be addressed from another funding source.

On a related note, staff met with representatives of the building and renewable energy industries on April 8, 2010 to discuss the CIP, the companion Draft Impact Fee Study, and the use of monetary factors for CEQA mitigation. There was general acknowledgement of the value in long range planning for public facilities undertaken by the County, though it was noted that the CIP was based on data and cost assumptions that should be reviewed and updated. It was agreed that an industry stakeholder group should be convened to provide input to this process and to subsequent efforts related to the Draft Impact Fee Study and the monetary factors, and to future consideration of a development impact fee. The RMA proposes to convene the stakeholder group within the next 60 days and to report back to your Board on its efforts. A future report will also be provided to your Board on the outcome of the operational cost study related to new development, which is currently underway by the consultant.

ATTACHMENT I

CIP assumptions

- Projected growth for residential, commercial, and industrial development is identified in the general and specific plans that were adopted and in place during the CIP's preparation.
- Kern County's unincorporated population is anticipated to grow at an annual rate of 1.2% during the years 2008 to 2030. The majority of the County's population growth will be within the incorporated cities.
- Existing public facilities define a standard of infrastructure that the County desires to maintain, to adequately serve future development.
- Construction of future public facilities should implement environmentally sustainable building practices, and use evaluative tools such as the Green Globe rating system promoted by the Green Building Initiative. (This is in the adopted CIP).
- Proposed development projects are assessed for compliance with the Kern County General Plan's policy that "new development will be required to pay a proportional share of the local cost of infrastructure improvements required to service such development".
- It is more costly to serve new development that is not located near existing infrastructure.

Draft Impact Fee Study Assumptions

- The proportionate cost of new public facilities will be borne by future development.
- The cost of new infrastructure that is not funded by new development will increase the burden upon the County's General Fund, whose revenues will be very scarce.
- Impact fee revenue must be spent on new facilities or expansion of current facilities to serve new development; they cannot make up for existing deficiencies.

Facility Standards

- Public Protection (jail) 4.43 jail beds/1,000 svc. pop.
- Sheriff .39 sq. ft. per capita
- Library .78 sq. ft. per capita and 2.5 volumes per capita
- Animal Control .04 sq. ft. per capita
- Parks 3.00 acres/1,000 residents
- Fire .76 sq. ft. per capita plus related fire protection equipment and apparatus further delineated in the CIP
- Waste Management 39.45 tons capacity/capita
- Public Health .12 sq. ft. per capita plus related equipment
- General Government .26 sq. ft. per capita

KERN COUNTY MONETARY MITIGATON FACTORS - DESERT ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	$ 432.15	$ 34.17	$ 57.29	$ 3,087.36	$ 1,283.39	$ 972.84	$ 260.30	$ 132.66	$ 84.42	$ 7,657.11
Multi-family Unit	869.33	286.43	22.11	37.19	2,045.18	850.23	644.21	172.86	87.44	55.28	5,070.26
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	$ 82.41	N/A	N/A	N/A	N/A	$ 534.66	$ 50.25	$ 25.13	$ 18.09	$ 961.79
Office	334.67	109.55	N/A	N/A	N/A	N/A	712.55	66.33	33.17	23.12	1,279.39
Industrial	167.84	55.28	N/A	N/A	N/A	N/A	356.78	33.17	17.09	12.06	642.22
Incorporated Cities											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	N/A	$ 34.17	N/A	N/A	$ 1,283.39	$ 972.84	$ 260.30	$ 132.66	$ 60.30	$ 4,056.19
Multi-family Unit	869.33	N/A	22.11	N/A	N/A	850.23	644.21	172.86	87.44	40.20	2,686.38
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 534.66	$ 50.25	$ 25.13	$ 13.07	$ 874.36
Office	334.67	N/A	N/A	N/A	N/A	N/A	712.55	66.33	33.17	17.09	1,163.81
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	356.78	33.17	17.09	8.04	582.92

[1] Applied in jurisdictions where County provides animal control services. In Desert Zone, applies in unincorporated areas only.

[2] Represents the combined total for park land and park improvements. Applied to unincorporated areas that are not part of any independent park district.

[3] Represents the combined total for park land and park improvements.

[4] Applied only in areas where Kern County Fire Department is the primary service provider. Includes some incorporated and some unincorporated areas.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

ATTACHMENT II

Based on standards adopted in the Kern County Capital Improvement Plan, May 2008

KERN COUNTY MONETARY MITIGATON FACTORS - MOUNTAIN ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	$ 1,154.75	$ 1,076.36	$ 57.29	$ 3,087.36	$ 1,283.39	$ 2,025.08	$ 260.30	$ 132.66	$ 84.42	$ 10,474.14
Multi-family Unit	869.33	764.81	712.55	37.19	2,045.18	850.23	1,341.68	172.86	87.44	55.28	6,936.55
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	$ 221.10	N/A	N/A	N/A	N/A	$ 1,112.54	$ 50.25	$ 25.13	$ 18.09	$ 1,678.36
Office	334.67	294.47	N/A	N/A	N/A	N/A	1,481.37	66.33	33.17	23.12	2,233.13
Industrial	167.84	147.74	N/A	N/A	N/A	N/A	742.70	33.17	17.09	12.08	1,120.60
Incorporated Cities											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,076.36	$ 57.29	N/A	$ 1,283.39	$ 2,025.08	$ 260.30	$ 132.66	$ 60.30	$ 6,207.91
Multi-family Unit	869.33	N/A	712.55	37.19	N/A	850.23	1,341.68	172.86	87.44	40.20	4,111.48
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 1,112.54	$ 50.25	$ 25.13	$ 13.07	$ 1,452.24
Office	334.67	N/A	N/A	N/A	N/A	N/A	1,481.37	66.33	33.17	17.09	1,932.63
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	742.70	33.17	17.09	8.04	968.84

[1] Applied in jurisdictions where County provides animal control services. In Mountain Zone, applies in unincorporated areas and the City of Tehachapi (entire Mountain Zone).

[2] Represents the combined total for park land and park improvements. Applies to unincorporated areas that are not part of any independent park district.

[3] Represents the combined total for park land and park improvements.

[4] Applied only in areas where Kern County Fire Department is the primary service provider. KCFD is primary service provider throughout the Desert Zone.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County Capital Improvement Plan, May 2008

KERN COUNTY MONETARY MITIGATON FACTORS - VALLEY ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	$ 927.62	$ 1,026.11	$ 57.29	$ 3,087.36	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 84.42	$ 9,012.87
Multi-family Unit	869.33	615.06	679.38	37.19	2,045.18	850.23	557.78	172.86	87.44	55.28	5,969.73
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	$ 176.88	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 18.09	$ 983.90
Office	334.67	236.18	N/A	N/A	N/A	N/A	616.07	66.33	33.17	23.12	1,309.54
Industrial	167.84	118.59	N/A	N/A	N/A	N/A	308.54	33.17	17.09	12.06	657.29
Arvin											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	$ 50.25	N/A	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 60.30	$ 4,966.73
Multi-family Unit	869.33	N/A	679.38	33.17	N/A	850.23	557.78	172.86	87.44	40.20	3,290.39
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 13.07	$ 802.00
Office	334.67	N/A	N/A	N/A	N/A	N/A	616.07	66.33	33.17	17.09	1,067.33
Industrial	p	N/A	N/A	N/A	N/A	N/A	308.54	33.17	17.09	8.04	534.68
Bakersfield											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	$ 50.25	N/A	$ 1,283.39	N/A	$ 260.30	$ 132.66	$ 84.42	$ 4,149.66
Multi-family Unit	869.33	N/A	679.38	33.17	N/A	850.23	N/A	172.86	87.44	55.28	2,747.69
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	N/A	$ 50.25	$ 25.13	$ 18.09	$ 344.72
Office	334.67	N/A	N/A	N/A	N/A	N/A	N/A	66.33	33.17	23.12	457.29
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	N/A	33.17	17.09	12.06	230.16

[1] Applied in jurisdictions where County provides animal control services. In Valley Zone, applies in Arvin, Bakersfield, Maricopa, and McFarland. Reduced amount in Arvin and Bakersfield because County provides shelter services only.

[2] Amounts represent the combined total for park land and park improvements. Applied to unincorporated areas that are not part of any independent park district.

[3] Amounts represent the combined total for park land and park improvements.

[4] Applied only to areas where Kern County Fire Department is the primary service provider. Includes some incorporated and some unincorporated areas. Bakersfield Fire Department is primary service provider in most areas within Bakersfield City Limits and in some unincorporated areas near Bakersfield.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County County Capital Improvement Plan, May 2008

KERN COUNTY MONETARY MITIGATON FACTORS - VALLEY ZONE (continued)

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Maricopa, McFarland											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	$ 57.29	N/A	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 60.30	**$ 4,973.77**
Multi-family Unit	869.33	N/A	679.38	37.19	N/A	850.23	557.78	172.86	87.44	40.20	**3,294.41**
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 13.07	**$ 802.00**
Office	334.67	N/A	N/A	N/A	N/A	N/A	616.07	66.33	33.17	17.09	**1,067.33**
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	308.54	33.17	17.09	8.04	**534.68**
Delano, Shafter, Taft, Wasco											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	N/A	N/A	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 60.30	**$ 4,916.48**
Multi-family Unit	869.33	N/A	679.38	N/A	N/A	850.23	557.78	172.86	87.44	40.20	**3,257.22**
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 13.07	**$ 802.00**
Office	334.67	N/A	N/A	N/A	N/A	N/A	616.07	66.33	33.17	17.09	**1,067.33**
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	308.54	33.17	17.09	8.04	**534.68**

[1] Applied in jurisdictions where County provides animal control services. In Valley Zone, applies in Arvin, Bakersfield, Maricopa, and McFarland. Reduced amount in Arvin and Bakersfield because County provides shelter services only.

[2] Amounts represent the combined total for park land and park improvements. Charged to unincorporated areas that are not part of any independent park district.

[3] Amounts represent the combined total for park land and park improvements.

[4] Applied only to areas where Kern County Fire Department is the primary service provider. KCFD is primary service provider in these cities.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County County Capital Improvement Plan, May 2008

ATTACHMENT III

ALTERNATIVE FUNDING SOURCES FOR PUBLIC FACILITIES NEEDED BY NEW DEVELOPMENT

- *State bond funds* – The State's fiscal condition makes this an unlikely option. The eligibility requirements may also include a substantial dollar match or specify (service level) standards that exceed the County's adopted standard.
- *County fire funds* – A special designation of property tax revenue which helps fund the Fire Department's operations. Earmarking fire funds for public facilities would reduce the fund's availability to offset the Department's operating expenses or would require backfilling by another revenue source such as the general fund.
- *Partnership with cities* – Kern County may adopt impact fees for the unincorporated areas of the County, but has no authority to impose fees in the incorporated cities even for facilities that have countywide impact (such as the jail, libraries, etc.). The County could partner with cities to collect fees for countywide services; Fresno, as an example, has adopted this approach.
- *Community facility districts* – Requires the approval of property owners to establish, can be laborious to set up, and will incur ongoing administrative costs.
- *Grants, including Community Development Block Grants (CDBG)* – CDBG funds are only feasible if projects meet program regulations and benefit targeted populations.
- *Parcel assessments and tipping fees (Waste Management)* – Dedicated revenues that can only fund Waste Management facilities. They will fund a substantial portion of the Department's planned facilities.
- *General fund contribution* – The State's deteriorating budget condition significantly reduces the County's discretionary resources; it is unlikely that the County's general fund will have the capacity to construct new public facilities for the foreseeable future.
- *Development impact fees* – One of the few viable options available to fund needed infrastructure. Key aspects: they cannot make up for existing deficiencies, they are only charged in proportion to the benefit, and they can only be used for specified capital projects.
- *Other financing mechanisms* – Such as certificates of participation, may also be possible.

In summary, with the exception of Waste Management's parcel assessments and tipping fee revenues (noted above) development impact fees are assumed to be the primary funding source for the CIP's planned projects.

OVERVIEW OF COUNTY CAPITAL IMPROVEMENT PLAN AND STATUS OF PROGRAM TO IMPLEMENT PUBLIC FACILITY MITIGATION ON NEW DEVELOPMENT PROJECTS

On March 23, 2010, the County Administrative Office provided the Board of Supervisors with a status report on the methods used to determine the public services required for new development projects to avoid degrading the County's current service levels. During the Board of Supervisors' discussion of the matter, there were questions raised about the status of the County's Capital Improvement Plan (CIP) program, the companion Draft Public Facilities Development Impact Fee Study, whether new development should incur all costs for needed County services, and whether other funds are available to address public facility program costs. Additionally, there were other questions related to the level of service and monetary factors used to determine the mitigation costs of new urban development and renewable energy projects.

OVERVIEW

The CIP, adopted by the Board in May 2008, identifies the public facilities that will be needed for new development through 2030. In May 2009, the County's consultant completed a companion document, the Draft Development Impact Fee Study, which calculates the monetary factors associated with the projects contained in the CIP. The County's operational costs associated with new growth and its related impact on the General Fund is under study and will be reported to the Board at a future date.

Long-standing policies in the Metropolitan Bakersfield General Plan and the Kern County General Plan require new development to pay its "proportional share of the government service and infrastructure improvements needed to support the new development." To ensure compliance with these policies, new development proposals have been required to complete a fiscal impact analysis since the 1990s to determine their impact on public facilities, and to identify the need for appropriate mitigation. Since 2000, the County Administrative Office has coordinated this review for affected County departments and proposed to the developer the mitigation required under the California Environmental Quality Act (CEQA). Due to varying departmental needs, this approach had the potential for creating inequities among projects. To establish a more equitable and consistent process, in 2009 the County Administrative Office began using the CIP's monetary factors to determine the public facilities mitigation for projects that required preparation of an Environmental Impact Report (EIR). Proposed projects in adjacent jurisdictions that impact County public facilities are also recommended for monetary mitigation. In addition, the County Administrative Office has worked with the Planning Department to develop a mitigation measure that addresses the payment of a development impact fee in the future, if one is imposed on future projects subject to vesting map provisions.

Two recently approved renewable energy projects included mitigation for public facility impacts through the application of the monetary factors. The passive nature of those projects discounted the application of the factors by 50%; energy projects that are not passive will be proposed at 100% of the applicable mitigation factors. Future renewable energy projects will be brought before the Board for discussion of public service impacts and mitigation when the Planning Department is formally notified by the California Energy Commission (CEC) that an application has been submitted.

To facilitate growth that is consistent with the Board's vision, the Resource Management Agency will identify opportunities to encourage projects that involve renewable energy, "smart growth" concepts and that are transit-friendly. Adequate provision of public facilities needed for new development will be planned through a regularly updated CIP, and an industry stakeholder group will be convened to guide and provide input to the process. At the same time, the group will provide input to an update of the monetary factors presented in the Draft Impact Fee Study and their application, as well as provide input to any future effort to develop an impact fee program.

On October 27, 2009, the Board of Supervisors received a letter from the RMA noting the reassignment of the CIP fiscal study agreement to a new consultant as a result of a consultant firm merger. The letter additionally informed the Board that the RMA was concerned about introducing an impact fee proposal during the present economic downturn and that staff would engage with the industry in a dialogue on the fee study and on developing a workable program to implement in the future when the economy recovered. Lastly, it is noted that the County's consultant is completing an analysis of the operational costs of new development, and its impact on the General Fund, which will be the subject of a future report to your Board.

General Plan and CEQA Authority for Public Facilities Mitigation

Both the Metropolitan Bakersfield General Plan and the County General Plan have had long-standing policies specifying that new development be required to pay its proportional share of the government service and infrastructure improvements needed to support the new development. The policies within the General Plan, in combination with diminishing discretionary revenue sources, provide the basis for mitigating new development impacts to public services.

CEQA also provides a basis for the County to mitigate the effects that new development will have on County public services (Fire, Sheriff, Parks, Libraries, etc.). However, under CEQA, the County may approve a project even though it would cause a significant effect on the environment if the agency makes a publicly disclosed decision supported by findings that there is no feasible way to lessen or avoid the significant effect; and that identified project benefits outweigh measures of reducing or avoiding significant environmental impacts of the project (Sections 15091 and 15093, CEQA Guidelines).

To ensure that new development projects comply with the County's General Plan public facility policy provisions, consultant-generated fiscal impact studies were required beginning in the 1990s for all projects involving the preparation of an Environmental Impact Report (EIR). Mitigation for impacts on public facilities has been addressed historically through requirements to form public facility (Mello Roos) districts, County Service Areas, or through the provision of specific facilities or equipment (dedicating and constructing fire facilities or providing equipment) prior to the recordation of land division maps or the issuance of grading/building permits.

To better coordinate the requirements for identifying and mitigating for public facilities, the Board approved a policy on August 15, 2000 directing that the County Administrative Office serve as the lead department for determining mitigation needed from a countywide perspective. This policy does not apply to those mitigation measures ordinarily required of a development for roads, drainage, school fees, habitat conservation, or other matters covered by State statute. It does, however, apply to the facilities and equipment of the Fire, Sheriff, Library, and Parks Departments, and other direct service provider departments. To fulfill this role, the County Administrative Office was charged with consulting with affected County departments and ultimately with the developer to arrive at reasoned mitigation measures. However, this methodology had the potential of leading to inequities among proposed development projects and/or County departments due to varying departmental needs and the unique characteristics of the proposed project.

County Administrative Office Practice for Mitigating Public Facility Impacts under CEQA

As an alternative to relying on the preparation of expensive and time consuming project-specific fiscal studies, the County Administrative Office has recently applied the monetary factors calculated in the Draft Impact Fee Study to address required public facilities mitigation. Although the County has not adopted the Draft Impact Fee Study, the monetary factors that correlate with the CIP's facility standards form a reasonable basis for public facility mitigation and a suitable alternative that provides more uniformity than the project-by-project fiscal study previously used. This method is being applied to three projects for which EIRs are currently being circulated: Beech Avenue, Rosedale & Renfro, and Liberty V Biofuels Power. Additionally, this method was

used to request mitigation on two City of Bakersfield projects: The Commons, in the incorporated area and Stockdale Ranch, which is proposed for annexation.

As provided in the transmittal letter to this report, Board direction is being requested on the following options:

1) Continued use of the monetary factors, which originate from the unadopted Draft Impact Fee Study but offer certainty to proposed development projects and equitable mitigation for impacts on public facilities;

2) Return to the practice that required submitting project-specific fiscal studies, which may be costly and will delay current projects during their preparation, and which will necessitate the developer's consultation with the County Administrative Office on behalf of affected County departments. The potential for inequities among proposed development projects exists with the approach as outlined earlier in this report; and

3) Under certain conditions, the Board may also make findings of overriding considerations when considering a specific project based on infeasibility resulting from economic considerations and determine that modified mitigation is appropriate. However, any deficiencies created by this action could not legally be addressed through future impact fees but would have to be addressed through another funding source, most likely the General Fund.

In addition, the County Administrative Office has worked with the Planning Department to develop a mitigation measure that requires the payment of a development impact fee if one is imposed prior to the issuance of building permits, for the project regardless of any vesting map provisions. The Planning Department has been including the following mitigation measure as a recommended condition of approval on projects for which a mitigated negative declaration is prepared:

> "Prior to the issuance of building permits, the applicant shall be subject to any development impact fees for public services adopted by the Board of Supervisors. Payment of that fee will be considered full mitigation for impacts to public services referenced in the development impact fee."

This wording does not assume that a development impact fee will be adopted but rather, requires the project to comply with any fee adopted at the time of the issuance of building permits. With this mitigation, the project could not shelter under any vesting map provisions to avoid payment of the adopted fee.

Renewable Energy Public Facility Mitigation

The application of the CIP monetary factors for CEQA public facility mitigation for affected County services was included in two recently approved projects for solar large scale photovoltaic over 10 MW: 1) a 40 MW Photovoltaic (PV) project in Tehachapi and 2) a 10 MW PV project in Eastern Kern County. Due to the passive nature of these two projects, the mitigation factors were reduced by 50% and only included Fire, Sheriff, and countywide public protection. There are approximately 17 upcoming solar PV projects proposed for the desert and valley, and the monetary factors are intended to be used to mitigate identified CEQA impacts, providing an equitable and consistent approach for all similar projects. For energy production projects that are not passive, such as solar thermal, which requires boilers, steam generation, etc., it is proposed that the monetary CEQA mitigation be applied at 100% for affected County services. Staff has previously reported to your Board that solar projects have an exemption from reassessment for property taxes granted by the legislation that wind projects and other renewable energy projects do not have. Therefore, their impacts are even further underfunded for the facility impacts on Fire, Sheriff and countywide public protection particularly in the area of rural vandalism.

During the March 23, 2010 Board of Supervisors' meeting, the Board requested that a process be developed such that renewable energy projects under the jurisdiction of the California Energy Commission (CEC) can be brought before the Board of Supervisors for consideration of public service impact mitigation prior to CEC action to approve projects. The CEC has jurisdiction for siting and approval of power plants over 50 MW, including solar thermal plants. The CEC works collaboratively with staff of the Planning Department to solicit comments and develop conditions of certification that address local issues and impacts. Planning staff is familiar with the CEC process and proposes to place future projects on the Board of Supervisors agenda for discussion after being formally notified by the CEC or the Bureau of Land Management of the application submittal. While applicants often approach the staff and Board members at the early stages of a project, changes often occur prior to application submittal. The implementation of this process will provide an opportunity for the Board to be informed to the applicant's project and give staff direction on proposed comments on public services. Staff is also recommending this approach for energy intensive projects proposed on Bureau of Land Management Land. Such industrial scale projects exceed the provision of services contemplated by the existing memorandum of understanding with the Interior Department for shared services and where not anticipated by the current Payment in Lieu of Taxes (PILT) structure which is designed to cover such events as recreational user accidents, wild fires and criminal activities.

CEQA Streamlining of Public Facility Mitigation and Incentives for Specified Projects

A Board member also inquired about CEQA streamlining and reduced fiscal fees for renewable energy, infill and "smart growth" projects. Having a uniform fiscal mitigation program such as is being provided by the CIP and the Draft Impact Fee Study help to streamline the process of addressing public facility mitigation without having to prepare individual fiscal impact studies for proposed development projects. As the Planning Department is working on the update of the Metropolitan Bakersfield General Plan, it is the intention to create a project level EIR document that will streamline fiscal and other environmental mitigation to prepare subsequent environmental documents for specific projects.

As the RMA works towards implementing the CIP program, incorporating incentives such as reduced fees for renewable energy projects, "smart growth" and transit-friendly projects are options that can be pursued to incentivize the types of projects that are consistent with the Board's vision for future growth.

City Development Project Effects on County Public Facility Services

Projects within other jurisdictions have the potential to impact County facilities and hence the ability to provide service. In a coordinative role, the County Administrative Office comments on other jurisdictions' proposed projects. Monetary CEQA mitigation was requested recently on two developments that will impact facilities from which services are provided countywide, such as libraries and non-patrol law enforcement responsibilities. Although one of the proposed projects is now in the unincorporated area, the City of Bakersfield is the lead agency for the Environmental Impact Report as this property is proposed for annexation to the City.

CONCLUSION

Prior to the adoption of the CIP and the issuance of the companion Draft Impact Fee Study, mitigation for impacts under CEQA was determined on a case-by-case basis and resulted in variable outcomes. The use of the CIP and its standards creates the framework for a more consistent and equitable approach, results in certainty of the process for the development community, meets statutory requirements under CEQA, and fulfills the Board's policies within the County General Plan and Metropolitan Bakersfield General Plans. It is noted that the Board continues to have the discretion to reduce or eliminate CEQA mitigation with an appropriate finding, such as economic considerations. However, any resulting deficiencies in public facilities may not legally be made up through future impact fees and the deficit would have to be addressed from another funding source.

ATTACHMENT I

CIP assumptions

- Projected growth for residential, commercial, and industrial development is identified in the general and specific plans that were adopted and in place during the CIP's preparation.
- Kern County's unincorporated population is anticipated to grow at an annual rate of 1.2% during the years 2008 to 2030. The majority of the County's population growth will be within the incorporated cities.
- Existing public facilities define a standard of infrastructure that the County desires to maintain, to adequately serve future development.
- Construction of future public facilities should implement environmentally sustainable building practices, and use evaluative tools such as the Green Globe rating system promoted by the Green Building Initiative. (This is in the adopted CIP).
- Proposed development projects are assessed for compliance with the Kern County General Plan's policy that "new development will be required to pay a proportional share of the local cost of infrastructure improvements required to service such development".
- It is more costly to serve new development that is not located near existing infrastructure.

Draft Impact Fee Study Assumptions

- The proportionate cost of new public facilities will be borne by future development.
- The cost of new infrastructure that is not funded by new development will increase the burden upon the County's General Fund, whose revenues will be very scarce.
- Impact fee revenue must be spent on new facilities or expansion of current facilities to serve new development; they cannot make up for existing deficiencies.

Facility Standards

- Public Protection (jail) 4.43 jail beds/1,000 svc. pop.
- Sheriff .39 sq. ft. per capita
- Library .78 sq. ft. per capita and 2.5 volumes per capita
- Animal Control .04 sq. ft. per capita
- Parks 3.00 acres/1,000 residents
- Fire .76 sq. ft. per capita plus related fire protection equipment and apparatus further delineated in the CIP
- Waste Management 39.45 tons capacity/capita
- Public Health .12 sq. ft. per capita plus related equipment
- General Government .26 sq. ft. per capita

KERN COUNTY MONETARY MITIGATON FACTORS - DESERT ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	$ 432.15	$ 34.17	$ 57.29	$ 3,087.36	$ 1,283.39	$ 972.84	$ 260.30	$ 132.66	$ 84.42	$ 7,657.11
Multi-family Unit	869.33	286.43	22.11	37.19	2,045.18	850.23	644.21	172.86	87.44	55.28	5,070.26
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	$ 82.41	N/A	N/A	N/A	N/A	$ 534.66	$ 50.25	$ 25.13	$ 18.09	$ 961.79
Office	334.67	109.55	N/A	N/A	N/A	N/A	712.55	66.33	33.17	23.12	1,279.39
Industrial	167.84	55.28	N/A	N/A	N/A	N/A	356.78	33.17	17.09	12.06	642.22
Incorporated Cities											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	N/A	$ 34.17	N/A	N/A	$ 1,283.39	$ 972.84	$ 260.30	$ 132.66	$ 60.30	$ 4,056.19
Multi-family Unit	869.33	N/A	22.11	N/A	N/A	850.23	644.21	172.86	87.44	40.20	2,686.38
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 534.66	$ 50.25	$ 25.13	$ 13.07	$ 874.36
Office	334.67	N/A	N/A	N/A	N/A	N/A	712.55	66.33	33.17	17.09	1,163.81
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	356.78	33.17	17.09	8.04	582.92

[1] Applied in jurisdictions where County provides animal control services. In Desert Zone, applies in unincorporated areas only.

[2] Represents the combined total for park land and park improvements. Applied to unincorporated areas that are not part of any independent park district.

[3] Represents the combined total for park land and park improvements.

[4] Applied only in areas where Kern County Fire Department is the primary service provider. Includes some incorporated and some unincorporated areas.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County Capital Improvement Plan, May 2008

ATTACHMENT II

KERN COUNTY MONETARY MITIGATON FACTORS - MOUNTAIN ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	$ 1,154.75	$ 1,076.36	$ 57.29	$ 3,087.36	$ 1,283.39	$ 2,025.08	$ 260.30	$ 132.66	$ 84.42	$ 10,474.14
Multi-family Unit	869.33	764.81	712.55	37.19	2,045.18	850.23	1,341.68	172.86	87.44	55.28	6,936.55
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	$ 221.10	N/A	N/A	N/A	N/A	$ 1,112.54	$ 50.25	$ 25.13	$ 18.09	$ 1,678.36
Office	334.67	294.47	N/A	N/A	N/A	N/A	1,481.37	66.33	33.17	23.12	2,233.13
Industrial	167.84	147.74	N/A	N/A	N/A	N/A	742.70	33.17	17.09	12.08	1,120.60
Incorporated Cities											
Residential						*(Per Dwelling Unit)*					
Single Family Unit	$ 1,312.53	N/A	$ 1,076.36	$ 57.29	N/A	$ 1,283.39	$ 2,025.08	$ 260.30	$ 132.66	$ 60.30	$ 6,207.91
Multi-family Unit	869.33	N/A	712.55	37.19	N/A	850.23	1,341.68	172.86	87.44	40.20	4,111.48
Nonresidential						*(Per 1,000 Square Feet)*					
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 1,112.54	$ 50.25	$ 25.13	$ 13.07	$ 1,452.24
Office	334.67	N/A	N/A	N/A	N/A	N/A	1,481.37	66.33	33.17	17.09	1,932.63
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	742.70	33.17	17.09	8.04	968.84

[1] Applied in jurisdictions where County provides animal control services. In Mountain Zone, applies in unincorporated areas and the City of Tehachapi (entire Mountain Zone).

[2] Represents the combined total for park land and park improvements. Applies to unincorporated areas that are not part of any independent park district.

[3] Represents the combined total for park land and park improvements.

[4] Applied only in areas where Kern County Fire Department is the primary service provider. KCFD is primary service provider throughout the Desert Zone.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County Capital Improvement Plan, May 2008

KERN COUNTY MONETARY MITIGATON FACTORS - VALLEY ZONE

	Countywide Public Protection	Sheriff Patrol and Inves-tigation	Library	Animal Control[1]	Community Parks[2]	Regional Parks[3]	Fire[4]	Waste Management	Public Health	General Government	Total
Unincorporated County											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	$ 927.62	$ 1,026.11	$ 57.29	$ 3,087.36	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 84.42	$ 9,012.87
Multi-family Unit	869.33	615.06	679.38	37.19	2,045.18	850.23	557.78	172.86	87.44	55.28	5,969.73
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	$ 176.88	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 18.09	$ 983.90
Office	334.67	236.18	N/A	N/A	N/A	N/A	616.07	66.33	33.17	23.12	1,309.54
Industrial	167.84	118.59	N/A	N/A	N/A	N/A	308.54	33.17	17.09	12.06	657.29
Arvin											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	$ 50.25	N/A	$ 1,283.39	$ 841.19	$ 260.30	$ 132.66	$ 60.30	$ 4,966.73
Multi-family Unit	869.33	N/A	679.38	33.17	N/A	850.23	557.78	172.86	87.44	40.20	3,290.39
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	$ 462.30	$ 50.25	$ 25.13	$ 13.07	$ 802.00
Office	334.67	N/A	N/A	N/A	N/A	N/A	616.07	66.33	33.17	17.09	1,067.33
Industrial	p	N/A	N/A	N/A	N/A	N/A	308.54	33.17	17.09	8.04	534.68
Bakersfield											
Residential					*(Per Dwelling Unit)*						
Single Family Unit	$ 1,312.53	N/A	$ 1,026.11	$ 50.25	N/A	$ 1,283.39	N/A	$ 260.30	$ 132.66	$ 84.42	$ 4,149.66
Multi-family Unit	869.33	N/A	679.38	33.17	N/A	850.23	N/A	172.86	87.44	55.28	2,747.69
Nonresidential					*(Per 1,000 Square Feet)*						
Commercial	$ 251.25	N/A	N/A	N/A	N/A	N/A	N/A	$ 50.25	$ 25.13	$ 18.09	$ 344.72
Office	334.67	N/A	N/A	N/A	N/A	N/A	N/A	66.33	33.17	23.12	457.29
Industrial	167.84	N/A	N/A	N/A	N/A	N/A	N/A	33.17	17.09	12.06	230.16

[1] Applied in jurisdictions where County provides animal control services. In Valley Zone, applies in Arvin, Bakersfield, Maricopa, and McFarland. Reduced amount in Arvin and Bakersfield because County provides shelter services only.

[2] Amounts represent the combined total for park land and park improvements. Applied to unincorporated areas that are not part of any independent park district.

[3] Amounts represent the combined total for park land and park improvements.

[4] Applied only to areas where Kern County Fire Department is the primary service provider. Includes some incorporated and some unincorporated areas. Bakersfield Fire Department is primary service provider in most areas within Bakersfield City Limits and in some unincorporated areas near Bakersfield.

Sources: Tables 3.7, 4.7, 5.11, 6.6, 7.7, 8.9, 9.5, 10.5 and 11.6.

Based on standards adopted in the Kern County County Capital Improvement Plan, May 2008

ATTACHMENT III

ALTERNATIVE FUNDING SOURCES FOR PUBLIC FACILITIES NEEDED BY NEW DEVELOPMENT

- *State bond funds* – The State's fiscal condition makes this an unlikely option. The eligibility requirements may also include a substantial dollar match or specify (service level) standards that exceed the County's adopted standard.
- *County fire funds* – A special designation of property tax revenue which helps fund the Fire Department's operations. Earmarking fire funds for public facilities would reduce the fund's availability to offset the Department's operating expenses or would require backfilling by another revenue source such as the general fund.
- *Partnership with cities* – Kern County may adopt impact fees for the unincorporated areas of the County, but has no authority to impose fees in the incorporated cities even for facilities that have countywide impact (such as the jail, libraries, etc.). The County could partner with cities to collect fees for countywide services; Fresno, as an example, has adopted this approach.
- *Community facility districts* – Requires the approval of property owners to establish, can be laborious to set up, and will incur ongoing administrative costs.
- *Grants, including Community Development Block Grants (CDBG)* – CDBG funds are only feasible if projects meet program regulations and benefit targeted populations.
- *Parcel assessments and tipping fees (Waste Management)* – Dedicated revenues that can only fund Waste Management facilities. They will fund a substantial portion of the Department's planned facilities.
- *General fund contribution* – The State's deteriorating budget condition significantly reduces the County's discretionary resources; it is unlikely that the County's general fund will have the capacity to construct new public facilities for the foreseeable future.
- *Development impact fees* – One of the few viable options available to fund needed infrastructure. Key aspects: they cannot make up for existing deficiencies, they are only charged in proportion to the benefit, and they can only be used for specified capital projects.
- *Other financing mechanisms* – Such as certificates of participation, may also be possible.

In summary, with the exception of Waste Management's parcel assessments and tipping fee revenues (noted above) development impact fees are assumed to be the primary funding source for the CIP's planned projects.