

AGRICULTURAL ELEMENT

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Double Line= Additions

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IMPERIAL COUNTY GENERAL PLAN AGRICULTURAL ELEMENT

I. INTRODUCTION

A. Preface

Imperial County contains one of the finest agricultural areas in the world. This accomplishment is due to several environmental and cultural factors including good soils, a year-round growing season, the availability of adequate water transported from the Colorado River by a complex canal system, extensive areas committed to agricultural production, a gently sloping topography, and a climate that is well-suited for growing crops and raising livestock. In recognition of the importance of agricultural production to Imperial County, and in view of several potential threats to continued success, the County Board of Supervisors directed that an Agricultural Element be developed.

Adoption of the Agricultural Element of the Imperial County General Plan demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production. This Element will guide County staff activities, inform current and prospective developers of agricultural and non-agricultural lands, and provide general information and reference about the County's agricultural goals and objectives.

The Agricultural Element and the implementing County Ordinances for agricultural operations, activities, and industries shall ensure compatibility with adjacent land uses and provide clear guidelines for decisions in agricultural areas. The policies and objectives of this Element shall legally bind the County, just as other policies and objectives are intended to satisfy the law for the State-mandated Elements in the County's General Plan. This Element provides an informational base for the various policies and implementation of Imperial County agriculture; it does not zone, regulate, tax, or provide staffing for agricultural activities.

The Agricultural Element is composed of four chapters:

Chapter I describes the nature of the Agricultural Element, its relationship to the General Plan as authorized by the California Government Code, and benefits of agricultural production.

Chapter II examines existing conditions, trends, and issues of agricultural production in Imperial County.

Chapter III presents the goals and objectives of the Element.

Chapter IV identifies implementation programs and plans.

B. Purpose of the Agricultural Element

The Agricultural Element is an optional Element of the Imperial County General Plan, as permitted by Section 65303 of the California Government Code. Although this Element

is not mandatory, it must comply with requirements that are requisite to all Elements of the General Plan. Legislative intent must be fulfilled as set forth in Section 65300.5 of the Government Code: "... The General Plan and the parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency...".

This Element is intended to be a comprehensive, internally consistent, and long-term expression of community goals with regard to agriculture, and will serve as the foundation for development decisions by the County Board of Supervisors. An overall purpose of the Element is to describe the status and trends of agricultural resources in the planning area and to identify the goals, objectives, policies, and measures and time frames related to conserving agricultural lands while minimizing or avoiding conflicts with urban and other land uses.

It is noteworthy that on August 21, 1973, the Board of Supervisors adopted the Open Space Element of the County General Plan which states the following:

The preservation of prime agricultural lands is beneficial to the public at large and adopted policies should encourage this end. The identification and preservation of prime agricultural land, based upon soil characteristics, crop types, and water supply should provide the foundation for a rational and defensible preservation program. Refinement and clarification of the goals, policies, and objectives necessary to maintain the economic viability and importance of agriculture in Imperial County, will be found in the Proposed Agricultural Element... (p. 23).

The County Board of Supervisors appointed an Ad Hoc Advisory Committee in 1990 to help the County prepare a General Plan Update. On August 23, 1990, the Ad Hoc Advisory Committee decided to recommend that an Agricultural Element be prepared for the General Plan. On October 9, 1990, the Board reviewed the Committee's recommendation and approved the preparation of this new portion of the General Plan. Although the County has long recognized the value and need for preservation of prime agricultural lands, the present Agricultural Element is the first to be prepared.

Also in 1990, the Agricultural Commissioner's Office prepared and obtained the approval of the Board of Supervisors for the "Right-to-Farm Ordinance". The Agricultural Ordinance states, in part, that "It is the declared policy of this County to enhance and encourage agricultural operations within the County. It is the further intent of this County to provide to residents of this County proper notification of the County's recognition and support through this ordinance of those persons' and/or entities' right to farm."

C. Benefits of Imperial County Agriculture

Agriculture has been the single most important economic activity of Imperial County throughout the 1900s, and is expected to play a major economic role in the foreseeable future. The gross annual value of agricultural production in the County has hovered around one billion dollars for the last several years, making it the County's largest source of income and employment. Agriculture also represents a major source of tax revenue for the County, and supports the purchase of numerous local goods and services. The County's overall economic stability and well-being are intricately related to the economic status of this industry.

Aside from economic benefits, Imperial County agriculture is a major producer and supplier of high quality plant and animal foods and non-food products. Over 120 types of crops are grown in the County. Field crops (such as alfalfa), row crops (such as lettuce, carrots, and melons), and livestock (especially cattle) represent significant contributions to the nation's diet, health, and well-being. In addition, Imperial County agriculture makes efficient use of land, water, good soil, climate, and other natural resources.

The agricultural system is currently diversifying by the establishment of aquaculture and possible reintroduction of significant dairy production. Aquaculture offers an opportunity to put poorly drained clay soils which are only marginally useful for traditional agriculture to productive, high valued crop use. The ratio of crop value to land used by aquaculture is relatively high. Most existing aquaculture operations were started with capital brought into Imperial County. Capital improvements made to real property and equipment purchased for these operations add substantially to the County property tax base, and most aquatic products are sold out of the County, thus bringing new money into the County. Imperial County stands to benefit immensely from these industries which, among other benefits, provide year-round employment and job opportunities to people at many educational and skill levels.

An indirect benefit of agriculture in Imperial County is the creation of modified wetlands that attract useful and beneficial wildlife. The numerous canals, irrigated fields, reservoirs and evaporation ponds, aquaculture facilities, and the Salton Sea provide important habitats for various listed, protected, and other animal, bird, reptile, and fish species. Considerable recreational fishing and hunting is also made possible as a side benefit of agriculture. Under certain circumstances, agricultural facilities may qualify as constructed wetlands and satisfy state and federal concerns over the net loss of wetlands.

II. EXISTING CONDITIONS AND TRENDS

A. Preface

Agricultural production has been the major economic industry in Imperial County throughout the 1900s. This chapter summarizes the early historical development of this industry, describes the existing conditions, and reviews recent trends and issues related to continued production.

B. History of Imperial County Agriculture

Ethnohistoric research has demonstrated that upon European contact in Imperial County in the 1700s, the Kamia Indians, a desert subgroup of the Kumeyaay (Diegueño) Indians whose territory included coastal and inland regions of San Diego County, were using dams and ditch systems to irrigate land along the New and Alamo Rivers. Annual flooding of the Colorado River made desert cultivation of corn, beans, squash, pumpkins, gourds, and watermelon possible.

Dr. Oliver M. Wozencraft, in 1849, was one of the first newcomers to the County to recognize the region's potential for irrigation development. Irrigation water was first delivered to the Imperial Valley in June 1901, by the California Development Corporation by diverting it from the Colorado River through a channel cut in Mexico to the Alamo River. After crossing the International Border east of Calexico, water was diverted from the stream to irrigate crops. Until this time, although many people traveled through Imperial County, the area held little attraction for settlers. Irrigation by the Alamo Canal Project soon led to a substantial population base in the area and the establishment of several towns. More irrigation ditches were completed and rapid development occurred as settlers poured into the area.

In 1905 the Colorado River flooded and ran uncontrolled through Imperial Valley, inundating 488 square miles of farmland and creating the Salton Sea. Several decades were required to improve the water delivery system, culminating in the completion of the All American Canal, which replaced the Alamo Canal, in 1941. With a reliable water system, operated by the Imperial Irrigation District since 1911, and the construction of the Southern Pacific Railroad and paved highways, the County's population and agricultural industry grew. All larger towns and most smaller communities grew up as agricultural centers or shipping stations. Today, agriculture remains the main economic resource in Imperial County.

C. Existing Conditions

For the purposes of this Element, discussion of the existing conditions is separated into the two major types of agricultural production in Imperial County: irrigated crop production, and livestock production (including aquatic products).

1. Irrigation Agriculture

Imperial County covers an area of 4,597 square miles or 2,942,080 acres. Approximately 20 percent of the land is irrigated for agricultural purposes, most notably the central area known as Imperial Valley (512,163 acres; *Imperial County General Plan Overview*, September 1985). Two other major irrigated areas are Bard Valley (14,737 acres) in the southeast corner of the County, and Palo Verde Valley (7,428 acres) in the northeast corner (Figure 1).

Favorable climate, productive soils, and the availability of irrigation water have permitted Imperial County to become a leading producer of agricultural products. Irrigation agriculture in the County is extremely diverse and includes numerous types of vegetable crops including lettuce, carrots, onions, tomatoes, cauliflower, and broccoli; alfalfa, Sudan grass, and other animal feed; sugar beets; wheat and other grains; melons; cotton; and various citrus, fruits, and nuts. In 1990, Imperial County surpassed one billion dollars in gross income from all agricultural products combined, and in 1988, 1989, and 1991, the gross income was a little under the one billion dollar figure (Table 1). Vegetable and melon crops, as a category, have traditionally represented the highest gross value, followed by field crops, fruit and nut crops, seed crops and nursery products, and apiary products (Figure 2). Detailed descriptions of crop production values and acreages cultivated are provided annually in the Imperial County *Agricultural Crop & Livestock Report* by the Agricultural Commissioner.

Two resources that are vital to past and future agricultural production are productive soils and adequate water. A review of these two resources is important for placing many of the trends, issues, goals, and objectives raised in this Element into perspective.

a. Productive Soils

The rich soils of Imperial County, and particularly of the Imperial Valley, were created by periodic flooding of the Colorado River over thousands of years which left deep, rich deposits of silt. Information on the adequacy and importance of soils in Imperial County, taking into account general soil conditions and characteristics, is available from two important sources: the U.S. Department of Agriculture Soil Conservation Service, and California State Department of Conservation. The Soil Conservation Service (SCS) has grouped soils into eight capability classes according to their suitability for most kinds of field crops. These classes are defined as follows:

Class I. Soils have few limitations that restrict their use.

Class II. Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III. Soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.

Figure 1 - Existing Agricultural Lands in Imperial County

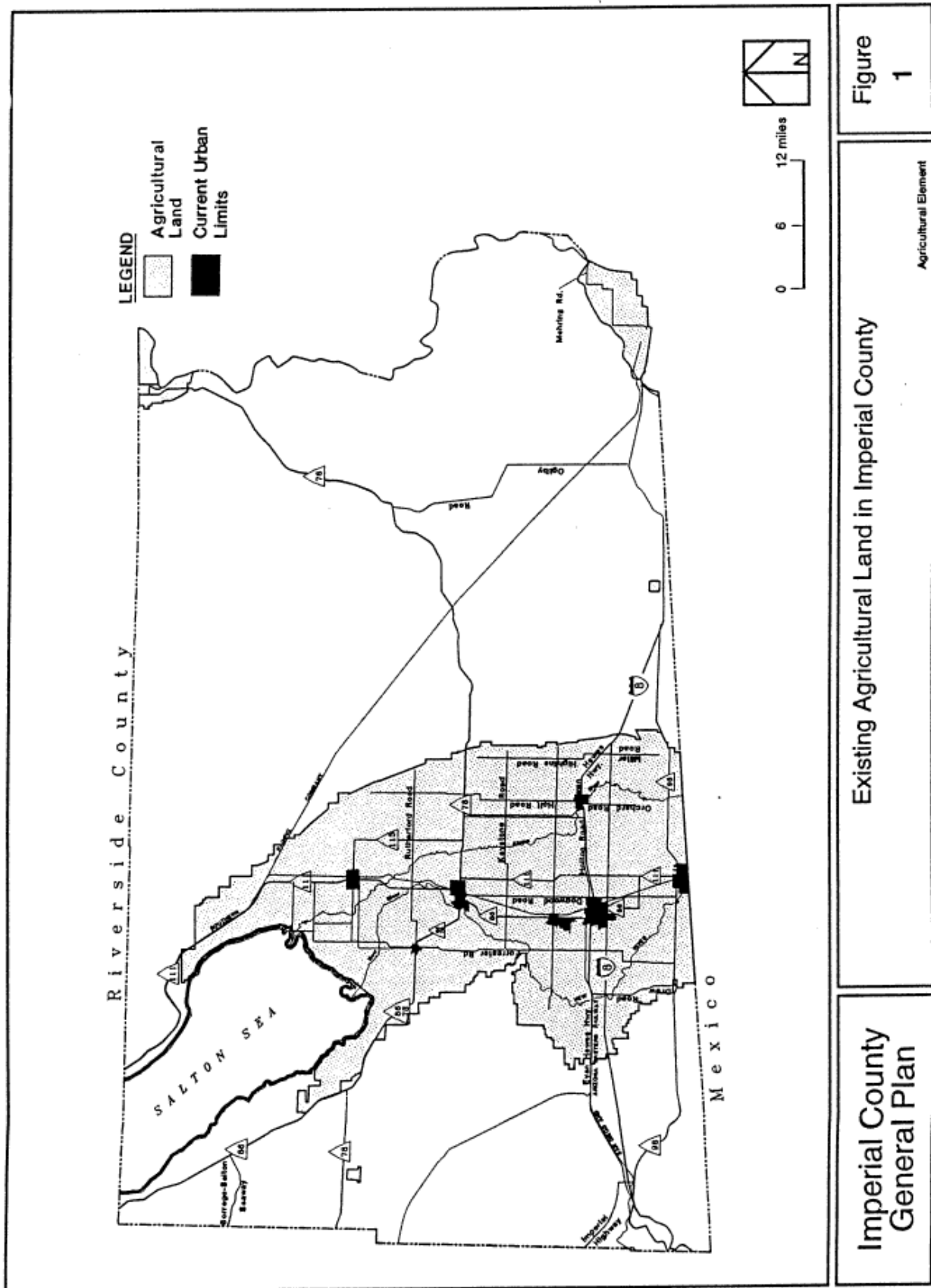


Figure 2 - Gross Values of Selected Agricultural Crop and Livestock Commodities

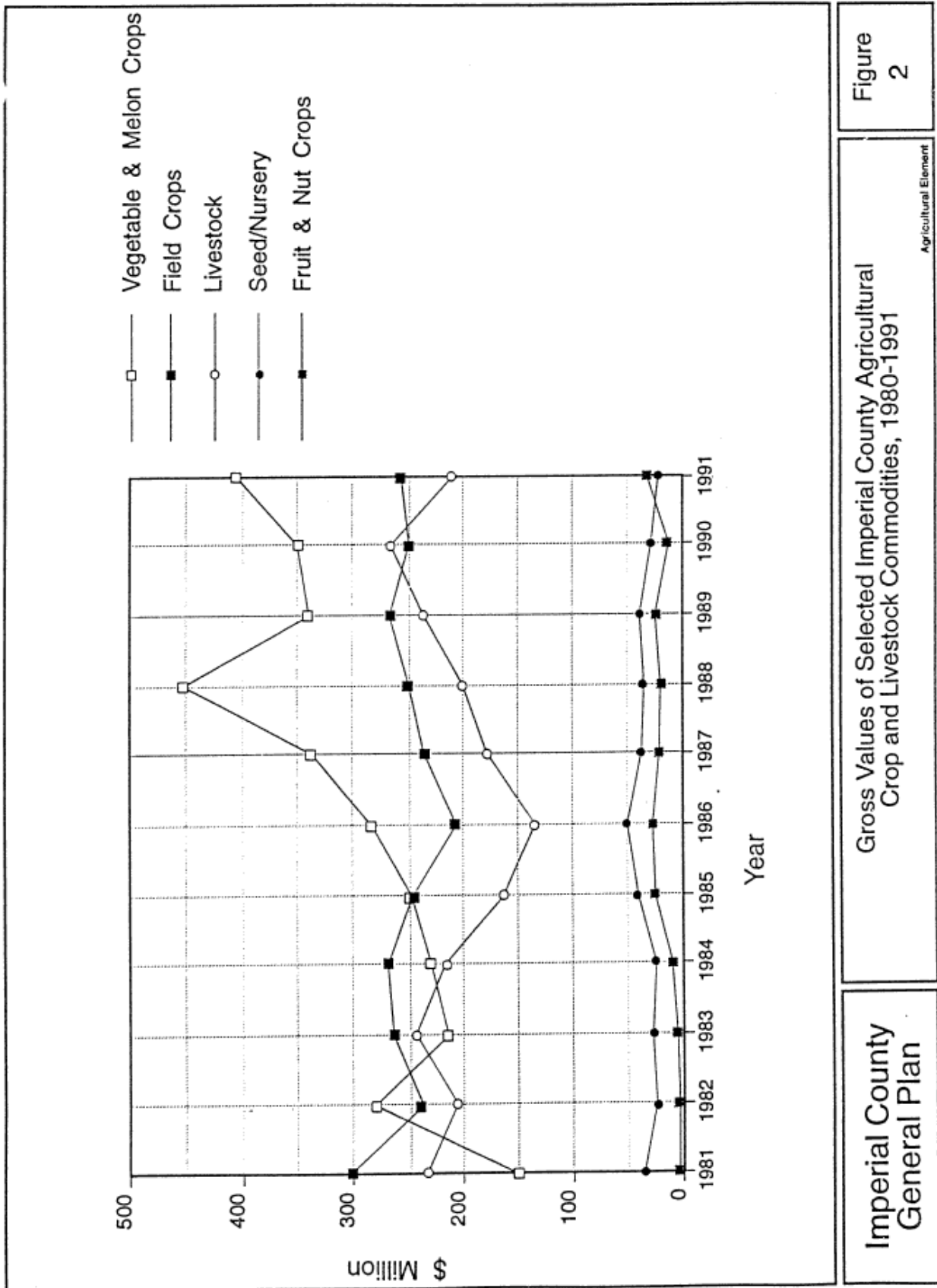


TABLE 1
SUMMARY OF IMPERIAL COUNTY AREA HARVESTED AND GROSS INCOME,
BY MAJOR AGRICULTURAL COMMODITY CATEGORY, FOR 1987-1991

Commodity	1991	1990	1989	1988	1987
Vegetable & Melon					
Harvested Acreage	136,119	149,425	136,887	119,064	109,831
Value	\$409,470,000	\$354,868,000	\$399,013,000	\$452,069,000	\$337,853,000
Field Crops					
Harvested Acreage	380,534	371,598	373,250	349,281	345,138
Value	\$254,895,000	\$346,497,000	\$272,114,000	\$250,815,000	\$226,934,000
Livestock					
Value	\$217,696,000	\$264,262,000	\$240,298,000	\$204,061,000	\$177,725,000
Fruit & Nut Crops					
Harvested Acreage	4,433	3,527	4,483	4,371	7,374*
Value	\$35,239,000	\$20,915,000	\$25,483,000	\$28,458,000	\$22,000,000
Seed Crops & Nursery Products					
Harvested Acreage	40,391	41,248	49,293	49,592	47,662
Value	\$32,833,000	\$26,868,000	\$36,968,000	\$33,601,000	\$36,525,000
Apiary Products					
Value	\$2,596,000	\$3,401,000	\$3,565,000	\$4,613,000	\$4,778,000
Total					
Harvested Acreage	561,477	565,798	563,913	522,308	510,005
Value	\$952,729,000	\$1,016,811,000	\$977,441,000	\$973,617,000	\$805,815,000

*included jojoba; moved to field crops in 1988.

Source: Imperial County Agricultural Crop and Livestock Reports

Class IV. Soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V. Soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI. Soils have severe limitations that make them generally unsuitable for cultivation.

Class VII. Soils have very severe limitations that make them unsuitable for cultivation.

Class VIII. Soils and landforms have limitations that nearly preclude their use for commercial crop production.

Although only Class I and II soils are normally considered as prime (Section 51201(c) of the California Government Code), the Open Space Element of the 1973 Plan indicated that Class III soils, which comprise most of the Imperial Valley and about 90% of the irrigated area in Imperial County, have the potential for prime agricultural production, given appropriate climatic and water conditions. For the purposes of this Agricultural Element, the SCS definition of prime agricultural soils continues to be applicable to Class I, II, and III soils. A significant portion of Imperial County is therefore highly suited for agricultural production if adequate quantities of irrigation water are available.

Class II soils are scattered in the northwest, west canal, and southeast portions of the irrigated area; the San Felipe Creek areas; in the vicinity of the Salton Sea Test Base, and the Bard area. While some of these Class II soils are presently not irrigated, they warrant preservation as prime soils. An extensive area of nonirrigated Class III soils is located east of the East Highline Canal. Barring the availability of substantial amounts of irrigation water from a new source, noticeable expansion of irrigated acreage appears unlikely.

Additional details on soil characteristics are provided in the Open Space and Conservation Element. Also, the Soil Conservation Service maintains an office in El Centro with detailed maps depicting the various types and locations of soils found in the County, and should be consulted for more information.

The Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) was implemented in 1982, largely as a result of growing public concern over farmland losses in California. The program is mandated by Government Code Section 65570, Open Space Subventions. For land inventory purposes, categorical definitions of important farmlands were developed by the SCS, recognizing the land's suitability for agricultural production, rather than reflecting only the physical and chemical characteristics of soils.

The first Important Farmland Maps were compiled in 1984 and subsequently updated in 1986, 1988, and 1990. The major purpose of the FMMP is to monitor conversion of the state's agricultural land. The aim of the program is to provide for: 1) an inventory of important farm and grazing lands in the form of Important Farmland Series Maps; 2) an inventory of land locally planned for, and/or committed to, future urban development;

and, 3) biennial revision of the Important Farmland Series maps to identify and report conversion of land to and from agricultural use to the legislature, local government, and the public. Lands mapped in Imperial County coincide with those lands included by the SCS in the soil survey of the Imperial Valley, the Palo Verde, and the Winterhaven-Bard areas.

The Important Farmland Series maps use the eight classification categories summarized below and defined in Appendix A.

Prime Farmland. Land with the best combination of physical and chemical characteristics for the production of crops.

Farmland of Statewide Importance. Land with a good combination of physical and chemical characteristics for the production of crops.

Unique Farmland. Land of lesser quality soils used for the production of the State's leading agricultural cash crops.

Farmland of Local Importance. Nonirrigated and uncultivated land with Prime and Statewide soil mapping units.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock.

Urban and Built-Up Land. Land occupied by structures or infrastructure to accommodate a building density of at least one unit to one and one-half acres, or approximately six structures to ten acres.

Other Land. Land which does not meet the criteria of any other category.

Land Committed To Nonagricultural Use. Land that may currently be in agriculture but which has been permanently committed by local elected officials to nonagricultural development.

The FMMP regards four of the categories -- prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance -- as "important farmland." Based upon the most recent (1992) FMMP map and report, Imperial County currently has a little less than 560,000 acres of important farmland.

As part of the FMMP, the Department of Conservation produces a Land Conversion Report to accompany each biennially updated Important Farmland Series map. Table 2, adopted from the 1988-1990 Land Conversion Report, summarizes Imperial County land use data for 1988 and 1990. As indicated in Table 2, a total of 559,435 acres were used as agricultural land in 1990, which represented a net loss of 1,395 acres from 1988. Although there was a slight increase in "prime farmland" (165 acres), the other three important farmland categories represented losses (1,560 acres combined).

TABLE 2
IMPERIAL COUNTY LAND USE SUMMARY AND CHANGE FROM 1988 TO 1990

Land Use Category	Total Acreage Inventoried		1988-90 Acreage Changes			
	1988	1990	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	214,369	214,534	863	1,028	1,891	165
Farmland of Statewide Importance	318,364	317,757	1,519	912	2,431	-607
Unique Farmland	831	783	48	0	48	-48
Farmland of Local Importance	27,266	26,361	909	4	913	-905
Important Farmland Subtotal	560,830	559,435	3,339	1,944	5,283	-1,395
Grazing Land	0	0	0	0	0	0
Agricultural Land Subtotal	560,830	559,435	3,339	1,944	5,283	-1,395
Urban Build-Up Land	19,219	20,408	0	1,189	1,189	1,189
Other Land	447,744	447,879	1,379	1,514	2,893	135
Water Area	375	446	0	71	71	71
Total Area Inventoried	1,028,168	1,028,168	4,718	4,718	9,436	0

Source: Table C-7, 1992 Farmland Mapping and Program Land Use Conversion Report (Department of Conservation)

It is noteworthy that "Urban and Built-Up Land" increased by 1,189 acres from 1988 to 1990 (Table 2). As indicated in Table 3, which details actual conversions from category to category, 908 acres of the 1,189 acres of new Urban and Built-Up Land came from important farmland (the remaining 281 acres came from "Other Land").

A major agricultural land use issue addressed in this Element is the continued viability of agricultural production and preservation of agricultural land. As noted above, the County Board of Supervisors recognized the potential threats to agricultural productivity posed by increased non-agricultural land uses, and on August 7, 1990 approved the "Right-to-Farm" Ordinance (Ordinance No. 1031; see Appendix B). Upon adoption of this

ordinance, the following "notice", prepared by the Agricultural Commissioner's Office, was mailed to all owners of real property in Imperial County. This notice is also provided to potential purchasers of property in Imperial County, and is attached to all building permits issued for projects that exist on or within 1/4 of a mile of agricultural land:

IMPORTANT NOTICE
FROM THE BOARD OF SUPERVISORS OF IMPERIAL COUNTY
DISCLOSURE REQUIRED BY IMPERIAL COUNTY CODIFIED ORDINANCE
SECTION 62103

RIGHT TO FARM

The County of Imperial permits operation of properly conducted agricultural operations within the County. If the property you are purchasing or own is located near agricultural lands or operations or included within an area zoned for agricultural purposes, you may be subject to inconvenience or discomfort arising from such operations. Such discomfort or inconvenience may include, but are not limited to: noises, odors, light, fumes, dust, smoke, insects, chemicals, operation of machinery (including aircraft) during any 24 hour period, storage and disposal of manure, and the application by spraying or otherwise of chemical fertilizers, soil amendments, herbicides and pesticides. One or more of the inconveniences described may occur as a result of any agricultural operation which is in conformance with existing laws and regulations and accepted customs and standards. If you live near an agricultural area, you should be prepared to accept such inconvenience or discomfort as a normal and necessary aspect of living in a county with a strong rural character and an active agricultural sector. Imperial County has established a grievance committee to assist in the resolution of any disputes which might arise between residents of this county regarding agricultural operations. If you have any questions concerning this disclosure, please contact the Agricultural Commissioner's Office at 339-4314.

TABLE 3
IMPERIAL COUNTY LAND USE CONVERSIONS FROM 1988 TO 1990

Land Use Category	Prime Farm land	Farmland of Statewide Importance	Unique Farm land	Farmland of Local Importance	Grazing Land	Total Ag. Land	Urban Built-up Land	Other Land	Water Area	Total Converted to Another Use
Prime Farmland to:	0	40	0	0	0	40	154	621	48	863
Farmland of Statewide Importance to:	16	0	0	4	0	20	706	770	23	1,519
Unique Farmland to:	0	0	0	0	0	0	48	0	0	48
Farmland of Local Importance to:	266	520	0	0	0	786	0	123	0	909
Grazing Land to:	0	0	0	0	0	0	0	0	0	0
Agricultural Land Subtotal	282	560	0	4	0	846	908	1,514	71	3,339
Urban Build-Up Land to:	0	0	0	0	0	0	0	0	0	0
Other Land to:	746	352	0	0	0	1,098	281	1	0	1,379
Water Area to:	0	0	0	0	0	0	0	0	0	0
Total Acreage Converted	1,028	912	0	4	0	1,944	1,189	1,514	71	4,718
Source: Table C-7, 1992 Farmland Mapping and Monitoring Program Land Use Conversion Report (Department of Conservation)										

Although a major intent of this ordinance is to reduce the loss to the County of its agricultural resources, an important, related purpose is to promote a good neighbor policy by advising purchasers and users of adjacent properties about the potential problems and inconveniences associated with agricultural operations. The ordinance also establishes a "County Agricultural Grievance Committee" to settle disputes between agriculturalists and adjacent property owners.

In summary, the USDA Soil Conservation Service and the California Department of Conservation's Farmland Mapping and Monitoring Program have established that the soils currently cultivated in Imperial County are productive and important farmland; the gross annual value of agricultural production has averaged close to one billion dollars over the past few years; and the County has taken a strong position towards maintaining and encouraging agricultural production, as reflected in the "Right-to-Farm" Ordinance.

b. Water Resources

Water for irrigation in Imperial County is diverted from the Colorado River at the Palo Verde Diversion Dam north of Blythe by the Palo Verde Irrigation District, and at Imperial Dam through the All-American Canal headworks and desilting basins by the Imperial Irrigation District (IID) and the Bard Irrigation District for use in the Yuma, Bard, Imperial, and Coachella Valleys. In the Imperial Valley, approximately 2.9 million acre-feet of water is delivered annually to over 500,000 acres of agricultural lands via an elaborate gravity-flow system of about 5,600 water delivery points, 1,675 miles of canals and laterals (more than 1,000 miles of which are concrete-lined) and six regulatory reservoirs. The IID also maintains a 1,457-mile drainage system, which collects surface runoff and subsurface drainage from 32,222 miles of tile drains. For more information on the water transportation system, see the Water Element.

Irrigation is critical for crop production in Imperial County. Most basically, irrigation permits farmers to apply measured amounts of water to particular crops as required. The water delivery system is sophisticated enough such that next-day water orders can normally be accommodated when necessary. Although some crops are affected by salinity, extreme temperatures, and other environmental factors, the existing water delivery system overcomes the lack of precipitation in this otherwise arid region as a significant limiting factor to intensive crop production. Detailed information on the water delivery systems is available from the IID, the Palo Verde Irrigation District, and the Bard Irrigation District.

2. Livestock Production

Livestock production, or animal husbandry, represents the second major form of agricultural production in Imperial County. Livestock production focuses on the production of beef cattle, sheep, wool, dairy products, swine, and, more recently, fish and other aquatic products. Horses are also used for work and pleasure. Imperial County offers many advantages to livestock producers. Locally grown crops provide a variety of feed ingredients for beef cattle, dairy cattle, sheep, and other animals, and adequate supplies of clean, fresh water are available from the water delivery systems described above. Although hot in the summer, the climate is dry and mild in winter, making feeding conditions ideal for cattle and sheep.

As indicated in Table 1, the annual gross income from livestock production in the County ranged between 177 and 264 million dollars from 1977 to 1991, thereby typically representing 20-25% of the total agricultural gross income. Within the general category of livestock production, beef cattle represent the single most important product to date. Indeed, taking into account all agricultural products, cattle has long been the highest ranked million dollar product (surpassed only in 1988 by lettuce as the top performer; see Figure 3 and annual issues of the Imperial County *Agricultural Crop & Livestock Report* by the Agricultural Commissioner).

Cattle production therefore represents a major role in the County's economy by providing income, tax revenue, employment and the purchase of local goods and services. Feed yards use many crops grown by Imperial County farmers including alfalfa, bermuda hay, bermuda straw, oat hay, Sudan grass hay, rye grass hay and wheat straw.

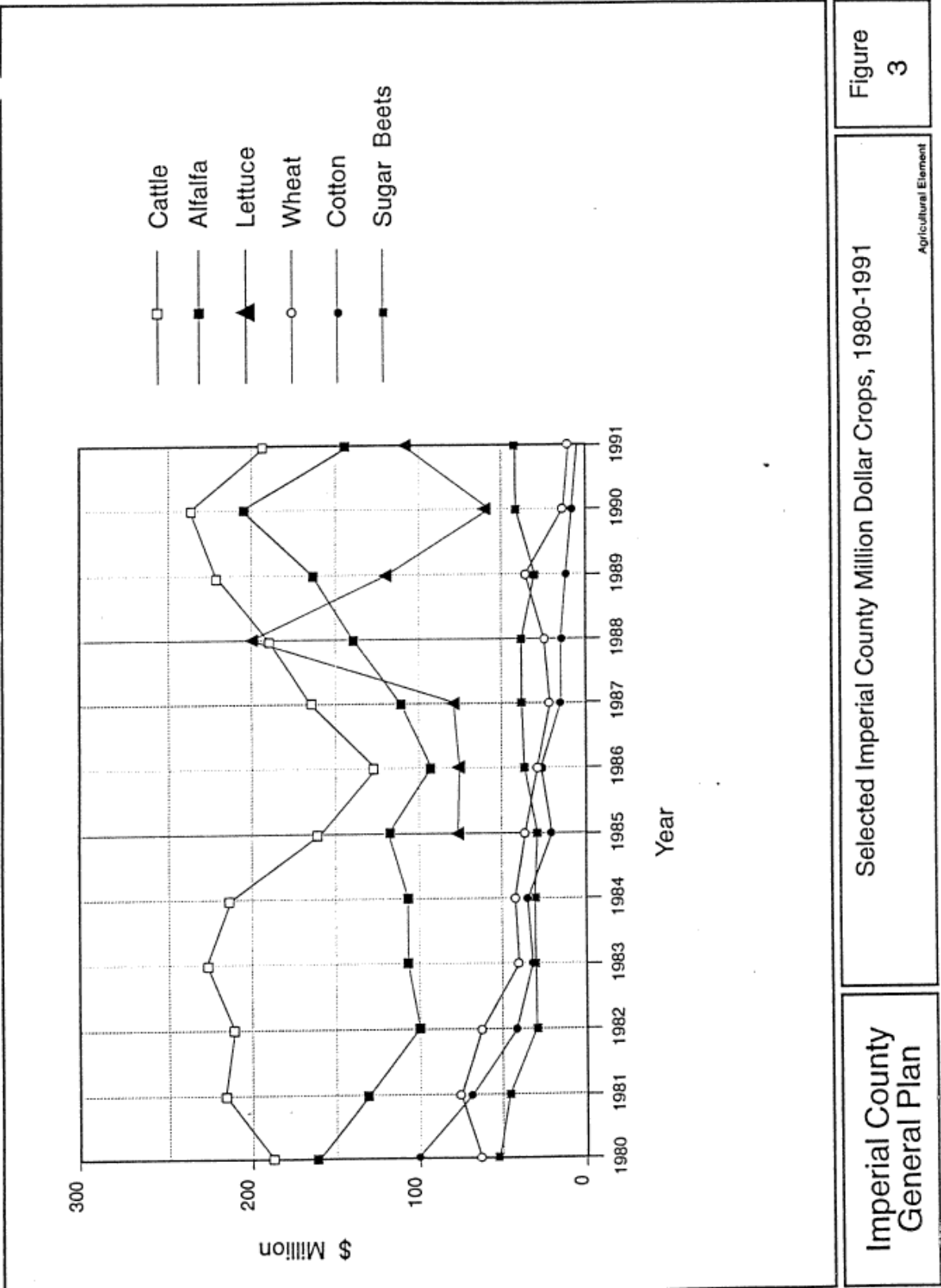
It is noteworthy that alfalfa has typically been the second highest million dollar product in Imperial County; a considerable portion of this field crop is consumed by locally raised livestock. Winter grazing of these crops in recently harvested fields is also important to cattle production and farmers alike, as are sugar beet tops which are grazed by cattle from April to July. Several crop culls including melons and carrots are also fed to cattle, and locally produced beet pulp and molasses are used in feedyards; lower quality roughages that do not meet nutrient requirements for dairy cattle or retail markets are suitable for use in feedyard rations. In addition, wheat and other locally grown grains are sold to cattle feeders when export or domestic markets are unfavorable, giving the farmers an alternative market for these crops.

Dairy cattle also represent a significant agricultural product in Imperial County, although the number of dairies has declined recently. Sheep are an important commodity, particularly in the winter when other regions throughout the West are unsuitably cold. The value of sheep was 7.3 million dollars in both 1985 and 1991, although it sunk to a low of 4.7 million dollars in 1986.

Aquaculture, which involves the controlled growing of phytoplankton, zooplankton, aquatic invertebrates, as well as "higher" aquatic plants and animals in marine, brackish, or fresh water, has increased rapidly over the past decade as a significant form of agriculture in Imperial County. Aquaculture products include fish, especially, and also fiber, pharmaceuticals, and chemicals. Aquaculture uses a variety of systems including ponds, raceways, silos, circular tanks, cages, and recirculating systems to grow fish, plants and animals.

Aquaculture is attracted to Imperial County because of a long growing season made possible by bright sunshine and cloudless days, and the abundant water supply offered by the Colorado River. Also available are heavy clay soils for pond construction, compatible uses of adjoining lands, relatively low cost flat land, relatively low cost electricity, and direct heat use of the County's geothermal resources. The proximity of this area to Los Angeles County, Orange County, and San Diego County markets is an additional advantage in locating here. Although not currently exploited, two other important resources may, in the future, prove attractive for aquaculturalists: water from the Salton Sea (although this may be limited due to the current high levels of salts and toxic elements) and carbon dioxide trapped in groundwater.

Figure 3 - Selected Million Dollar Crops



Aquatic products in Imperial County had a gross annual value of 8.6 million dollars in 1991, representing a steady increase in gross income from 2.6 million dollars in 1985. According to a report published by the Economic Research Service of USDA, aquaculture is the fastest growing segment of the overall agriculture industry.

High population areas in Southern California, Baja California and Arizona give livestock producers in Imperial County a market unmatched in other areas in the country; and rail access to the Port of Los Angeles provides convenient access to international markets.

D. Trends and Issues

Several important trends and/or issues related to future agricultural production in Imperial County have developed recently and are addressed in this Agricultural Element. These trends and issues may be summarized as follows:

- The loss of important farmland to urban and other uses.
- An increase in "leapfrogging" or "checkerboard" patterns of residential and other development on agricultural land outside of existing urban boundaries.
- The increased difficulty of cultivating crops and raising livestock in areas experiencing urban development or population increases.
- Water conservation and transfer programs and the future availability of adequate quantities of irrigation water.
- Agricultural production and salinity/selenium levels in the Salton Sea.
- Environmental issues related to the runoff of agricultural chemicals and toxic elements in drainage water.
- Increased regulation on agricultural operations.
- A lack of understanding by the general public of importance of agricultural production and operations.
- A need for balancing renewable energy development and continued agricultural operations.
- The need for increased local agricultural packaging/processing activities.
- Infestation by the Sweet Potato Whitefly Strain B (Silverleaf).
- Decline of the cattle and dairy industries.
- Special needs and difficulties of the aquaculture industry.

These trends and issues are reviewed below, and establish the context for presentation of the Goals and Objectives in following chapter.

Loss of Important Farmland to Urban and Other Uses

As indicated in the Land Use Element, the estimated total population for Imperial County increased from 109,303 in 1990 to 117,421 in 1992. Projections of population and household numbers by the Southern California Association of Governments (SCAG) in 1992 estimated that Imperial County will have 140,100 people (and an additional 5,110 households) in year 1999. These projections by SCAG may prove to be low, however, in view of several factors including the rapid population growth that the County appears to be experiencing, the relative affordability of local housing, completion of the new prisons, the proposed new border crossing, and the proposed North American Free Trade Agreement. In 1991, the State Department of Finance had estimated the year 2000 population would range from approximately 143,400 to 184,700, with the "most likely" projection being 164,115.

It must be recognized that the County's population may increase significantly over the next decade or two. New households will need places to live and cities and unincorporated areas will need to grow. These observations are relevant to future agricultural production since, with few exceptions, virtually all land surrounding cities and unincorporated communities is important farmland. More specifically, most land that surrounds existing urban uses is "Prime Farmland" or "Farmland of Statewide Importance", as defined by the California State Department of Conservation. Indeed, these two important categories comprise approximately 95% of all agricultural land in the County.

Recognizing that population growth will occur, it is obvious that there will be some net losses of existing important farmland. Important agricultural lands are already under extreme pressure for urbanization in several areas, particularly in the vicinities of El Centro, Imperial, and Calexico. Since the County's economy has historically been dependent upon agricultural production, and this dependency will exist in the foreseeable future, the permanent conversion of significant amounts of important farmland to non-agricultural uses will negatively impact the local economy and the County's ability to provide important agricultural products to the nation and elsewhere.

Leapfrogging Patterns of Non-Agricultural Developments in Agricultural Areas

Leapfrogging or "checkerboard" patterns of development occur when new subdivisions and other land uses are constructed in the midst of agricultural land near a city or rural community. Agricultural fields typically become bounded by new residential or urban land uses, and often become isolated as they are cut off from existing farmland. This isolation or stranding of fields leads to several major problems relating to agricultural operations including irrigation, the application of pesticides and other chemicals by aerial spraying and other means, and access by tractors, trucks and other farm equipment. Eventually, these fields become too small or circumscribed by other land uses to be economically or conveniently farmed.

Leapfrogging has increased in the past few years and is a major concern of farmers. Agricultural uses of the type practiced in Imperial County, as opposed to "gentry farming" common in other Southern California communities, are not compatible with residential uses. When a leapfrog residential development is allowed to occur, this inherent incompatibility creates land use conflicts on all four sides of the new development.

Inevitably, farming loses out and residential expands to create new boundaries of conflict.

During interviews conducted for the preparation of this Element, farmers, agricultural advisors, and others from the agricultural community invariably identified leapfrogging as a significant recent trend and major threat to agricultural production. Statements such as "keep the houses near the towns," "don't let people just develop houses or whatever in the middle of agricultural areas," and "growth should happen in an organized way, like spreading out around existing towns," are standard opinions. The consensus is that leapfrogging disrupts agricultural operations and reduces agricultural productivity significantly more than would be the case by expanding out from existing non-agricultural uses.

Difficulty of Cultivating Crops and Raising Livestock Near Urban Development

Any new growth beyond existing urban limits, especially including leapfrogging developments, but also well-planned expansions at the boundaries of existing urban limits, introduces new land use conflicts. Normal agricultural operations are disrupted where non-agricultural land uses extend into or alongside areas that previously were entirely agricultural. Aerial spraying, for example, is a standard and efficient pest control practice for the production of many crops in Imperial County. Interruptions or restrictions of this practice, alone, threaten the economic viability of producing certain crops.

As another example of land use incompatibility, new developments commonly impact well-established irrigation practices by requiring that farmers construct new canals to route water around such developments and to create new drainage systems. Since the irrigation and drainage of farmland is based entirely on gravity flow, any new development in existing agricultural land poses potential difficulties for farming adjacent farmland, particularly on the downstream side.

Another important difficulty imposed upon farmers by increased development is the transportation of farm equipment. Most farmers in Imperial County cultivate fields in different locations, and must move various tractors, planters, cultivators, harvesters, landplanes, and other equipment, most of which is oversized, from area to area within the County. With increased growth, and particularly with increased linear development between existing urban uses, the transportation of machinery has become increasingly difficult and dangerous.

From another perspective, increased growth leads to increased nuisance complaints about farm and livestock production operations. The inhabitants of new subdivisions, in particular, are often from non-agricultural areas and not accustomed to the activities, sounds, dust, night lights, and odors associated with farmland, feedlots, dairies, and other agricultural operations.

The establishment of "buffer zones" between agricultural and urban areas would reduce much of the incompatibility between these land uses. The use of buffer zones to date, however, has not been common or especially effective. The buffer zones that exist often become overgrown with weeds, which attract various insects and other pests, or depositories for trash, making them aesthetically unpleasing.

The recently adopted Right-To-Farm Ordinance (Appendix B) goes far towards protecting the ability of agriculturalists to perform normal farm and livestock operations. By supporting agriculturalists and clarifying the circumstances under which agricultural operations may be considered a nuisance, this ordinance should help reduce losses to the County of its agricultural resources. Nevertheless, it is likely that future "nuisance" complaints and other difficulties of farming and raising livestock related to urbanization will force or encourage some agriculturalists to cease or curtail their operations. Such actions may discourage investments in farm improvements to the detriment of the County's agricultural industry as a whole.

Water Conservation and Water Transfer Programs

As described previously, the IID provides approximately 2.6 million acre-feet of water to Imperial County each year, and other districts provide water to irrigate some 24,000 acres in the Bard and Palo Verde Valleys. Approximately 98% of the water delivered to the County is for irrigation. Considering that the Metropolitan Water District of Southern California (MWD) supplies about 2.6 million acre-feet of water each year to some 15 million people in 27 member agencies stretching from San Diego to Ventura, water conservation in Imperial County has become a critical issue. The issue has intensified in view of California's sixth consecutive year of drought and increased demands of Colorado River water from Arizona and Nevada.

Under a Water Conservation Agreement between IID and MWD reached in December 1989, MWD is financing the construction, operation, and maintenance of selected conservation projects at a cost of \$233 million, and in exchange can divert additional water from the Colorado River for delivery to its service area, equivalent to the amount conserved by IID. The 35-year contract between the districts commenced in 1990 and calls for construction to be completed in 1995. The program calls for 18 structural and non-structural conservation projects which can be grouped into seven categories: canal concrete lining, regulatory reservoirs, 12-hour deliveries, non-leak gates, system automation, lateral interceptors, and on-farm irrigation water management. By the end of 1991, an estimated 33,929 acre-feet of water was being conserved annually; the entire program is expected to conserve 106,110 acre-feet of water annually by 1994 in the County, and make it available for use by the MWD.

Water conservation measures that have the most potential to directly affect agricultural production are the on-farm irrigation projects. These proposed on-farm projects include the installation of tailwater pumpback and drip systems, farmer training of new irrigation techniques, reduction of alfalfa irrigation, and voluntary land fallowing. The proposed modified alfalfa irrigation program may involve non-irrigation for 75 consecutive days with incentives paid to participants. A voluntary land fallowing program involving subsidies may also be made available to farmers.

Many farmers currently find these irrigation reduction programs attractive, considering especially the facts that alfalfa prices are low and alfalfa damage by the whitefly is high. Whitefly damage, alone, has recently encouraged most farmers to dry out their alfalfa fields. It must be noted that although the agricultural community supported the IID/MWD water conservation/transfer program, many farmers are concerned that the initiation of irrigation reduction projects may lead to trends or policies that restrict the future availability of water for alfalfa and other crops. Non-voluntary irrigation reduction policies would be regarded as a potential threat to long-term agricultural production and the

County's economy. The County is extremely concerned over the incremental effects of some of the programs initiated by IID and beyond authority of the County Board of Supervisors.

Agricultural Production and Salinity/Selenium Runoff

Colorado River water is naturally somewhat saline, as are the soils that were deposited in Imperial Valley by thousands of years of periodic flooding. Since the flood of the Colorado River in 1905-1906, the Sea has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali Valleys, as well as from rainfall, storm runoff from the surrounding mountains, and groundwater inflow.

Agricultural production was adversely affected by high salt levels in the first half of the 1900s. This hazard has been overcome by the installation of subsurface tile drains. To date, about 32,222 miles of tile drains have been installed and drain most irrigated land in Imperial Valley. The drainage system has reduced previously existing soil salinity levels and prevents salt accumulation in farmland from irrigation water. A consequence of tile drains, however, is that, since 1949 more salt has been carried by drainage water to the Salton Sea than has been brought in by irrigation water.

Because the Salton Sea is a terminal sea, with no outlet except for evaporation, all salts that drain from agricultural lands of the lower Colorado River and Mexico are deposited there. A result of being a terminus for Colorado River water is that approximately five million tons of salt per year are carried into the Salton Sea. The high evaporation rate of the desert climate removes water from the Sea each year, but leaves the salt behind to become more and more concentrated. The salinity level of the Salton Sea is currently more than 43,000 ppm, which exceeds the salinity of ocean water (about 35,000 ppm), and the Salton Sea's sportfishing industry is threatened by rising salinity levels.

Another problem facing the Salton Sea is that of selenium. Studies have shown that the selenium entering the Sea is originally from the Colorado River, which contains approximately one to two parts per billion (ppb) of selenium. As water passes through Imperial Valley, the selenium becomes concentrated due to the evapotranspiration that occurs during irrigation. The agricultural drains then carry this selenium-enriched water into the Salton Sea where it is taken up and concentrated by small organisms, which in turn are eaten by larger organisms. This process increases selenium concentrations. Fish in the Salton Sea have an average concentration of approximately ten ppb. Birds that feed off these fish have tissue levels of up to 40 ppb. This has a potential to cause health problems in birds.

Environmental concerns related to increased salinity and selenium levels of the Salton Sea have implications for future agricultural production practices. While irrigation water contributes additional salt and selenium to the Sea, the drainage water also prevents the Sea's existing levels of these substances from becoming even more concentrated by providing dilution. The solution to increased salinity and selenium levels is not simply to reduce irrigation water, since this would actually be accompanied by a rise in salinity and selenium concentrations. Nevertheless, it behooves the agricultural community to remain sensitive to and cooperate with environmental efforts to stabilize salinity and selenium of the Salton Sea.

Agricultural Chemicals and Environmental Issues

Similar to the problems of high salinity and selenium levels of drainage water, several water quality and environmental issues are related to the runoff of agricultural chemicals. The intensive agricultural production of Imperial County necessarily results in the introduction of agricultural chemicals from pesticides and fertilizers into downstream waters. Studies performed by the California Regional Water Quality Control Board and the U.S. Geological Survey indicate that drainage water in the Imperial Valley contains pesticides in quantities that often exceed the Environmental Protection Agency's criteria for protection of fish and wildlife. The concentration levels of these chemicals in the fish and birds of the agricultural drains and the New and Alamo Rivers are higher than the levels found in Salton Sea fish and wildlife by several factors; this problem is currently being studied by the U.S. Department of Fish and Wildlife. It must be noted that a considerable portion of the pesticide and other contamination of New and Alamo Rivers and Salton Sea comes from irrigation drainage, industrial, and municipal waste discharges in Mexico.

The agricultural community needs to be concerned with environmental issues related to downstream water quality. The implementation of Integrated Pest Management (IPM) policies and programs that focus on long-term prevention or suppression of pest problems with minimum impact on human health, the environment, and nontarget organisms would go far towards reducing the environmental problems associated with pesticides and other toxic chemicals.

Regulations on Agricultural Operations

A significant trend over the last few decades has been increased regulation on agricultural operations. Environmental, safety, and other restrictions on pesticide and fertilizer use, pest management, feedlot and dairy wastes, irrigation water and runoff drainage, aerial spraying, crop residue burning, slow-moving farm vehicles and operators' licenses, and other activities have made farming and livestock production extremely complex and arduous.

Although many such regulations are necessary for the long-term well-being of our health and environment, many farmers and cattle producers feel they are being regulated out of existence. Considerable time and effort is currently spent obtaining various non-land use related permits and licenses and meeting other regulatory obligations. In view of the many concerns relating to the use of chemicals, drainage water quality and the Salton Sea, increased population and traffic in the County, etc., more regulations will likely be implemented. Many potential constraints of farming activities deemed to be nuisances by nonfarm residents in rural areas, have likely been avoided by adoption of the Right-To-Farm Ordinance; but it is clear that strict new Federal, State, or County regulations could threaten the viability of agricultural production in Imperial County.

The agricultural community needs to anticipate and take the lead on environmental protections before governments do it for them. For instance, the increased adoption of Integrated Pest Management for pest control would go far towards simultaneously reducing environmental impacts and fending off new regulations. At the same time, agricultural researchers must continue to focus on the development of other ecologically-sound agricultural practices for Imperial County, and the various levels of government must balance the approval of new regulations with the ability of farmers, cattlemen, and other agriculturalists to stay in business.

Agricultural Operations and the General Public

As the population of Imperial County has increased, the overall general public's understanding of the importance of agricultural production and operations has declined. More urban dwellers mean a widened communication gap between agriculturalists and non-agricultural consumers. Whereas long-time County residents understand or are accustomed to the odors, dust, noises, insects, and other conditions of living in an agricultural community, many new residents feel no loyalty to agriculture and simply find agricultural operations to be annoying. As the County's population increases in the future, this lack of education on the part of the general population about agricultural operations could lead to political implications detrimental to the agricultural industry, despite the adoption of policies such as the Right-To-Farm Ordinance.

The general public therefore needs information about the importance of agricultural operations. Public attitudes about the use of pesticides, the use of large quantities of water for irrigation, the economic benefits of raising cattle, the need to transport oversized machinery, and other concerns can be improved through education. The general public needs to appreciate what goes into putting food on the table, and needs to understand that the County's entire economy depends on agriculture. Some education in the County is occurring, such as the Farm Bureau's "Ag in the Classroom" program, but the local agricultural community needs to intensify such efforts. Several other counties in California, as well as the states of Arizona and Nevada, have established educational programs that would serve as excellent models for Imperial County.

The North American Free Trade Agreement

The proposed North American Free Trade Agreement (NAFTA) holds important production and economic implications for Imperial County agriculturalists, although most such implications are still poorly understood. The opinions of County farmers, researchers and others of the agricultural community about NAFTA are presently varied but generally positive and leaning towards cautious optimism. If NAFTA is approved by the U.S., Mexico, and Canada, the pact will eliminate trade barriers and topple political hurdles in creating the world's largest trading bloc worth \$6 trillion.

USDA economists are analyzing the expected effects of NAFTA on a commodity by commodity basis. Agricultural products anticipated to improve for Imperial County growers include meat and dairy products, wheat, cotton, and nuts; other products expected to be exported to Mexico include sweet corn, green beans, rice, tomato paste, and frozen asparagus. Crops that may be imported from Mexico in greater amounts, and which may increase competition for local growers, include melons, fresh tomatoes, bell peppers, cucumbers, fresh and frozen broccoli, and asparagus. Imperial County can remain competitive in the arena of vegetable and fruit production if these imported products are required to meet the same California State minimum quality standards that County-grown produce must meet.

The profitability of producing certain commodities will improve under NAFTA, and will decline for others. The advantages and disadvantages of growing specific crops will continue to evolve well after NAFTA is adopted, as production costs increase or decrease for Imperial County farmers, and as Mexican incomes and purchasing power

for U.S. products increase. It is essential that the short- and long-term economic implications of NAFTA be analyzed and, to the extent possible, predicted in order that local agriculturalists be well-positioned to appropriately adapt their production strategies.

Agricultural Packaging and Processing

The packaging and processing of agricultural products in Imperial County have declined in many ways since the 1950s, and yet these activities potentially represent highly valuable enterprises. The need for a more diversified economic base is reflected in the County's attempt to attract industries, such as General Dynamics, and the establishment of proposed industrial and commercial Specific Plan Areas (SPAs) such as the Mesquite Lake SPA, East Border Crossing SPA, and the I-8 and Highway 111 SPA (see Land Use Element).

Because Imperial County produces over 120 crops, of which dozens are multi-million dollar products, the potential benefits of developing agricultural packaging and processing operations are immense. Local packaging and processing operations would stabilize and increase the value of farm products; increase local employment; diversify the overall agricultural industry and thereby stabilize the local economy; and lower the prices of many locally produced commodities for local consumption.

Holly Sugar manufactures sugar from locally-raised sugar beets and is one of few agricultural processors in the County that could serve as a model for other commodities. Holly Sugar contracts with farmers to grow sugar beets, on about 40,000 acres, which are purchased by the factory at a stable price. The guaranteed purchase of sugar beets by this plant at a market price adds considerable security to the production of this crop that would not be possible otherwise. The Holly Sugar plant also employs over 325 people from April through August and approximately 100 individuals during the remainder of the year, and contributes revenue to the County's economy.

Products that may be immediately amenable to advanced packaging and processing steps include carrots, tomatoes, cole crops, onions, Bermuda grass seed, and citrus, to name a few. At present, most carrots are harvested, topped, washed, and exported out of the County in large trucks to be packaged elsewhere for the retail market. Local packaging of carrots would increase the value of this product; the production of carrot juice and other carrot products would increase this crop's value even further.

Similarly, local tomato processors could can, dry, and juice tomatoes, and thereby contribute benefits to the local economy, as could citrus juice plants, onion processing plants, seed mills, and a variety of fresh and frozen vegetable packaging operations. Research and marketing studies would likely identify several commodities that, if packaged and processed locally, would contribute to the benefits described above.

White Fly Infestation

The County is currently contending with a natural disaster in the form of the Sweet Potato Whitefly Strain B (Silverleaf). In 1991, the whitefly wiped out 99% of Imperial Valley's fall melon crop, and inflicted severe damage to the winter vegetables including lettuce, broccoli, and cauliflower. Alfalfa was also severely damaged. In all, Imperial Valley growers suffered an estimated \$130 million crop damage between May 1991 and May 1992, about 2,500 farmworkers were forced into unemployment, and local businesses felt the sting of economic hardship. In November 1991, Governor Pete Wilson proclaimed a state of emergency in Imperial and Riverside Counties to assist farmers and researchers in finding a solution to the devastating pest.

The Imperial County Whitefly Management Committee was established in September 1991 to determine goals and coordinate research efforts to help eradicate this insect. The committee coordinates the efforts of the County Agricultural Commissioner, local farmers, IID, Palo Verde Irrigation District, Coachella Valley Water District, University of California Cooperative Agricultural Extension, United States Department of Agriculture, and other agencies. An aggressive funding effort has been undertaken to provide operating capital and research funds. Research efforts to date have focused on plant management techniques and other agricultural practices (e.g., shortened alfalfa cutting cycles and summer drying, delayed early plantings of alfalfa, sugar beets, and winter vegetables, etc.), biological controls, and pesticide and fertilizer effects. Continued research funding is critical to combat this and other agricultural pests.

Decline of the Cattle and Dairy Industries

A significant trend has been a decline of cattle feeding from a peak of 450,000 animals in the early 1970's to about 200,000 in 1992, contributing a negative impact on the local agricultural economy. The major reasons for this decline include increased marketing costs, competition from other regions, and State regulations. These trends may be summarized as follows.

Marketing. New beef processing and packaging techniques have led to increased costs of these operations in California and a decline in processing facilities. No beef packers currently remain in Imperial County, and the number of major packers in the southern California and Arizona region has declined from more than 20 in the 1960s and 1970s to only four at present. Some finished cattle are transported to more distant areas for processing, but this option entails additional marketing costs. It is noteworthy that

Mexico is becoming an important market for local cattle, and a potential exists for new, modern processing facilities being developed in Mexico that would not be feasible in California.

Competitiveness. Although the price of alfalfa is currently low, the cost of feed in Imperial County in recent years has been high compared with the cattle industry of the High Plains. One consequence of this is that Imperial County cattle yards focus on raising calves, since calves are best raised in feedyard designs. While this practice helps keep local occupancy up, the profitability is not as high as raising yearlings until finished. Furthermore, light crossbred calves (e.g., Hereford/Brahman, Angus/Brahman, etc.), which gain weight fast, have become limited in availability to Imperial County and thus more costly to purchase. As a consequence, relatively more Holstein calves are raised now than 15 years ago. Holstein calves are cheaper to purchase but gain weight relatively slowly and command lower market prices when sold as heifers or steers.

California Business Environment. Increased regulations, increased requirements for permits and licenses, and increased costs such as labor, worker's compensation insurance, energy, taxes, and user fees have made it more difficult and less productive to raise cattle in California compared with other regions. Several products that are prohibited or restricted in California, such as cotton foodstuffs and parasitical compounds, are available in other areas such as Arizona, often resulting in lower production costs out of the State. Permitting processes for building and/or additions in California are more onerous than in most other states; air pollution standards have led to higher dust control expenses; a higher population in the County has added to dust and odor control difficulties, especially for those operating close to urban areas; and increased traffic has made the herding of pasture cattle more difficult. Finally, livestock producers face legislation on animal welfare that can be devastating.

It is noteworthy that any additional decline of the cattle industry in Imperial County would further exacerbate the viability of alfalfa, which currently is produced on approximately 37% of all County agricultural land. Alfalfa is already experiencing low prices and high transportation costs, largely due to the need to ship a major portion out of the County.

If the above obstacles could be overcome, Imperial County has the land, labor, climate, technology, and other resources for attracting and developing profitable cattle and dairy operations (see Dairy Expansion Committee of Imperial County report, *Desert Dairying in the Imperial Valley*). These operations would have a side benefit of improving and stabilizing the local alfalfa industry.

Special Needs and Difficulties of the Aquaculture Industry

Aquaculture facilities impound water and grow aquatic plants and animals under intensive and very controlled conditions. Some facilities are most efficiently or economically operated as integrated production, processing and warehouse operations. As noted previously, Imperial County aquaculture production and sales have recently increased to the extent that this is one of the fastest growing industries in the County. Growth of the industry has also resulted in the identification of several special requirements and difficulties.

As with any new industry, the availability of financing to develop and expand aquatic operations is often critical to aquaculturalists. Aquaculturalists need freedom to develop

their private resources and to expand and modify their operations as needed. Financing by agencies such as the Federal Land Bank, Production Credit Association, and Farmers Home Administration also needs to be facilitated. These agencies are empowered to make aquaculture loans, but have been reluctant to do so in Imperial County due to unfamiliarity with the industry and the perception that it lies outside of mainstream agriculture.

Aquaculturalists also need the capability to select facility designs, materials, and construction methods best suited for production sites and for culturing organisms. Because aquaculture operations require 24 hours-a-day monitoring and cultivation activities, on-site housing is often needed for employees and their families.

Potential problems exist with water impoundment. If water is ponded on land that has a high filtration rate, seepage may raise the water table on surrounding properties. However, legal remedies are available to neighboring landowners to force sealing of the leak or abandonment of the pond. New water facilities also contribute to the risk of drowning. But the exposure to drowning at aquaculture facilities will remain quite small compared with the numerous other water impoundments in the County such as canals and lakes.

Fish are often perceived as having a bad odor. Bad odor is not an inherent quality of fish or of aquaculture facilities, but result from poor water quality and improper operations. The continued availability of clean, fresh water and the proper management of cultivation facilities will ensure the successful and sanitary production of high quality products desired by the marketplace.

Aquatic organisms are very sensitive to certain pesticides. Pesticides carried to aquaculture facilities by canal water or that drift from aerial spraying may threaten cultured aquatic organisms. The agricultural community needs to be aware of this problem and assist, through education programs, in avoiding potential conflicts.

Mosquitoes and other aquatic insects are often perceived by the public as a problem associated with aquaculture facilities. This is seldom a problem, however, since fish and water movement tend to control mosquito larvae. If problems arise, they are usually associated with water in drainage ditches or seepage containment structures. Insects can be controlled in these waters by stocking fish that eat mosquito larvae or by adding chemicals to the water. Aquaculture facilities may therefore require the use of pesticides, drugs, or chemicals, but they generally use less than other agricultural endeavors.

Aquaculture facilities attract waterfowl and other wildlife, most of which are welcomed. Fish-eating birds are an exception; they transmit fish diseases in addition to eating and damaging fish. The depredation problem of migratory waterfowl has increased in recent years and is unlikely to change significantly in the near future. The problem of depredating wildlife is not unique to aquaculture; similar problems are experienced by farmers, ranchers, and pet owners. The Department of Fish and Game regulations permit farmers and ranchers to harass and drive away wildlife that damage crops. In cases where harassment is unsuccessful and exclusionary devices are impractical, Federal regulations provide for the issuance of permits by the U.S. Fish and Wildlife Service to take depredating migratory waterfowl. Many public agencies and private

companies are conducting research into better ways to solve the problem of depredating wildlife.

III. GOALS AND OBJECTIVES

A. Preface

The Agricultural Element of the General Plan serves as the primary policy statement by the Board of Supervisors for implementing development policies for agricultural land use in Imperial County. This Chapter of the Agricultural Element presents Imperial County's Goals and Objectives relative to agricultural production within the unincorporated areas of the County. Some Goals and Objectives have been taken from other Elements of the previous General Plan (i.e., Land Use, Housing, and Open Space/Conservation) that relate to agriculture. Several new Goals and Objectives have been added based upon existing conditions of the industry and the many important trends and issues described in Chapter II.

The Goals and Objectives, together with the Implementation Programs and Policies in Chapter IV, are the statements that shall provide direction for private development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the citizens as being desirable and deserving of community time and resources to achieve. The Goals and Objectives, therefore, are important guidelines for agricultural land use decision making. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these Goals and Objectives, and those of the other General Plan Elements, should be used as guidelines but not doctrines.

B. Goals and Objectives

Preservation of Important Farmland

Goal 1: All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by Federal and State agencies, should be reserved for agricultural uses.

Objective 1.1 Maintain existing agricultural land uses outside of urbanizing areas and allow only those land uses in agricultural areas that are compatible with agricultural activities.

Objective 1.2 Encourage the continuation of irrigation agriculture on Important Farmland.

Objective 1.3 Conserve Important Farmland for continued farm related (non-urban) use and development while ensuring its proper management and use.

Objective 1.4 Discourage the location of development adjacent to productive agricultural lands.

Objective 1.5 Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.

Objective 1.6 Recognize and preserve unincorporated areas of the County, outside of city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.

Objective 1.7 Provide policies and/or incentives for continued use of farmland located just beyond the urban boundaries to ensure the stability that enables farmers to invest and reinvest in agricultural production on their land.

Objective 1.8 Allow conversion of agricultural land to non-agricultural uses including renewable energy only where a clear and immediate need can be demonstrated, based on economic benefits, population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show a lack of alternative sites.

Objective 1.9 Preserve major areas of Class II and III soils which are currently nonirrigated but which offer significant potential when water is made available.

Objective 1.10 Hazard-prone areas such as earthquake faults and aircraft impact zones should remain designated for agricultural uses.

Objective 1.11 Control and prevent soil erosion when possible.

Objective 1.12 Support conversion of State and Federal lands suitable for irrigation agriculture to private ownership and into agricultural production.

Development Patterns and Locations on Agricultural Land

Goal 2: Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of non-agricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence areas.

Objective 2.1 Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.

Objective 2.2 Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.

Objective 2.3 Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.

Objective 2.4 Discourage the parcelization of large holdings.

Objective 2.5 Merge or revert to acreage substandard lots in "paper subdivisions" under the same ownership and not being used as separate parcels. Such merging should be done only for agricultural reasons, not to facilitate residential development.

Objective 2.6 Discourage the development of new residential or other non-agricultural areas outside of city "spheres of influence" unless designated for non-agricultural use on the County General Plan, or for necessary public facilities.

Objective 2.7 Allow agricultural employee housing on Important Farmland for permanent and seasonal employees and their families where it promotes efficiency in farming operations and has a minimal impact on agricultural production.

Agricultural and Non-Agricultural Land Use Relations

Goal 3: Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.

Objective 3.1 The primary use of any parcel designated "Agriculture" on the Land Use Plan shall be agricultural production. Residential uses in such areas must recognize that this primary use of the land may create nuisances such as flies, odors, dust, noise, night light, and chemical spraying.

Objective 3.2 Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).

Objective 3.3 Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).

Objective 3.4 Maintain for the benefit of agricultural transportation use, routes which are essential to facilitate the transportation of farm products and oversized farm equipment through agricultural and non-agricultural areas. Continue to allow the driving of farm animals along rural transportation routes.

Objective 3.4a Identify busy agricultural roads to create special crossings for farm equipment.

Objective 3.5 As a general rule, utilize transitional land uses around urban areas as buffers from agricultural uses. Such buffers may include rural residential uses, industrial uses, recreation areas, roads, canals, and open space areas.

Objective 3.6 Where a development permit is sought adjacent to agricultural land use, protect agricultural operations by requiring appropriate buffer zones between agricultural land and new developments, and then keep these zones aesthetically pleasing and free of pests by cleaning them of all garbage and noxious vegetation. Vegetation for the purpose of dust control shall be planted and maintained in an attractive manner. The buffer shall occur on the parcel for which the development permit is sought and shall favor protection of the maximum amount of farmland.

Objective 3.7 Land use decisions regarding property contiguous to agricultural operations shall give consideration to creation of large parcel sizes to minimize conflicts with such operations.

Objective 3.8 Renewable energy projects will be allowed within the RE Overlay Zone and mitigation for agricultural impacts have been identified and addressed.

Water Availability and Conservation

Goal 4: Maximize the inherent productivity of Imperial County's agricultural resources by ensuring future availability of adequate and affordable irrigation water and by managing water such that it is used effectively and not wasted.

Objective 4.1 The County must favor efforts to ensure adequate irrigation water for agricultural areas.

Objective 4.2 Coordinate with the appropriate agencies for the availability of water to meet future agricultural needs.

Objective 4.3 The County will participate and encourage multi-agency participation in water projects where such coordination can improve the likelihood of maintaining an adequate long-term supply of irrigation water throughout the County.

Objective 4.4 Protest any development of non-voluntary water conservation legislation, which would risk removing land from production and impacting the local economy.

Objective 4.5 Encourage farmers to use irrigation methods that conserve water.

Objective 4.6 The County should participate with cities and districts to establish programs for the agricultural re-use of treated wastewater in manners that would be economically beneficial to agriculture.

Irrigation Runoff and Environmental Issues

Goal 5: Improve the quality of irrigation water runoff and reduce the extensive use of pesticides and other chemicals to minimize impacts to downstream water bodies, wetland habitats, and the overall environment.

Objective 5.1 The County shall participate and encourage multi-agency participation in finding long-term solutions to reduce existing high levels of salt and selenium, originating from Colorado River water, in downstream drainage ditches and the Salton Sea.

Objective 5.2 The County shall participate and encourage multi-agency participation in developing strategies to reduce the use of pesticides and other chemicals without negatively impacting agricultural production; and thereby reduce the drainage of toxic elements into downstream drainage ditches and the Salton Sea.

Objective 5.3 Ensure the continued availability of the Salton Sea as a depository for irrigation runoff.

Objective 5.4 The County shall continue to work closely with University of California Cooperative Extension personnel, college horticultural or entomological faculty, pest control advisers, and other pest management specialists to develop Integrated Pest Management (IPM) as a pest management strategy that focuses on long-term prevention or suppression of insects, plant pathogens, weeds, rodents, and other pests with minimum impact on human health, the environment, and nontarget organisms.

Objective 5.5 Encourage uses of naturally occurring biological control; alternate plant species or varieties that resist pests; pesticides with a lower toxicity to humans or nontarget organisms; and irrigation, cultivation, and fertilizing practices that reduce pest problems.

Objective 5.6 Use broad spectrum pesticides only as a last resort when careful monitoring indicates they are needed according to preestablished guidelines. When treatments are necessary, the least toxic and most target-specific pesticides should be chosen.

Objective 5.7 The Agricultural Commissioner's Office shall continue to ensure that applicators of farm chemicals are educated regarding current pesticides and other chemicals, their hazards, and applications.

Agricultural Regulations

Goal 6: Strive to prevent the adoption of inappropriate, unnecessary, and restricting Federal, State, and local regulations that threaten the ability of farmers and livestock producers to profitably produce food and fiber for the nation.

Objective 6.1 The County shall not adopt regulations that impact agricultural production unless they are justified on the basis of sound environmental concerns.

Objective 6.2 Assist farmers and livestock producers in their efforts to understand and abide by regulations and to process applications for permits and licenses.

Objective 6.3 Oppose programs and regulations that seek to dictate animal husbandry practices based on religious beliefs, emotions, or misconceptions rather than on scientific evidence.

Public Relations and Education

Goal 7: Establish positive relations with the general public and inform the general public that the County's entire economy is intricately dependent upon agricultural production.

Objective 7.1 Develop and expand educational programs, such as the Farm Bureau's "Ag in the Classroom", to inform children and adults of the importance of protecting farmland.

Objective 7.2 Continue to make information accessible to the public regarding pesticides used and areas treated, as currently provided by the Agricultural Commissioner's Office.

Objective 7.3 Strive to minimize citizen complaints through public education.

Objective 7.4 Maintain existing procedures provided by the Agricultural Commissioner's Office and the Right To Farm Ordinance that allow for public input without disruption of agricultural operations.

Agricultural Production and Marketing Research

Goal 8: Improve the financial viability of the agricultural sector of Imperial County's economy through actions that have the potential to improve yields and reduce costs.

Objective 8.1 The County shall work closely with and promote the research of the University of California Cooperative Extension; the U.S.D.A Agricultural Research Service; the Animal, Plant Health and Inspection Service; pest management experts, water management experts, and others to continuously develop and implement efficient state-of-the-art farm and livestock production strategies.

Objective 8.2 Promote marketing research at the regional level to monitor trends in the demands for particular commodities such that Imperial County agriculturalists may adjust production strategies in timely manners and thereby maintain a competitive edge in the marketplace.

Objective 8.3 Promote the consumption of locally produced commodities, such as vegetables, beef and dairy products, fish, fruits, nuts, and honey.

Objective 8.4 Continue to promote agricultural research on the expected effects upon commodities under the North American Free Trade Agreement (NAFTA) to provide a competitive edge to Imperial County agriculturalists.

Objective 8.5 The County shall support and encourage the efforts of the Imperial County Whitefly Management Committee to develop the most effective means of controlling this pest. The County shall support and promote similar efforts to eradicate, and/or formulate control strategies for, other new pests that may impact local agricultural production in the future.

Objective 8.6 Encourage the production of labor intensive crops such as vegetables.

Agricultural Packaging/Processing Operations

Goal 9: Increase the value of locally produced agricultural commodities and improve and stabilize the County's economy by promoting local agricultural packaging and processing operations.

Objective 9.1 Allow agriculturally related commercial and industrial uses to be located in agricultural areas that would package, process, or market agricultural commodities produced in the area, provided that the conversion of these facilities to non-agricultural related uses is prohibited.

Objective 9.2 Encourage agricultural packaging/processing facilities in agricultural areas that would employ large numbers of workers.

Objective 9.3 Utilize the following guidelines to analyze the suitability of a proposed agricultural service use:

- it does not adversely affect agricultural production in the area;
- it supports local agricultural production;
- it is compatible with existing agricultural activities and residential uses in the area;
 - it does not require the extension of sewer or water lines.

Objective 9.4 Allow and encourage on-farm product handling and selling operations.

Objective 9.5 Allow agricultural produce stands at appropriate locations in agricultural land use areas and Farmer's Markets to promote and market those agricultural products grown or processed in Imperial County.

Special Cattle and Dairy Concerns

Goal 10: Encourage the continuation and expansion of cattle/dairy production on agricultural land.

Objective 10.1 Direct new residential and other urban development away from existing cattle and dairy operations.

Objective 10.2 Emphasize to the general public and to potential developers that the provisions of the Imperial County Right-To-Farm Ordinance (No. 1031) apply to livestock operations such as feed yards and dairies.

Objective 10.3 Allow cattle and dairy producers the ability to operate trucks and equipment, often oversized or overweight, on County roads that are increasingly impacted by more traffic.

Objective 10.4 Ensure the availability of clean, fresh water for cattle and dairy operations without unnecessary restrictions.

Objective 10.5 Support the existence and development of local beef processing operations.

Objective 10.6 Discourage the adoption of "nuisance" related regulation that restrict the ability of cattle and dairy operators to economically and conveniently produce these commodities.

Special Aquaculture Concerns

Goal 11: Encourage the continuation and expansion of aquacultural production.

Objective 11.1 County zoning regulations should define aquaculture as an agricultural use subject to the same rights, provisions, and regulations as other agricultural uses.

Objective 11.2 Emphasize to the general public and to potential developers that the provisions of the Imperial County Right-To-Farm Ordinance (No. 1031) apply to aquaculture facilities.

Objective 11.3 Encourage development by aquaculturalists of privately owned resources such as land, water, and geothermal energy and other underground resources.

Objective 11.4 Allow labor housing on property utilized for aquacultural purposes subject to the same provisions and regulations as farm labor housing on land utilized for other agricultural purposes.

Objective 11.5 Allow on-site processing, packing, and warehousing of aquatic plants and animals at aquaculture producing facilities subject to the same provisions and regulations as those on land utilized for other agricultural purposes.

Objective 11.6 Continue to gather statistics on aquaculture production in the County and report them under the general category "aquaculture products" until production is sufficient to justify separate categories for various products.

C. Relationship to Other General Plan Elements

State law mandates seven Plans or "Elements" for local government General Plans. Although the Agricultural Element is not mandatory, it must comply with requirements that are requisite to all parts within a General Plan. Legislative intent must be fulfilled as set forth in Government Code, Section 65300.5: "....the General Plan and the parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."

The Agricultural Element Policy Matrix (Table 4) identifies the relationship between the Agricultural Element Goals and Objectives to other Elements of the Imperial County General Plan. The Issue Area identifies the broader goals of the Element and the "Xs" identify that related objectives are contained in the corresponding Elements.

TABLE 4
AGRICULTURAL ELEMENT POLICY MATRIX

Issue Area	Land Use	Housing	Circulation	Noise	Seismic/ Public Safety	Open Space Conservation	Renewable Energy	Water
Agriculture Preservation	X				X	X	X	X
Land Use Planning	X	X	X			X	X	
Water Use							X	X
Environmental Issues	X					X	X	
Agricultural Production	X						X	
Cattle/Dairy	X		X					X
Aquaculture	X							X

IV. IMPLEMENTATION PROGRAMS AND POLICIES

A. Preface

Imperial County has utilized its productive soils, access to water, climate, and other resources to develop into one of the most agriculturally productive regions in the world. Based on information developed for the Agricultural Element of the General plan, it is clear that the County can and should take additional steps to provide further protection for agricultural operations and at the same time provide for logical, organized growth of urban areas. This chapter summarizes the programs and policies that will be used to implement the Goals and Objectives identified in Chapter III.

The single most important action that Imperial County can take to protect agricultural land is to adopt a clear, well-constructed set of goals, objectives, and policies that protect the conversion of agricultural land to non-agricultural uses in the future. The County must be specific and consistent about which lands will be maintained for the production of food and fiber and for support of the County's economic base. Additional implementation measures may be adopted by the County in the future to further the Goals and Objectives identified in this Element.

The Planning Department shall prepare a report to the Planning Commission and Board of Supervisors regarding the use and implementation of the Agricultural Element within two years of the date of adoption. The Agricultural Element should be updated every five years thereafter.

B. Assumptions

Based on current information and trends, County staff has made certain assumptions concerning the future. The following assumptions were utilized in the preparation of this Element:

- It is assumed that land suitable for irrigated agriculture is perhaps the most significant natural attribute of the County and its protection and enhancement is in the best interests of all County residents.
- It is assumed that there will continue to be an opportunity to develop large scale renewable energy projects in Imperial County to serve the needs of California. Additionally, recovery of rare earth minerals through direct extraction will continue to be an opportunity within the Salton Sea Known Geothermal Resource Area.
- It is assumed that the County's overall economy will be dependent upon agricultural production in the foreseeable future.
- It is assumed that residential, commercial, and urban pressures to expand into existing agricultural area will intensify, and that considerable non-agricultural land use projects will be proposed away from existing urban boundaries in the midst of Important Farmland.
- It is assumed that the agriculture industry will grow, provided that important resources such as productive soils and irrigation water are not significantly

reduced and that new restrictive and unreasonable regulations are not placed upon agriculturalists.

- It is assumed that the general public can and will be educated about the continued importance of agriculture to the County's overall well-being.
- It is assumed that long-term environmental problems related to agricultural production, such as salt and selenium levels in the Salton Sea and the use of pesticides and other chemicals, will be reduced through effective projects to water quality in the Sea and through modified pest management strategies on the farm.
- It is assumed that additional agricultural packaging and processing operations would be beneficial to agriculturalists and the County as a whole.

C. Policies and Programs

In order to implement the Goals and Objectives in the previous chapter, the County will adopt the following policies:

1. Preservation of Important Farmland

Policy

The overall economy of Imperial County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in Imperial County is considered as Important Farmland, as defined by Federal And State agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.

Programs

- No agricultural land designated except as provided in Exhibit C shall be removed from the Agriculture category except where needed for use by a public agency, for renewable energy purposes, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this element) before granting final approval of any proposal which removes land from the Agriculture category.

2. Development Patterns and Locations on Agricultural Land

Policy

"Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts to the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in Cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Programs

- All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the project, such as noise, dust, or odors.
- The Planning Department shall review all proposed development projects to assure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area, be adjoined on at least one entire property line to an area of existing urban uses. Developments which do not meet this criteria should not be approved.
- The Planning Department shall identify "paper subdivisions" in predominantly agricultural areas where common ownership could enable lot mergers or reversions to acreage to be done in order to reduce the potential for residential development.
- Establish and maintain County Zoning Ordinance requirements for a minimum lot size of 40 acres in land designated "Agriculture" on the Land Use Plan.

3. Agricultural and Non-Agricultural Land Use Relations

Policy

Any new growth increases the potential for new conflicts with existing agricultural land uses. It is the policy of the County that the burden for preventing or mitigating agricultural/non-agricultural land use conflicts falls on the developer of the non-agricultural land use.

Programs

- Identify important transportation routes used by agriculturalists in non-agricultural areas and post signs warning drivers that these routes are frequently used to transport farm products and oversized farm equipment.
- The Planning Department shall post and maintain copies of the County's "Right-to-Farm" Ordinance at their public counter. All building permit applicants

proposing non-agricultural uses on land zoned or designated for agriculture, shall be given a copy of the notice and sign a statement that they have received the copy.

4. Water Availability and Conservation

Policy

Agricultural production in Imperial County is dependent upon adequate and affordable irrigation water, and the County is committed to protect its access to this resource. The County is also committed to conserving water by promoting the development of structural and non-structural measures, including improved on-farm irrigation water management systems.

Programs

- All subdivisions and discretionary projects which require the extension of water service in excess of that necessary for a single residence, shall include an analysis of water use impacts as part of the environmental review process. This shall include potential growth inducing impacts affecting continued agricultural uses in the vicinity of the project where appropriate.
- The County shall establish landscape plan review procedures for new development in order to regulate and encourage the economical use of domestic water resources through the promotion of drought resistant native and non-native desert landscaping in all types of urban development.

5. Irrigation Runoff and Environmental Issues

Policy

As a depository for irrigation runoff, the Salton Sea receives salt and selenium originating from the Colorado River, and pesticides and other chemicals originating from agricultural practices. The County is committed to seek effective and long-term solutions to agriculture-related environmental problems.

Programs

- Form a working group comprised of the Regional Water Quality Control Board, Farm Bureau, Imperial Irrigation District, and County staff to study methods that would reduce the amount of contaminants transported into the Salton Sea.

6. Agricultural Regulations

Policy

The County recognizes that Federal, State, and local regulations have made it increasingly difficult for farmers and livestock producers to conveniently and profitably produce food and fiber, and is committed to oppose all new regulations that impact

agricultural production, unless they are justified on the basis of sound environmental concerns.

Programs

- The County shall monitor and comment on bills and regulations introduced in the State and Federal legislatures affecting agricultural lands. The Board of Supervisors shall transmit their position on such bills directly to the legislature or via Imperial County's local legislators.

7. Public Relations and Education

Policy

Positive relations between the agricultural industry and the general public are essential if agricultural production is to remain viable and expand. The County encourages the development of educational programs that teach children and adults about agricultural activities and about the importance of protecting farmland for the benefit of the nation's food supply and support of the local economy.

Programs

- Provide County staff support for classroom educational programs, such as the Farm Bureau's "Ag in the Classroom", to inform children and adults of the importance of protecting farmland.
- Support the Mid-Winter Fair, Brawley Cattle Call, and other new community events and activities which remind local residents of the County's agricultural history at its economic importance. An example of a possible new event is a cattle or sheep "drive" followed by a picnic with games and exhibits.

8. Agricultural Production and Marketing Research

Policy

The County is committed to improve the financial viability of agricultural production through the improvement of agricultural yields and reduction of production costs. All research related to developing more efficient and productive agricultural strategies, and to contributing a marketing edge to County agriculturalists, is supported and encouraged.

Programs

- Continue to support and encourage work by the U.C. Cooperative Extension to assure that local agriculturalists are kept up-to-date on the latest advances in agricultural production, product market trends, and other new information so that agricultural practices can adjust to market conditions and production strategies.
9. Agricultural Packaging/Processing Operations

Policy

The agricultural industry, and indeed the overall County economy, would benefit immensely from the development of new agricultural packaging and processing operations. The County will promote such development and will permit these operations to be located on Important Farmland if they are deemed to improve agricultural production as a whole, and if they are determined not to significantly impact production of surrounding agricultural land. The County will support this with the requirement that these facilities may not later be converted to non-agricultural uses.

Programs

- Amend the County Zoning Ordinance to facilitate with appropriate restrictions the establishment of local facilities in agricultural areas to package, process, or market agricultural commodities produced in the area. Among the restrictions shall be a condition to prohibit the conversion of these facilities to non-agricultural uses.
 - Amend the County Zoning Ordinance as needed to permit stands for the sale of locally grown or processed agricultural products in agricultural areas.
10. Special Cattle and Dairy Concerns

Policy

The County recognizes cattle and dairy production and integral components of the overall agricultural industry, and supports the continuation and expansion of these operations. All land uses that pertain to the protection of Important Farmland also apply to the cattle and dairy operations.

Programs

- Include with all notices to the general public and to potential developers that the provisions of the County Right-To-Farm Ordinance apply to livestock operations such as feedyards and dairies.
- Amend the County Zoning Ordinance as needed to facilitate the local beef processing operations.

11. Special Aquaculture Concerns

Policy

Aquaculture is recognized as one of the fastest growing industries in the County, and is deemed beneficial to the County. The County supports the continuation and expansion of aquaculture, and will treat aquaculture facilities and land uses as agricultural facilities and land uses.

Programs

- Amend the County Zoning Ordinance as needed to assure that aquaculture enjoys the same land use rights as other agricultural uses.
- Amend the County Zoning Ordinance as needed to permit, with appropriate review for compliance with local and state regulations, labor housing on property utilized for aquacultural purposes.

APPENDIX A
DEPARTMENT OF CONSERVATION
FARMLAND MAPPING AND MONITORING PROGRAM

DEFINITIONS FOR IMPORTANT FARMLAND MAP CATEGORIES¹

Prime Farmland². *Prime Farmland* is land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. *Prime Farmland* must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Farmland of Statewide Importance². *Farmland of Statewide Importance* is land other than *Prime Farmland* which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Unique Farmland. *Unique Farmland* is land which does not meet the criteria for *Prime Farmland* or *Farmland of Statewide Importance*, that has been used for the production of specific high economic value crops (as listed in California Agriculture produced by the California Department of Food and Agriculture) at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Farmland of Local Importance. *Farmland of Local Importance* is either currently producing crops, or has the capability of production. *Farmland of Local Importance* is land other than *Prime Farmland*, *Farmland of Statewide Importance*, or *Unique Farmland*. This land may be important to the local economy due to its productivity. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

This category varies from county-to-county and is determined by each county's board of supervisors and a local advisory committee.

¹ These definitions have been excerpted from *A Guide to the Farmland Mapping and Monitoring Program*, 1992, Department of Conservation, Office of Land Conservation, Publication Number FM-92-01.

² Soil types qualifying for these two categories are provided by the U.S. Soil Conservation Service.

Grazing Land. *Grazing Land* is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. The minimum mapping unit for *Grazing Land* is 40 acres.

Urban and Built-up Land. *Urban and Built-up Land* is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of *Urban and Built-up Land* if they are a part of the surrounding urban areas.

The minimum mapping unit is ten acres. Units of land smaller than ten acres will be incorporated into the surrounding map classifications. The building density for residential use must be at least one structure per 1.5 acres (or approximately 6 structures per 10 acres). *Urban and Built-up Land* must contain man-made structures or the infrastructure required for development (e.g., paved roads, sewers, water, electricity, or in specific circumstances, drainage or flood control facilities) that are specifically designed to serve that land. Parking lots, storage and distribution facilities, and industrial uses such as large packing operations for agricultural produce will generally be mapped as *Urban and Built-up Land*, even though they are associated with agriculture.

Urban and Built-up Land does not include strip mines, borrow pits, gravel pits, farmsteads, ranch headquarters, commercial feedlots, greenhouses, poultry facilities, and road systems for freeway interchanges outside of areas classified as *Urban and Built-up Land* areas.

Within areas classified as *Urban and Built-up Land*, vacant and nonagricultural land which is surrounded on all sides by urban development and is 40 acres or less in size will be mapped as *Urban and Built-up Land*. Vacant and nonagricultural land larger than 40 acres in size will be mapped as *Other Land*.

Other Land. *Other Land* is that which is not included in any of the other mapping categories. The following types of land are generally included:

- a. Rural development which has a building density of less than one structure per 1.5 acres, but with at least one structure per ten acres;
- b. Brush, timber and other lands not suitable for livestock grazing;
- c. Government lands not available for agricultural use;
- d. Road systems for freeway interchanges outside of *Urban and Built-up Land* areas;
- e. Vacant and nonagricultural land larger than 40 acres in size and surrounded on all sides by urban development;
- f. Confined livestock facilities of 10 or more acres unless accounted for by the county's definition for *Farmland of Local Importance*;
- g. A variety of other rural land uses;

- h. Strip mines, borrow pits, gravel pits, ranch headquarters larger than 10 acres.

Land Committed to Nonagricultural Use. *Land Committed to Nonagricultural Use* is land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors.

County boards of supervisors and city councils will have the final authority to designated lands in this category pursuant to the requirements of this section. The Department will work with city and county planning staffs to obtain this information.

Land Committed to Nonagricultural Use will be shown on an overlay to the Important Farmland Series maps (and Interim Farmland Maps). The current land use will be indicated on the base map, with the overlay indicating the areas that are *Committed to Nonagricultural Use*.

Land Committed to Nonagricultural Use must be designated in an adopted, local general plan for future nonagricultural development. The resulting development must meet the requirements of *Urban and Built-up Land* or the rural development density criteria of *Other Land*.

Land Committed to Nonagricultural Use must also meet the requirements of either (a) or (b) below:

- a. It must have received on the following final discretionary approvals:
 - 1. Tentative subdivision map (approved per the Subdivision Map Act);
 - 2. Tentative or final parcel map (approved per the Subdivision Map Act);
 - 3. Recorded development agreement (per Section 65864 of the Government Code);
 - 4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit the element of permanence discussed in *Land Committed to Nonagricultural Use*. Zoning by itself does not qualify as a permanent commitment.

OR

- b. It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:
 - 1. Recorded Resolution of Intent to form a district and levy an assessment;
 - 2. Payment of assessment;
 - 3. Sale of bonds;
 - 4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;

5. Other fiscal commitments which are analogous to items #1-4 above and exhibit the element of permanence discussed for *Land Committed to Nonagricultural Use*.

Land Committed to Nonagricultural Use will be mapped when the respective local government notifies the Department that the land meets qualifying criteria and submits maps at a scale of 1:24,000 identifying the area and showing its boundaries. The notification referred to will be subject to verification by the Department. In the case of land identified per Sections (a)4 and (b)5, the local government must also provide the Department with documentation of the permanent commitment.

APPENDIX B
RIGHT TO FARM ORDINANCE

(From Division 2, Title 6 of the Codified Ordinances of the County of Imperial)

Section 62950.	Findings and Policy
Section 62951.	Definitions
Section 62952.	Nuisance
Section 62953.	Disclosure
Section 62954.	Resolution of Disputes
Section 62955.	Severability

§62950. Findings and Policy.

(a) It is the declared policy of this County to enhance and encourage agricultural operations within the County. It is the further intent of this County to provide to residents of this County proper notification of the County's recognition and support through this ordinance of those persons' and/or entities' right to farm.

(b) Where non-agricultural land uses extend into agricultural areas or exist side by side, agricultural operations frequently become the subjects of nuisance complaints due to lack of information about such operations. As a result, agricultural operators are forced to cease or curtail their operations. Such actions discourage investments in farm improvements to the detriment of adjacent agricultural uses and the economic viability of the County's agricultural industry as a whole. It is the purpose and intent of this ordinance to reduce the loss to the County of its agricultural resources by clarifying the circumstances under which agricultural operations may be considered a nuisance. This ordinance is not to be construed as in any way modifying or abridging State law as set out in the California Civil Code, Health and Safety Code, Fish and Game Code, Food and Agricultural Code, Division 7 of the Water Code, or any other applicable provision of State law relative to nuisances; rather it is only to be utilized in the interpretation and enforcement of the provisions of this ordinance and County regulations.

(c) An additional purpose of this ordinance is to promote a good neighbor policy by advising purchasers and users of property adjacent to or near agricultural operations of the inherent potential problems associated with agricultural operations. Such concerns may include, but are not limited to, noises, odors, light, fumes, insects, dust, chemicals, smoke, the operation of machinery of any kind during any 24 hour period (including aircraft), the storage and disposal of manure, and the application of chemical fertilizers, soil amendments, and pesticides. It is intended that, through mandatory disclosures, purchasers and users will better understand the impact of living near agricultural operations and be prepared to accept attendant conditions as the natural result of living in or near rural areas.

§ 62951. Definitions.

As used in this Chapter No. 1.

(a) "Agricultural Land" shall mean all that real property within the boundaries of Imperial County currently used for agricultural operations or upon which agricultural operations may in the future be established.

(b) "Agricultural Operation" shall mean and include, but not be limited to, the cultivation and tillage of the soil; dairying; the production, irrigation, application of agricultural chemicals, frost protection, cultivation, growing, harvesting, packing and processing of any agricultural commodity, including production of vegetables, fruits, forage, grain seeds, fiber and all other plants; viticulture, horticulture, apiculture, aquaculture; the raising of livestock, fur bearing animals, game birds and all other kinds of animal husbandry; the culture or breeding of livestock, poultry, fish, marine life, and all other types of animal or plant life; and commercial practices performed as incident to or in conjunction with such agricultural operations, inclusive of the operation of equipment (including agricultural aircraft, and machinery); selling, processing, packing, preparation for market, delivery to storage or market or to carriers for transportation to market. Agricultural operations shall also include innovative and experimental methods of accomplishing agricultural operations when such methods are found and determined to be a reasonable alternative, or improvement, to currently accepted methods of operation.

§ 62952. Nuisance.

No present or future lawful agricultural activity, operation, or facility or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in Imperial County, shall be or become a nuisance, public or private, if it was not a nuisance when it began. Provisions of this ordinance shall not apply whenever a nuisance results from the negligent, unlawful or improper operation of any such agricultural operation or if the agricultural operation obstructs the free passage or use, in the customary manner, of any navigable lake, river, stream, canal, basin; any public park, square street or highway.

§ 62953. Disclosure.

(a) The disclosure statement required by this ordinance shall be used under the following circumstances and in the following manners:

(1) The County of Imperial Tax Collector shall mail a copy of the disclosure set forth in subpart (b) to all owners of real property in Imperial County with the annual 1990-1991 tax bill.

(2) The County of Imperial Recorder shall mail a copy of the disclosure set forth in subpart (b) with all real property conveyances returned by mail.

(3) The Planning Director/Building Official shall cause the notice described in subsection (b) to be included and/or attached to all building permits

issued in Imperial County for projects on land that lies partly or wholly within, or within 1/4 of a mile of agricultural land.

- (b) The disclosure required by subsection (a) shall be the following:

"The County of Imperial permits operation of properly conducted agricultural operations within the County. If the property you are purchasing or own is located near agricultural lands or operations or included within an area zoned for agricultural purposes, you may be subject to inconveniences or discomfort arising from such operations. Such discomfort or inconveniences may include, but are not limited to: noises, odors, light, fumes, dust, smoke, insects, chemicals, operation of machinery (including aircraft) during any 24 hour period, storage and disposal of manure, and the application by spraying or otherwise of chemical fertilizers, soil amendments, herbicides and pesticides. One or more of the inconveniences described may occur as a result of any agricultural operation which is in conformance with existing laws and regulations and accepted customs and standards. If you live near an agricultural area, you should be prepared to accept such inconveniences or discomfort as a normal and necessary aspect of living in a county with a strong rural character and an active agricultural sector. Imperial County has established a grievance committee to assist in the resolution of any disputes which might arise between residents of this County regarding agricultural operations. If you have any questions concerning this policy or the grievance committee, please contact the Agricultural Commissioner's Office at 339-4314."

§ 62954. Resolution of Disputes.

(a) Should any controversy arise regarding any inconveniences or discomfort occasioned by agricultural operations, including, but not limited to, noises, odors, fumes, light, dust, the operation of machinery of any kind during any 24 hour period (including aircraft), the storage and disposal of manure, and the application by spraying or otherwise of chemical fertilizers, soil amendments, herbicides and pesticides, the parties may submit the controversy to a grievance committee ("County Agricultural Grievance Committee") as set forth below in an attempt to resolve the matter prior to the filing of any court action.

(b) Any controversy between the parties may be submitted in writing to the Imperial County Agricultural Commissioner within 15 calendar days of the occurrence of the particular activity giving rise to the dispute. The Agricultural Commissioner, within 15 calendar days, will review the written complaint and attempt to mediate the dispute. If mediation is not achieved, the Agricultural Commissioner shall notify the County Agricultural Grievance Committee within 15 days, of his determination. The County Agricultural Grievance Committee, whose decision shall be advisory only, shall meet within thirty (30) days of the date the Committee receives the notice of determination by the Agricultural Commissioner.

(c) The County Agricultural Grievance Committee shall be composed of three (3) members selected from the community by the Imperial County Board of Supervisors, and may include representatives from the County Agricultural Commissioner's Office, a local real estate association, local pest control operators association and/or representatives of other county offices.

(d) The effectiveness of the County Agricultural Grievance Committee as a forum for resolution of disputes is dependent upon a full discussion and complete presentation of all pertinent facts concerning the dispute in order to eliminate any misunderstandings. The parties are encouraged to cooperate in the exchange of pertinent information concerning the controversy.

(e) The controversy shall be presented to the Committee by written requests of one of the parties or the County Agricultural Commissioner within the time limits specified. Thereafter the Committee may investigate the facts of the controversy, but must, within thirty (30) days, from receipt of the request, hold a meeting to consider the merits of the matter. At the time of the meeting both parties shall have an opportunity to present what each considers to be pertinent facts. Within twenty (20) days of the meeting, the Committee shall render a written decision to the parties.

(f) Any costs of the grievance, including the investigative costs, shall be borne by the losing party or in such proportion as the County Agricultural Grievance Committee shall decide.

§ 62955. Severability.

If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional by the decision of a court of competent jurisdiction, it shall not affect the remaining portions of the ordinance.

|| Adopted by the County Board of Supervisors on August 7, 1990, as Ordinance 1031. ||

EXHIBIT C

PURPOSE:

While one of the major objectives of both the Land Use Element and the Agriculture Element is the protection and enhancement of agricultural land, there are a few areas within the Agriculture designation that warrant special consideration to allow limited further development. These areas generally consist of a group (6 or more) of small parcels (1/2 to 10 acres maximum) which generally have existing residences mixed with vacant parcels already impacting agricultural operations within the boundary of the enclave. The parcels and residences are arranged in a way where farming within this enclave is difficult or impossible. An example of such an area is one where past subdivisions were allowed encompassing an area of about 40 acres. By evaluating each such area on a case by case basis, there may be opportunities to allow some additional "country" or "rural" homes, within already impacted areas while concurrently protecting further development of viable agricultural land.

POLICY:

The County Planning Commission and/or Board of Supervisors may on a case by case basis consider allowing the further subdivision of existing small parcels within identified existing enclaves that meet all of the following parameters:

The existing and the proposed parcels meet or can meet minimum health and safety standards for potable water, for fire protection, for police protection and for sewage disposal.

There are six (6) or more existing small, contiguous parcels within a confined area.

There are at least six (6) existing residences within the enclave.

The enclave consists of parcels sized to allow further division while still meeting minimum parcel sizes for the underlying zone.

The further division of land within the enclave does not promote the enlargement of the outer boundary of the area.

PROCEDURE:

Upon receipt of a subdivision application, the Planning/Building Department staff shall determine whether or not the proposed division is located within an area that qualifies for the exception under this Exhibit. In processing such an application, the County staff shall analyze the full impacts of allowing further divisions, including additional agricultural impacts, the provisions of public services such as fire and police, the capacity and ability to provide potable water and sewage treatment, the additional traffic, and enhance agricultural land conservation.

EXCLUSION:

The exceptions intended within this Exhibit shall not be allowed or considered if the proposed division further impacts designated agriculture lands. For example, four (4) or more contiguous residences located among large agricultural parcels cannot be considered as a qualifying enclave. It shall also not be used to develop existing but undeveloped pre-1967 subdivisions.

FINDINGS:

To allow divisions of land within an identified enclave the Commission and/or Board of Supervisors must be able to make the following findings:

- 1) The division is within an impacted enclave that will not further adversely impact surrounding agricultural operations;
- 2) The division enhances agricultural land protection by converting existing impacted land more efficiently and by keeping other agricultural land protected.
- 3) The division is within an existing enclave of five (5) or more shall (<10 acre) parcels, and five (5) or more existing residences;
- 4) The parcel(s) shall not be less than .5 acres net if a full soils report shows adequate soil conditions to support development and long term sewage disposal capacity. Larger size parcels will be required, if the soil report or other factors necessitate;
- 5) The area can be provided adequate fire and police protection services. A written statement from the Fire Department and the Sheriff/Police Department shall be required;
- 6) The division can mitigate and comply with added traffic impacts;
- 7) The proposed division has an adequate supply of water to each parcel, through an acceptable conveyance system, and can or will provide potable water to each parcel.
- 8) Each existing, as well as proposed parcel, abuts a public road or highway and/or has legal and physical access via a County road.
- 9) The long term impacts of additional sewage disposal system within the enclave is verified and can sustain the additional loads as shown by acceptable engineering studies.

CIRCULATION AND SCENIC HIGHWAYS ELEMENT

**Prepared by:
Imperial County Planning & Development Services Department
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in collaboration with the

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Director of Public Works**

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Planning & Development Services Director**

**Approved by:
Board of Supervisors
January 29, 2008**

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IMPERIAL COUNTY GENERAL PLAN CIRCULATION AND SCENIC HIGHWAYS ELEMENT

I. INTRODUCTION

A. Preface

This revision of the Circulation and Scenic Highways Element is prepared in conformance with the General Plan statutes and Guidelines, and in response to new state guidelines and modified population and transportation projections. The County of Imperial is doing so in conjunction with the Southern California Association of Governments (SCAG) Regional Transportation Plan, "Destination 2030," and other related transportation planning documents.

The circulation element is a mandatory element of the general plan pursuant to Section 65302(b) of the State Government Code. The inclusion of scenic highways is optional under state law and is being included by the County of Imperial as the initial step in providing a highway system offering unique scenic experiences. Designation of scenic highways provides the policy framework to guide the implementation of a scenic highways program and establishes the basic actions needed to move the program forward. Conscientious implementation of this program including the judicious application of scenic highway standards should lead to the protection of existing scenic resources and the enhancement of those areas in which scenic resources have been lost due to the lack of controls.

B. Purpose of the Circulation and Scenic Highways Element

The purpose of this element is to provide a comprehensive document which contains the latest information about the transportation needs of the County and the various modes available to meet these needs. It is provided to meet the information needs of local residents, for regional coordination, and pursuant to requirements of law and policies of federal, state, and regional agencies. The circulation system of a community is vital to its prosperity. Its function is to provide for the movement of goods and people, including pedestrians, bicycles, transit, train, air, and automobile traffic flows within and through the community. Efficient traffic circulation is important to economic viability and the creation and preservation of a quality living environment.

The Imperial County Circulation and Scenic Highways Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth, providing both, regional and local linkage systems between unique communities, and its neighboring metropolitan regions. The circulation system is also multi-model, meaning that it provides alternatives to the automobile, such as public transit and bicycle facilities so that Imperial County citizens and visitors can access the region by a number of transportation options. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

The State's 2003 General Plan Guidelines recommend that the circulation policies and plans should:

- Coordinate the transportation and circulation system with planned land uses;

- Promote the safe and efficient transport of goods and the safe and effective movement of all segments of the population;
- Make efficient use of existing transportation, transmission, and other infrastructure facilities, and
- Protect environmental quality and promote the wise and equitable use of economic and natural resources.

The County, through the Department of Public Works (DPW), administers and coordinates the development of local transportation resources, financing and road maintenance in a manner compatible with local land use planning, development patterns and the environment. An important County goal is to provide leadership, staff, and liaison with local and regional permitting and regulatory agencies in order to prepare plans, regulations and standards which can facilitate the transportation network development process.

A crucial component of this update was an extensive effort by the County to “coordinate” with each of the cities the “standards” for the road classification and design configurations. It is the intent of this document to guide the future circulation plans for the entire county in a manner that will provide a system of roads and streets that will operate at a level of service “C” (LOS “C”) or better. It is further the intent of this element to standardize road “rights-of-way” dimensions, road alignments, construction design requirements and synchronized control systems between the County and the various cities.

Additionally the County and the cities are expected to work closely together to apply not only consistency in design standards but the application of a “fair share” contribution system for all developments.

C. Other Related Transportation Planning Documents and Programming

Following are several existing planning documents and programs prepared by various agencies that are directly applicable to the aims and objectives of the Circulation Elements:

Southern California Association of Governments Plans and Programs

SCAG is responsible for the regional planning in Southern California, within the SCAG region of counties. SCAG has prepared long range growth and development plans for the Southern California region since the early 1970’s as part of the ongoing Development Guide Program. This program provides a framework for coordinating local and regional decisions regarding future development and growth. An important component of this process is the preparation of growth forecast policies at intervals ranging from three to five years. The adopted growth forecast policies become the basis for SCAG’s functional plans (transportation, housing, air and water) for the region. The population totals and growth distribution are used in planning the future capacity of highways and transit systems.

The Regional Comprehensive Plan (RCP) recommends ways to redirect the region’s growth in order to minimize congestion and better protect the environment. While SCAG

has no authority to mandate implementation of its Regional Comprehensive Plan (RCP), some of the Plan's principal goals (such as improved jobs/housing balance) are being implemented through county and city general plans.

The Regional Transportation Plan (RTP), Destination 2030, is linked to the RCP. Because SCAG has authority over a significant amount of transportation funding, it also has some control over the implementation of transportation-related projects. The Goods Movement Action Plan seeks to optimize the region's transportation system through increases in economic efficiency, congestion, mitigation, safety and air quality improvements, and enhancements to system security. The Compass Blueprint 2% Strategy provides for studying new directions for growth.

Circulation Elements of Other Cities within Imperial County

The Circulation Elements of other cities in Imperial County contain information about the transportation needs of each city and the various modes available to meet the identified needs within that city. To ensure that improvements to the overall County circulation system including regional road corridors, public transit corridors and bicycle lanes correspond with new developments and coordinated jurisdictional goals, the Circulation Element addresses the local and regional coordination necessary to have an integrated plan. In particular, this includes standardized road rights of ways, roadway classifications, integrated infrastructure corridors, and the County Bicycle Master Plan, which are significant parts of the Circulation Element.

County of Imperial Bicycle Master Plan

In 1999, the County of Imperial adopted a Bicycle Master Plan for use as a guideline in planning, developing, designing and constructing future bicycle facilities. This was re-adopted in 2003 and the 2003 plan is incorporated herein as an appendix. As previously mentioned, coordination with Bicycle Master Plans for other cities are being reviewed for compatibility. The County Bicycle Master Plan is periodically updated and approved by the County and Imperial Valley Association of Governments (IVAG). The most current approved Bicycle Master Plan is herein made a part of the Circulation Element as an appendix and said plan may be amended from time to time. The latest adopted version will constitute the appendix.

Imperial County Airport Land Use Compatibility Plan

The County of Imperial approved an amended Airport Land Use Compatibility Plan for all Imperial County airports in June of 1996. The plan sets forth the criteria and policies that the Airport Land Use Commission use to assess the compatibility between the primary airports in the County and proposed land use development in the areas surrounding them. Airports affected by this plan located near El Centro are the Imperial County Airport and the Naval Air Facility at El Centro. Additionally, the Plan provides guidance for commission review of new airports and heliports proposed for construction in the County.

2002 Imperial County 20-Year Transportation Plan Update - Highway Element

The 2002 Transportation Plan is a 20-year plan that articulates Imperial County's Transportation challenges. The plan provides the foundation for future transportation funding decisions by establishing a set of transportation priorities for Imperial Valley Roads and Highways. These priorities are intended to meet and respond to the unique transportation characteristics of Imperial Valley's residents, visitors, economy and businesses. The basis for addressing the region's particular needs was based on the mission statement;

Maintain and improve mobility for people and goods to enhance the quality of life and economic vitality of Imperial County

The 2002 20-Year Transportation Plan – Highway Element was adopted by the Imperial Valley Association of Governments on September 25, 2002 and will be incorporated into the SCAG Regional Transportation Plan of 2004. The Executive Summary is included as an appendix.

Imperial County 20-Year Transportation Plan - Transit Vision Element

An "Imperial County 20-Year Transit Vision Report" was prepared for the IVAG and released in April 2000. The study evaluates existing public transit services in Imperial County and provides long term recommendations. The plan includes specific recommendations based upon census data.

The Transit Vision Element is prepared for the member agencies of the Imperial Valley Association of Governments. The Executive Summary is included as an appendix.

Imperial County 20-Year Transportation Plan – Non Motorized Transportation Element

An "Imperial County 20-Year Non Motorized Transportation Plan" was prepared for the IVAG and released in April 2000. The study evaluates existing facilities for pedestrian and bicycles services in Imperial County and provides long term recommendations. The plan includes specific recommendations based upon census data.

The Non Motorized Transportation Plan is prepared for the member agencies of the Imperial Valley Association of Governments. The Executive Summary is included as an appendix.

Imperial Valley Short Range Transit Plan

The SRTP, at the time of this update was published in 2003 and is an administrative and management tool. The SRTP is a federally mandated planning document that describes the plans, programs and goals of the transit operator. It has a 10-year planning horizon and is updated biennially. It focuses on the characteristics and capital needs of the existing system, and on committed (funded) expansion plans. The various regional County contracted transit services are listed, as well as, the Cities services. The plan is supported by the County circulation element goals and objectives.

The SRTP is prepared for the member agencies of the IVAG. The Executive Summary is included as an appendix.

Regional Transportation Plan, "Destination 2030"

The RTP is a multi-modal, long-range planning document prepared by the SCAG, in coordination with federal, state, IVAG, and other regional, sub regional and local agencies in southern California.

The RTP includes programs and policies for congestion management, transit, bicycles and pedestrians, roadways, and finances. The RTP is prepared every three years and reflects the current future horizon based on a 20-year projection of needs.

The RTP's primary use is as a regional long-range plan for federally funded transportation projects. It also serves as a comprehensive, coordinated transportation plan for all governmental jurisdictions within the region.

Each agency responsible for transportation, such as local cities, the County, and Caltrans, has different transportation implementation responsibilities under the RTP. The RTP relies on the plans and policies governing circulation and transportation in each County to identify the region's future multi-modal transportation system.

D. Public Participation/Intergovernmental Coordination

The Circulation Element was created in a public forum with input from numerous interest groups, citizens, jurisdictions, and agencies. Extensive efforts were made to involve the public, including:

- Public workshops to receive initial comments and discuss circulation and transportation issues, including local organizations and service groups;
- Coordination with the SCAG;
- Coordination with IVAG;
- Coordination with Caltrans and Local cities; and
- Public Hearings with the County Planning Commission and County Board of Supervisors.

E. Roadway Classification System

Functional classification is the process by which roads and highways are grouped into classes or systems according to the type of service they are intended to provide. Basic to this process is the recognition that individual roads do not serve the traveling public independently in any major way. Rather, most travel involves movement through a network of roads. It therefore becomes necessary to determine how this travel can be channelized within the network in a logical, efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road should plan on serving the flow of vehicles through a highway network. (Note: Where ROW's are shown, these are minimum and more ROW may be required as a case by case.)

Expressway – the main function of this classification is to provide regional and intra-county travel services. Features include high design standards with six travel lanes; wide, landscaped medians; highly restricted access; provisions for public transit lanes, including but not limited to, bus lanes, train lanes, or other mass transit type means; and no parking. Minimum right-of-way (ROW) is 210 feet consisting of three travel lanes per direction, a 56-foot median, and shoulders along both sides of the travel way. The ROW width is exclusive of necessary adjacent easements such as for IID facilities as these vary. The minimum intersection spacing is one (1) mile. (NOTE: ROW's may be greater if the road segment also serves as a corridor for public utilities.)

Prime Arterial — the main function of this classification is to provide regional, sub regional, and intra-county travel services. Features include high design standards with four to six travel lanes, raised and landscaped medians, highly restricted access, which in most cases will be a one mile (1 mile) minimum, provisions for public transit lanes, including but not limited to bus lanes, train lanes, or other mass transit type means and no parking. The absolute minimum right of way w/o public transit lanes is 136 feet. ROW dimensions are specified in the STANDARDS for specific road segments. Please refer to appropriate standards section. (NOTE: ROW's may be greater if the road segment also serves as a corridor for public utilities.)

Minor Arterial — these roadways provide intra-county and sub regional service. Access and parking may be allowed, but closely restricted in such a manner as to ensure proper function of this roadway. Typical standards include the provision for four and six travel lanes with raised and landscaped medians for added safety and efficiency by providing protected left turn lanes at selected locations. Some may also contain provisions for public transit lanes or other mass transit type means. Minimum right of way is 102 feet for 4 lanes and 126 for 6 lanes.

Major Collector (Collector) — these roadways are designed for intra-county travel as a link between the long haul facilities and the collector/local facilities. Although it frequently provides direct access to abutting properties, that is not its primary purpose. Typical design features include provision for four travel lanes without a raised median and some may also contain provisions for public transit

lanes or other mass transit type means. Minimum right of way is 84 feet. Parking is generally not permitted.

Minor Local Collector (Local Collector) — this is designed to connect local streets with the adjacent Collectors or arterial street system. Design standards include provision for two travel lanes and parking, except in specific locations where parking is removed to provide a turn lane at intersections. Local Collector streets frequently provide direct access to abutting properties, although that should be avoided where feasible. Minimum right of way is 70 feet.

Residential Street — this street type also includes residential cul de sac and loop street and is designed to provide direct access to abutting properties and to give access from neighborhoods to the Local Street and Collector Street system. This classification should be discontinuous in alignment such that through trips are discouraged. Typical design standards include provision for two travel lanes, parking on both sides, and direct driveway access. Minimum right of way is 60 feet.

Additional functional classifications of planned roadways are intended to provide industrial-specific service are as follows:

Major Industrial Collector (Industrial) — the main function of this classification is to provide for efficient movement of goods for regional, subregional, and intra-county travel services. Access and parking may be allowed, but closely restricted in such a manner as to ensure safe and proper function of industrial traffic on this roadway. Typical design standards include provisions for up to four travel lanes and parking on both sides. Minimum right of way is 96 feet.

Industrial Local Street — this classification is designed to connect industrial properties and areas with the adjacent Industrial Collector, Residential, Collector or arterial system. Design standards include provisions for two travel lanes, of a minimum of 13 feet width each, and parking. Industrial streets frequently provide direct access to abutting industrial sites and parking of industrial-sized vehicles. Minimum right of way is 64 feet.

A roadway cross-section illustrating the right-of-way, paved width, and other features of the street classification system is shown in Table 1. Figure 2 illustrates the typical cross section for each classification type.

In addition, the potential designation of Scenic Highway has been placed on specified roadways in the County and may be added to others in the future. The purpose of this designation is to protect and enhance the County's scenic aesthetic resources which are visible from major County and State routes.

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TABLE 1
CROSS-SECTION DESIGN CRITERIA FOR RECOMMENDED ROADWAY
CLASSIFICATIONS^d

IMPERIAL COUNTY AND CITIES IN IMPERIAL COUNTY

Roadway Classification	Travel Way No. Lanes/Width	ROW Width	Road Surface Width	Parkway Width	Paved Shoulder No./Width	Median Width	Median Shoulder No./Width	Minimum Design Speed (MPH)^a
Expressway (6)	6 – 12'	210' ^b	154'	56'	2 – 10'	46'	2 – 8'	65
Prime Arterial	6 – 12'	136' ^c	106'	30'	2 – 8'	18'	None	65
Minor Arterial	4 – 12'	102'	82'	20'	2 – 8'	18'	None	55
Major Collector - (Collector)	4 – 12'	84'	64'	20'	2 – 8'	None	None	55
Minor Collector – (Local Collector)	2 – 12'	70'	40'	30'	2 – 8'	None	None	30
Local County – (Residential)	2 – 12'	60'	40'	20'	2 – 8'	None	None	30
Local County (Residential Cul-de-Sac or Loop)	2- 12'	60'	40'	20'	2-8'	None	None	30
Major Industrial Collector - (Industrial)	4 – 12'	96'	76'	20'	2 - 9'	10'	None	30
Industrial Local	2 – 13'	64'	44'	20'	2 – 9'	None	None	25

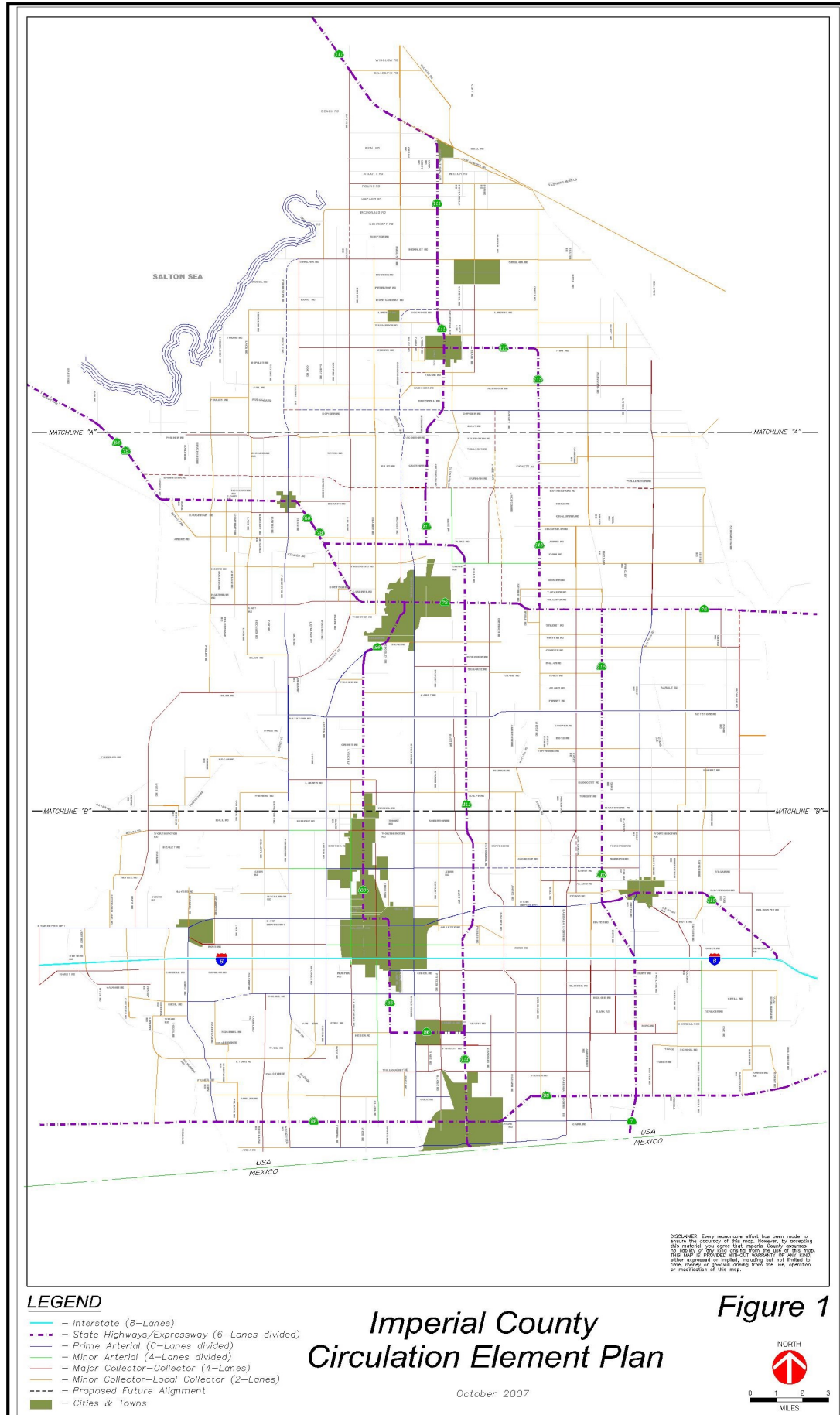
Footnote:

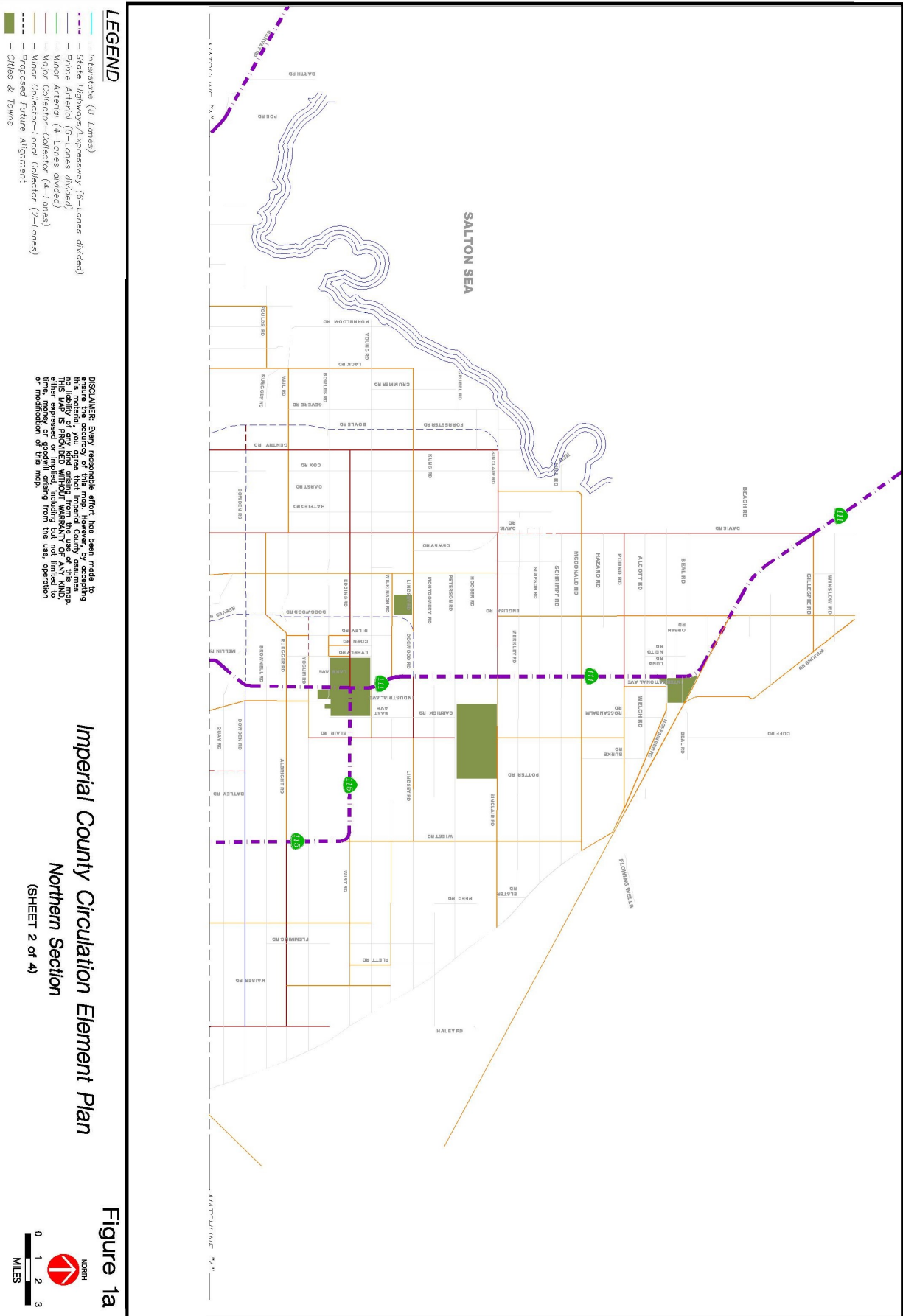
- a. The minimum design speed shall be used as a guideline only. Final minimum design speeds are subject to the Director of Public Works determination and approval.
- b. 164 feet of ROW if transit is planned with roadway (such as on Dogwood Road). Additional ROW needed at intersections and IID facilities not included within 164 feet.
- c. 136' is the minimum, however if transit lanes or ROW is needed for utility corridors or other public facility structures, the ROW width will be greater as determined by the County.
- d. All ROW dimensions are MINIMUM and may be wider as determined on a case by case basis. Please consult with the County.

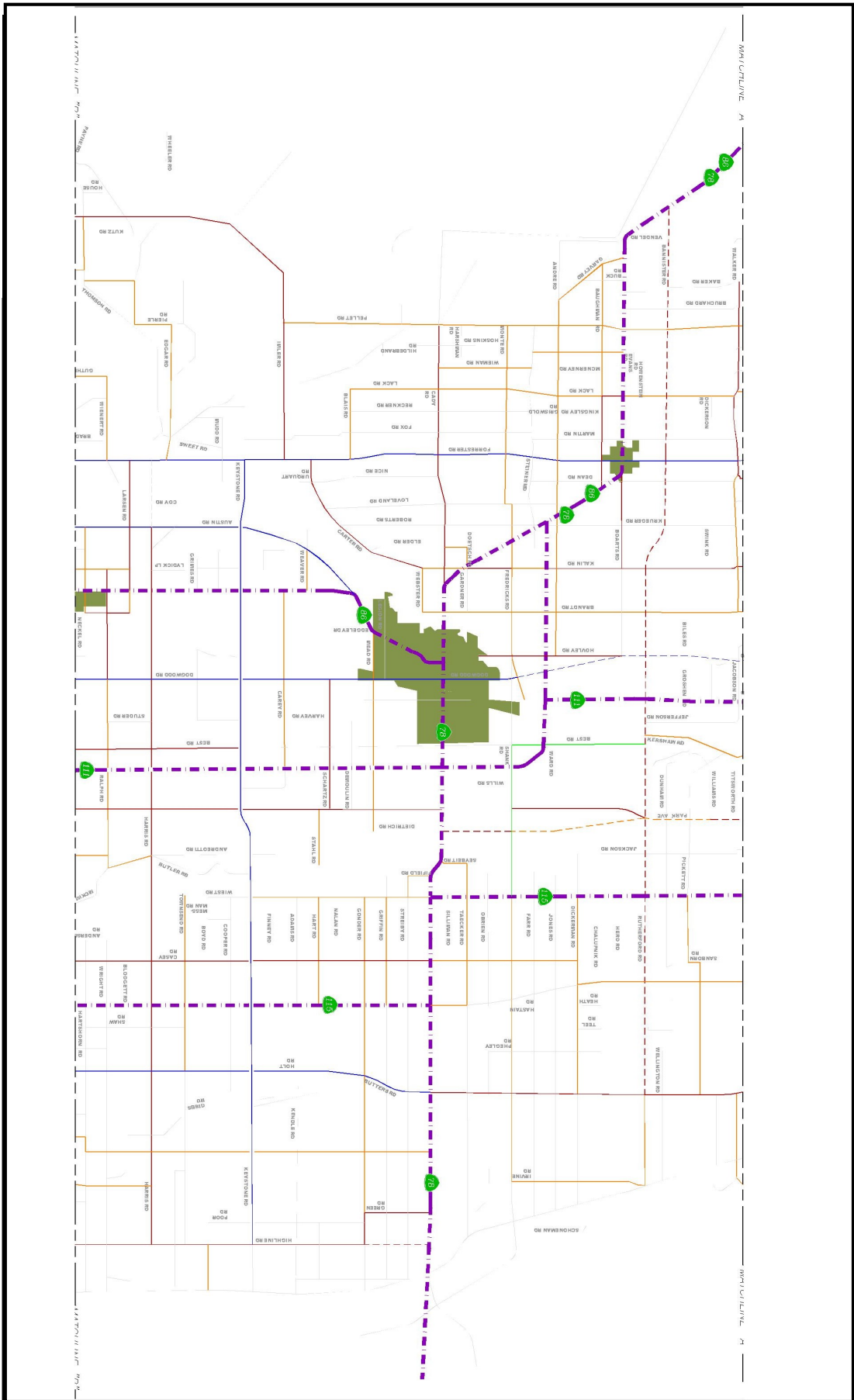
General Notes:

- Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown in Table 1.
- Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
- Modification to roadway classification and any widths shown are subject to County Road Commissioner determination and approval.

Last Updated: August 24, 2006, Linscott, Law & Greenspan Engineers.







LEGEND

- Interstate (2-Lanes)
- State Highway/Expressway (6-Lanes divided)
- Prime Arterial (4-Lanes divided)
- Minor Arterial (4-Lanes divided)
- Major Collector-Local (2-Lanes)
- Proposed Future Alignment
- Cities & Towns

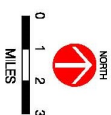
DISCLAIMER: Every reasonable effort has been made to ensure the accuracy of this map. However, by accepting this material, you agree that Imperial County assumes no liability for any errors or omissions. THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND, either expressed or implied, including but not limited to the accuracy, completeness, or timeliness of the data, or the results of its use. The user assumes all responsibility for any errors or omissions or modification of this map.

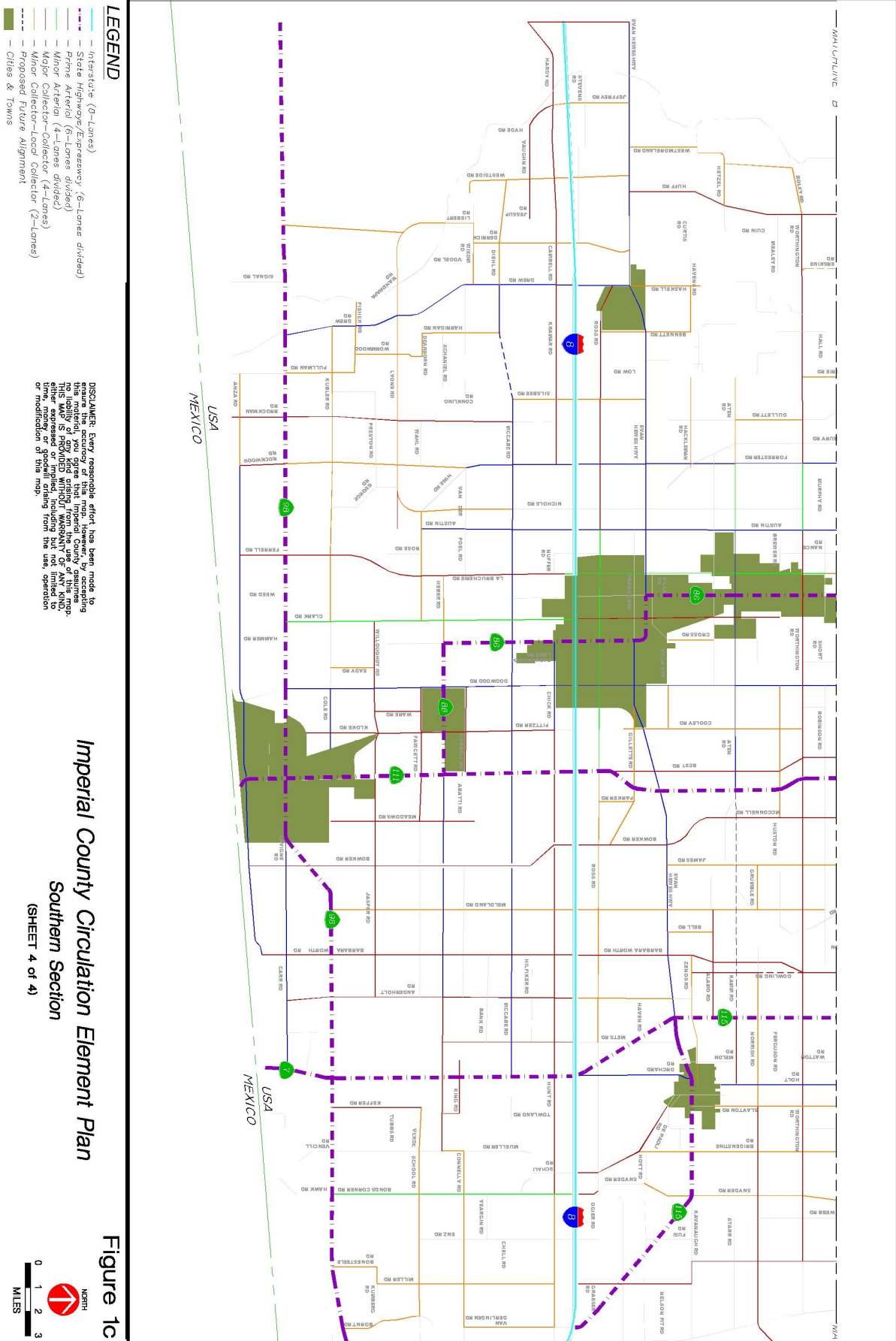
Imperial County Circulation Element Plan

Central Section

(SHEET 3 of 4)

Figure 1b





II. EXISTING CONDITIONS AND TRENDS

A. Preface

Linscott, Law & Greenspan Engineers, Inc. (LL&G) was retained by the County of Imperial to prepare and evaluate the existing circulation conditions and potential transportation impact which may occur as part of the updated traffic forecast conducted by Caltrans (2006). The following information on existing conditions was prepared by LL&G using traffic counts conducted by LL&G and the latest available traffic counts/estimates/forecasts from the County Public Works Department and Caltrans (2006).

B. Existing Conditions

1. State Highways

Existing regional access to the County of Imperial is provided via Interstate 8, State Route (SR) 111, SR 78, SR 86, SR 98, SR 115, SR 7 and SR 186. The existing conditions of these routes are described below:

- **Interstate 8 (I-8)** is the primary east-west route through Imperial County between San Diego, California and Yuma, Arizona. Providing two travel lanes in each direction, I-8 has complete grade separations at all intersections. In this area, the main functions of I-8 are to serve as an interregional route for people and goods movement, provide connection to other states and provide access to desert recreational activities. The volumes on this facility between Imperial Avenue and Dogwood Road range from 32,000 average daily trips (ADT) to 36,000 ADT. The volumes on this facility east of SR-111 range between 12,200 ADT to 15,700 ADT.
- **State Route 111 (SR-111)** begins at the International Border between Mexico and the United States traveling north with two travel lanes in each direction, to I-8 with an ADT range from 33,500 to 37,000. Within this section, SR-98 (an east-west route) with heavy truck traffic intersects HWY 111 thru the City of Calexico (see more detail description under SR 98 designation). Additionally, a document entitled, "Greater Calexico Area Arterial Needs and Circulation Analysis" for Imperial Valley Association of Governments (IVAG) in the County of Imperial was prepared and submitted to IVAG. This document is incorporated herein by reference in Appendix F. North of I-8 to Keystone Road, the ADT ranges from 10,600 to 16,300. Caltrans has begun construction of the Brawley Bypass, which consists of three SR-111 upgrades to a new expressway from I-8 to Keystone Road. Currently, Stage 1 of the Bypass has been completed and opened to the public as a four-lane divided expressway from Keystone Road, north to SR-78. SR-111 is considered to be the "backbone" route of Imperial County as it connects the three largest cities and acts as a major goods movement route, particularly for agricultural products and cross-border goods and services.
- **State Route 86 (SR-86)** is generally a north-south route and begins near the Townsite of Heber as a two lane conventional highway, and ends at the

Riverside County line as a four-lane expressway. In Riverside County, SR-86 extends to Interstate 10. Average existing daily traffic on this route north of the I-8 to Keystone Road can range anywhere from 14,700 to 36,000. Average existing daily traffic on this route north of Keystone Road can range anywhere from 9,400 to 21,400. This 67.8-mile route primarily provides travel for interregional, intra-regional and international trips. SR-86 north of SR-78 is a major goods movement corridor serving the Los Angeles area and other California goods movement centers from the Imperial County region. During the spring, truck traffic transporting agriculture goods constitutes 35 percent of travel on this route. Stage 3 of the Brawley Bypass, a four-lane divided expressway from the SR-111 to the SR-86, is pending funding, however Caltrans is expected to begin construction in early 2007 and complete construction by fall 2009.

- **State Route 78 (SR-78)** is an east-west route and traverses a distance of 81.8 miles through Imperial County with an ADT ranging from 17,000 to 19,500 east of SR-86 and from 1,850 to 3,950 east of SR-111. The route is a two-lane conventional highway throughout its alignment, although some portions have been upgraded to a four-lane expressway and four-lane conventional highway as a result of recent improvement projects. Caltrans is scheduled to begin construction on Stage 2 of the Brawley Bypass, a four-lane divided expressway from the SR-78 to the SR-111, in the summer of 2007. The expected completion date for Stage 2 is fall 2009.
- **State Route 98 (SR-98)** is an east-west route that is entirely contained within Imperial County. Traversing a distance of 56.9 miles, SR-98 is mostly a two-lane conventional highway route serving interregional, intra-regional and international travel, as well as, providing an alternate route to I-8. However, through the City of Calexico, SR-98 is a four-lane facility with traffic volumes ranging between 17,600 and 26,000. Existing daily traffic on the remaining portions of this route range between 2,200 and 4,550. In order to accommodate an increase of NAFTA, interregional, and local traffic arriving from the Calexico East Federal POE, Caltrans has initiated a Project Report/Environmental Document to widen SR-98 (from SR-111 to SR-7) to four or six lanes. An interchange with grade separation and ramp access is planned at Hwy 111 and Jasper Road. Additionally, future grade separation and/or interchange may be needed at Meadows Road and Bowker Road. The Project Report/Environmental Document study has one alternative considering realignment along Jasper Road east of Bowker Road with a direct connection.
- **State Route 7 (SR-7)** is a four-lane highway with access control, which begins at the Calexico East POE and continues approximately 1.2 miles north to its terminus at I-8. The average daily traffic for this segment of SR-7 averages anywhere between 3,000 and 15,400. When completed, this route serves to connect the POE to I-8 and provides for the movement of international commercial goods movement, as well as recreational and commuter traffic.
- **State Route 115 (SR-115)** is primarily a northerly route, serving as an alternate to both SR-86 and SR-111. Traveling for a distance of 33.6 miles, SR-115 is important in facilitating interregional agricultural goods movement and also provides intraregional travel between various cities within Imperial County. For

the most part, SR-115 is a two lane conventional highway, although some short segments are four lanes. Existing daily traffic volumes range between 1,000 ADT and 7,600 ADT.

- **State Route 186 (SR-186)** is a short north-south facility connecting I-8 to the southeastern portion of Imperial County and the Mexican border community of Algodones. SR-186 is classified as a two lane conventional highway with 7,500 ADT. SR-186 accommodates international travel and commercial travel. Currently, this roadway is constructed with one travel lane in each direction.

2. North/South Corridors

The following County roadways accommodate most of the north/south traffic movement between local cities and communities:

Drew Road (S 29) is a north-south two-lane undivided roadway with a 24-foot paved width and “soft” shoulders from Evan Hewes Highway south to SR-98. Drew Road provides access to I-8. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Drew Road from the Townsite of Seeley to Diehl Road is designated as a Class II bike route.

Forrester Road (S 30) is a north-south two-lane undivided roadway with a 30-foot paved width and “soft” shoulders from Carter Road to McCabe Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway. It should be noted that Forrester Road is planned to be designated as a primary State Route connection in the near future. Forrester Road also provides a diamond-type interchange with I-8 with stop sign controls on both east and westbound off ramps.

Dogwood Road (S 31) is generally a north-south two-lane undivided roadway with a 24-foot paved width from Malan Road at the southern limit of Brawley south to I-8. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway. From I-8 to McCabe Road, Dogwood Road varies between a four-lane roadway with a two-way-left-turn-lane and a 75-foot paved width to a two-lane undivided roadway with a 25-foot paved width. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Dogwood Road from El Centro City Limits to SR-98 is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway. From Heber Road to Jasper Road, Dogwood Road is a two-lane undivided roadway with a 24-foot paved width. It continues as two lanes from SR 86 south to SR 98 and will extend the roadway south connecting at Anza Road which is an east-west arterial that will connect with the U.S. Boarder Station Expansion project at the City of Calexico (see City of Calexico General Plan Update Circulation Element for further details). Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway. Dogwood Road is intended to be upgraded to a six lane road in the future and will also be designed to accommodate a mass transit lane system for either bus, train or other system that would allow commuting in a north-south direction. Such a system on Dogwood Road would serve to

physically connect the cities of Calexico, El Centro, Imperial and Brawley as well as the community of Heber in a regionally beneficial and highly effective manner.

Orchard Road (S 32) is a two-lane north-south facility approximately seven miles east of SR-111. Orchard Road connects to I-8 and provides travel and access through the City of Holtville. At the intersection with I-8, there is a diamond interchange with stop sign controls on the east and westbound off ramps.

Holt Road (S 32) is a north-south two-lane undivided roadway with a 24-foot paved width from Boyd Road to Norrish Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway.

Hovley Road is a two-lane north-south facility which provides connectivity from the City of Brawley north to Rutherford Road.

Kalin Road is a two-lane north-south facility which connects State Route 86 north to Sinclair Road.

Brandt Road is a two-lane north-south facility which connects State Route 86, west of the City of Brawley north to Eddins Road.

Gentry Road is a two-lane north-south facility which connects Forrester Road, north of the City of Westmorland north to Eddins Road. A portion of Gentry Road from Sinclair Road to the City of Westmorland is designated a Class II bike route.

Anderholt Road is a two-lane north-south facility which connects Carr Road north to Hunt Road and to Evan Hewes Highway. This provides a secondary access from the Calexico East Port of Entry northerly.

McConnell Road is a two-lane north-south facility which connects Evan Hewes Highway north to State Route 78.

Austin Road is a north-south two-lane undivided roadway with a 24-foot paved width and “soft” shoulders from Keystone Road to McCabe Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Austin Road from Keystone Road to the City of El Centro is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway.

La Brucherie Road is a north-south two-lane undivided roadway with a 24-foot paved width and “soft” shoulders from I-8 to Willoughby Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of La Brucherie Road from Kubler Road to the City of El Centro is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway. Additional lanes are provided within the City of El Centro. La Brucherie Road continues north to the City of Imperial, connecting to Aten Road.

Clark Road is a north-south two-lane undivided roadway with a 26-foot paved width from McCabe Road to Willoughby Road. Bike lanes or bus stops are not

provided and the speed limit is posted at 50 mph. Curbside parking is prohibited along both sides of the roadway.

Bowker Road is a north-south two-lane undivided roadway with a 24-foot paved width from Chick Road to Heber Road and a 21-foot paved width from Heber Road to Jasper Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway.

Barbara Worth Road is a north-south two-lane undivided roadway with a 24-foot paved width from Chick Road to Heber Road and from Heber Road to Jasper Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Barbara Worth Road from Evan Hewes Highway to SR-98 is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway.

Bonds Corner Road is a two-lane north-south facility which provides connectivity from State Route 98, east of the Calexico East Point of Entry north to the City of Holtville.

Kloke Road is a north-south two-lane undivided roadway with a 24-foot paved width from Cole Road to the All-American Canal. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway. From the All-American Canal to SR 98, it is a four-lane roadway with a two-way-left-turn-lane and an 80-foot paved width. Bike lanes or bus stops are not provided and the speed limit is posted at 25 mph. Curbside parking is prohibited along both sides of the roadway. The current development proposals that are within the Sphere of Influence (SOI) of the City of Calexico shall conform to the City of Calexico street standard which is a four lane primary road (see City of Calexico General Plan Update Circulation Element for further details).

Best Road is a two-lane north-south facility which provides connectivity from the City of Brawley north to Rutherford Road.

Ogilby Road is a two-lane north-south facility located between El Centro and Yuma, Arizona which provides connectivity between Interstate 8 and State Route 78.

Pitzer Road is a two-lane north-south facility, which will eventually connect Chick Road to Fawcett Road. It is currently paved between Chick Road and McCabe Road with an ADT of 1,500, but a portion remains unpaved between McCabe Road and Heber Road. Pitzer Road is a principal route for traffic oriented to/from the Imperial Valley Mall.

3. East/West Corridors

The following County roadways accommodate most of the east/west traffic movement between local cities and communities:

Evan Hewes Highway/Adams Street/SR-115 (S 80) is an east-west two-lane undivided roadway with a 24-foot paved width from Austin Road to La Brucherie Road. Bike lanes or bus stops are not provided and the speed limit is posted at 40 mph. Curbside parking is prohibited along both sides of the roadway. From SR 111 to McConnell Road, it is a four-lane divided roadway with a 30-foot curb-to-median width for each direction. Bike lanes or bus stops are not provided and the speed limit is posted at 65 mph. Curbside parking is prohibited along both sides of the roadway. From Barbara Worth Road to SR 115, it is a four-lane divided roadway with a 40-foot curb-to-median width in each direction. Bike lanes or bus stops are not provided and the speed limit is posted at 65 mph. Curbside parking is prohibited along both sides of the roadway. Through the City of El Centro, Evan Hewes Highway connects to Adams Street and is constructed with two travel lanes in each direction. Most portions of this facility are constructed with one travel lane in each direction. West of the City of Holtville, the road corridor becomes SR-115 for approximately one mile.

McCabe Road is an east-west two-lane undivided roadway with a 24-foot paved width. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of McCabe Road from Brockman Road to La Brucherie Road is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway.

Ross Road is an east-west two-lane undivided roadway with a 33-foot paved width from Silsbee Road to Forrester Road, and a two-lane undivided roadway with a 24-foot paved width from SR 111 to Bowker Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Ross Road from Drew Road to Austin Road is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway connects the communities of Seeley and Holtville traversing through the City of El Centro.

Aten Road is an east-west two-lane undivided roadway with a 27-foot paved width from Forrester Road to Dogwood Road and a four-lane undivided roadway with a 54-foot paved width from Dogwood Road to SR 111. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Aten Road from Dogwood Road to SR-111 is designated as a Class I bike route. Curbside parking is prohibited along both sides of the roadway commences west of Forrester Road and terminates at SR-111.

Worthington Road (S 28) commences north of Seeley and terminates just east of Highline Road north of the City of Holtville. It is a two lane undivided roadway and traverses the northernmost section of the City of Imperial. A portion of Worthington Road from Holt Road to the City of Imperial has a designation as a Class II bike route.

Keystone Road (S 27) is an east-west two-lane undivided roadway with a 24-foot paved width from Austin Road to McConnell Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. A portion of Keystone Road from SR-86 to Forrester Road is designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway.

Harris Road is an east-west two-lane undivided roadway with a 24-foot paved width from east of Austin Road to SR 111. Harris Road is dirt road from SR 111 to McConnell Road with an observed speed of 25 mph. Harris Road from Austin Road to SR 86 has a speed limit of 55 mph. Bike lanes or bus stops are not provided. Curbside parking is prohibited along both sides of the roadway.

Heber Road is an east-west two-lane undivided roadway with a 24-foot paved width from SR 111 to Bowker Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway.

Rutherford Road (S 26) provides connection between the City of Westmorland and north central Imperial County. A portion of Rutherford Road from Best Road to Kalin Road has a designation as a Class II bike route.

County Road (S 24) is located in the Winterhaven and Bard communities on the far southeastern edge of the County. It follows several roadway alignments (Picacho Road, Ross Road, Collins Road, York Road, and Imperial Dam Road) and traverses in an east/west and north/south manner through the Quechan Indian Reservation.

Winterhaven Drive between I-8 and Picacho Road serves as the connector between County Route S24 and I-8.

Bannister Road is a two-lane east-west facility which connects State Route 86 east to Brandt Road.

Sinclair Road is a two-lane east-west facility which connects Gentry Road to State Route 111. A portion of Sinclair Road from SR-111 to Gentry Road is designated as a Class II bike route.

Cole Road is an east-west four-lane undivided roadway with a 64-foot paved width from Andrade Road to Bowker Road. Bike lanes or bus stops are not provided and the speed limit is posted at 35 mph. A suggestion has been made for a portion of Cole Road from Dogwood Road to the City of Calexico to be designated as a Class II bike route. Curbside parking is prohibited along both sides of the roadway.

Jasper Road is an east-west two-lane undivided roadway with a 24-foot paved width from SR 111 to Anderholt Road. Bike lanes or bus stops are not provided and the speed limit is posted at 55 mph. Curbside parking is prohibited along both sides of the roadway.

Eddins Road is a two-lane east-west facility which connects Gentry Road east to State Route 115.

Shank Road is a two-lane east-west facility which connects State Route 111 in the City of Brawley east to State Route 115.

Carr Road is a two-lane east-west facility which connects Barbara Worth Road and traffic from the City of Calexico east to State Route 7 and the Calexico East Point of Entry. This roadway will be connected to LaVigne Road which will intersect at E. Rivera Avenue in the City of Calexico. LaVigne is classified as Other Principal Arterial within the City of Calexico Sphere of Influence (SOI). A bridge will be required at the All American Canal (AAC) Crossing.

Anza Road is a two-lane east-west facility which connects Barbara Worth Road and traffic from State Route 7 and the Calexico East Point of Entry west to the City of Calexico. The roadway is classified as a Minor Arterial within the City of Calexico Sphere of Influence (SOI). A bridge widening and/or re-alignment will be required at the All American Canal (AAC) crossing. A portion of Anza Road from Drew Road to the City of Calexico is designated as a Class II bike route.

Correll Road is a two-lane east-west facility which connects SR 111 and Dogwood Road along the north side of the community of Heber. A significant increase in traffic is expected due to proposed developments in the area.

Chick Road is a four-lane east-west facility which extends from Dogwood Road in El Centro east to Pitzer Road. The previous Chick Road connection to SR 111 was recently closed (2006). No future connection will be allowed. 2005 ADT is 5,700.

Table 2 presents a summary of the existing street segment configuration, 2005 daily traffic volumes, and level of service.

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**TABLE 2
IMPERIAL COUNTY EXISTING STREET SEGMENT CONFIGURATIONS AND
VOLUMES**

Segment Location	Existing Configuration	Capacity^a (LOS C)	2005 ADT Volume^b	LOS^c
Drew Rd Kramer Rd to Diehl Rd	2-Lane Roads	7,100	710	A
Forrester Rd Carter Rd to Imler Rd	2-Lane Roads	7,100	6,140	C
Keystone Rd to Larsen Rd	2-Lane Roads	7,100	5,400	C
Worthington Rd to Aten Rd	2-Lane Roads	7,100	5,880	C
Evan Hewes Hwy to Ross Rd	2-Lane Roads	7,100	6,020	C
I-8 to McCabe Rd	2-Lane Roads	7,100	970	A
Austin Rd Keystone Rd to Larsen Rd	2-Lane Roads	7,100	1,090	A
Worthington Rd to Aten Rd	2-Lane Roads	7,100	3,320	B
Evan Hewes Hwy to Ross Rd	2-Lane Roads	7,100	2,970	B
I-8 to McCabe Rd	2-Lane Roads	7,100	1,240	A
La Brucherie Rd I-8 to McCabe Rd	2-Lane Roads	7,100	2,800	B
Heber Rd to Willoughby Rd	2-Lane Roads	7,100	990	A
Clark Rd McCabe Rd to Heber Rd	2-Lane Roads	7,100	2,520	B
Heber Rd to Willoughby Rd	2-Lane Roads	7,100	2,490	B
Dogwood Rd Keystone Rd to Harris Rd	2-Lane Roads	7,100	4,000	B
Worthington Rd to Aten Rd	2-Lane Roads	7,100	5,600	C
Danenberg to McCabe Rd	4-Lane Sec. Arterial	27,400	10,670	A
Heber Rd to Jasper Rd	2-Lane Roads	7,100	8,690	D
Kloke Rd Cole Rd to SR 98	2-Lane Roads	7,100	4,780	C
Bowker Rd Chick to McCabe Rd	2-Lane Roads	7,100	1,090	A
Heber Rd to Jasper Rd	2-Lane Roads	7,100	1,422	A
Barbara Worth Rd Chick Rd to McCabe Rd	2-Lane Roads	7,100	800	A
Heber Rd to Jasper Rd	2-Lane Roads	7,100	1,340	A
Holt Rd Boyd Rd to Harris Rd	2-Lane Roads	7,100	670	A
Worthington Rd to Norrish Rd	2-Lane Roads	7,100	1,540	A

Keystone Rd				
Austin Rd to SR 86	2-Lane Roads	7,100	1,100	A
SR 111 to McConnell Rd	2-Lane Roads	7,100	320	A
Harris Rd				
West of SR 86	2-Lane Roads	7,100	40	A
SR 111 to McConnell Rd	2-Lane Roads	7,100	160	A
Worthington Rd				
Forrester Rd to Austin Rd	2-Lane Roads	7,100	1,220	A
Dogwood Rd to SR 111	2-Lane Roads	7,100	2,920	B
Casey Rd to SR 115	2-Lane Roads	7,100	1,110	A
Aten Rd				
Forrester Rd to Austin Rd	2-Lane Roads	7,100	1,270	A
Dogwood Rd to SR 111	2-Lane Roads	7,100	8,360	D
Evan Hewes Hwy				
Austin Rd to La Brucherie Rd	2-Lane Roads	7,100	5,710	C
SR 111 to McConnell Rd	2-Lane Roads	7,100	8,790	D
Barbara Worth Rd to SR 115	2-Lane Roads	7,100	7,980	D
Ross Rd				
Silsbee Rd to Forrester Rd	2-Lane Roads	7,100	1,080	A
SR 111 to Bowker Rd	2-Lane Roads	7,100	560	A
McCabe Rd				
Dogwood Rd to SR 111	2-Lane Roads	7,100	200	A
SR 111 to Bowker Rd	2-Lane Roads	7,100	130	A
Heber Rd				
SR 111 to Bowker Rd	2-Lane Roads	7,100	2,040	B
Jasper Rd				
SR 111 to Meadows Rd	2-Lane Roads	7,100	120	A
Cole Rd				
Andrade Rd to Bowker Rd	2-Lane Roads	7,100	70	A

Notes:

a. Capacity at level C based on the Imperial County Classification Table 5.

b. Volume from Caltrans, Imperial County, or Linscott Law & Greenspan, Engineers counts.

c. Capacity based on the Imperial County Classification Table 5.

4. Public Transportation

Fixed Route Transportation

Imperial Valley Transit (IVT) is an inter-city fixed route bus system, subsidized by the IVAG, administered by the County Department of Public Works and operated by a public transit bus service. The service is wheelchair accessible and Americans with Disabilities Act (ADA) compliant. Existing ridership averages approximately 23,000 passengers a month.

Service is provided from 6:00 AM until 11:00 PM weekdays, and 6:00 AM to 6:00 PM on Saturdays, within the areas classified as the Primary Zone; a north-south axis throughout Brawley, Imperial Valley College (IVC), Imperial, El Centro, Heber and Calexico, and from 6:00 AM until 6:45 PM in the Secondary Zones; outlying cities and communities of Niland, Calipatria, Westmorland, Seeley and Holtville. The outlying Remote Zone community of Ocotillo is served once a week on Thursdays, by request one day ahead. Remote Zone communities east and west of the Salton Sea, including Desert Shores, Salton City, Salton Sea Beach, and the far eastern portion of the County, including Winterhaven are served once a week, via lifeline.

A second transportation service focusing on the south county is Numero Uno, a subsidiary of Laidlaw (owner of Greyhound), provides on the hour, every hour shuttle service between Calexico and El Centro throughout the day and early evening, everyday.

A third transportation service focusing on the north county is, Road Runner, operated by a private independent service, provides service from Westmorland to Bombay Beach. The Road Runner connection point is at Westmorland and can be accessed via IVT from the primary and secondary zone communities.

ADA Paratransit

The Americans with Disabilities Act (ADA) Comparable Complementary Paratransit Service is a federally mandated service requiring equal access to the public fixed route bus system for individuals with disabilities. The service operates wheelchair accessible minibuses as a demand response service in tandem with the fixed route bus system for certified eligible disabled passengers. The service area and hours are the same as the fixed route bus system discussed above. The service is subsidized by IVAG, managed by the County Executive Officer (CEO) and operated by a private non-profit transportation carrier.

Med-Express

The Med-Express is a non-emergency medical transportation service between communities in Imperial County and the large hospitals and medical facilities in San Diego County. The service is subsidized by IVAG, managed by the County Executive Officer (CEO) and operated by a private non-profit transportation carrier. Demand response service is provided four days a week, with three pick up locations in Brawley, El Centro and Calexico. Pick up service is available on a limited basis from the home for an additional fare. The service is designed to provide persons with disabilities, low income

and transit dependent persons access to medical facilities and services not available within Imperial County, i.e. Children's Hospital in San Diego.

Dial-A-Ride

The County contracts for Dial-A-Ride services. The services are provided through a contract with a local provider in the community of the west side of the Salton Sea. These services are also subsidized by IVAG.

5. Scenic Highways

Four areas within the County have the potential as state-designated scenic highways. Senate Bill 1467 established the Scenic Highway Program. SB1467 declares: *"The development of scenic highways will not only add to the pleasure of the residents of this state, but will also play an important role in encouraging the growth of the recreation and tourist industries upon which the economy of many users of this State depends".* The following routes have been designated or are eligible for state scenic highway designation:

Interstate 8 (I-8). The initial segment for future Scenic Highway Designation status lies between the San Diego County line and its junction with State Route 98. This segment known as Mountain Springs Grade has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.

State Route 78. The portion of SR-78 from the junction with SR-86 to the San Diego County line is eligible for future Scenic Highway Designation. The area is considered scenic because of its desert characteristics and view of Salton Sea.

State Route 111. SR-111 travels along the northeast shore of the Salton Sea and is eligible for future Scenic Highway Designation from Bombay Beach to the County line. The drive along this body of water is a study in primitive beauty and an interesting and startling anomaly. The contrast between the flat, wide Salton Sea with its sandy beach and the rugged rise of the Chocolate Mountains has many variations. The panoramic view of the opposite (southwest) shore and its backdrop of mountains is also a sight of pre-historic beauty.

Borrego-Salton Seaway. County Highway S-22 is also known as the Borrego-Salton Seaway. It begins in Salton City and ends at the community of Borrego Springs in San Diego County. Along its route is Clay Point, located a mile and a half west of SR-86, which is a formation ring above the flat desert shore which shows the bed of pre-Columbian Lake Cahuilla. Three and a half miles farther west, the Anza Verde Wash parallels the Borrego-Salton Seaway with uniquely scenic desert landforms and vegetation.

SB1467 added Section 260 et seq. to the Streets and Highway Code. In those statutes the State proclaimed its intent to:

"establish the States responsibility for the protection and enhancement of California natural scenic beauty."

The legislature further declares the State's intent to assign responsibility for the development of scenic highways to local jurisdictions. Please refer to the following Caltrans website for all rules and regulations to the Scenic Highway system and official designations:

http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm.

Appendix B (attached) contains "California Scenic Highway Program Frequently Asked Questions". Appendix C (attached) contains "Guidelines for the Official Designation of Scenic Highways".

Further, Caltrans has developed an official guide called the "Guidelines for the Official Designation of Scenic Highways" (March 1996) which can be utilized for protecting the County's scenic highways from potential aesthetic impacts from any development projects. This is included as Appendix C.

6. Railroads

The Union Pacific Railroad, formerly called the Southern Pacific Railroad main line enters the eastern border near Winterhaven and then bears northwest and leaves the County just east of the Salton Sea. This line serves the Los Angeles area and northward in California and the balance of the U.S. eastward. There is a branch line from this main line at Niland that provides rail service to Calipatria, Brawley, Imperial, El Centro, Calexico, and Mexico. Another branch line of the Union Pacific, the Holton Interurban Railroad, provides service to east El Centro.

The San Diego and Arizona Eastern Railroad, also a subsidiary of the Union Pacific Railroad, runs between El Centro and San Diego. It presently provides rail service only between El Centro and the U.S. Gypsum plant in Plaster City.

All of the above service is freight only. Passenger rail service is being studied to provide service from Calexico to Los Angeles with terminals in Calexico, El Centro, and Brawley. In September 1991, the County Board of Supervisors endorsed the implementation of the County Intercity Railroad Project by Board Resolution.

7. Airports

The primary public use airports in Imperial County are: Imperial County Airport located in the City of Imperial on SR-86; Calexico International Airport located west of Calexico on Anza Road; Brawley Municipal Airport located at the intersection of Ken Bemis Drive and Jones Road in northeast Brawley; Cliff Hatfield Memorial Airport located on West Main Street in Calipatria; Holtville Airport located seven miles northeast of Holtville on Norrish Road; and the U.S. Naval Air Facility located six miles west of El Centro on Bennett Road. There are several other private airstrips located throughout Imperial County serving principally crop dusting operations.

8. Navigable Waterways

Navigable waters as defined in Section 36 of the Harbors and Navigation Code are waters which come under the jurisdiction of the United States Corps of Engineers and any other publicly-owned waters within the State.

Public recreational waters in Imperial County are: Salton Sea, Ramer Lake, Finney Lake, Wiest Lake, Imperial Lake, Sunbeam Lake, Drew Lake, Senators Wash, and Squaw Lake. Sixty-one miles of the Colorado River from Imperial Dam upriver to the Riverside County line at Taylor's Ferry are also navigable waters, including the backwaters such as Palo Verde Oxbow Lake, Palo Verde Lagoon, Davis Lake, The Old River Channel, Cibola Lake, Three Finger Lake, Draper Lake, Taylor Lake, Ferguson Lake, Clear Lake, Hidden Lake, Bard Lake, and other related backwaters.

9. Other Local Public Utilities/Facilities

About seventy percent of the population is provided potable water for domestic purposes from municipal water districts, which are primarily served by the Imperial Irrigation District (IID). Rural residents obtain potable water from truck delivery companies or from individual wells. IID operates 1700 miles of canals; and the Coachella Irrigation District operates 83 miles of canals that traverse the County. All of the County's cities, and the communities of Seeley, Heber, Niland, Winterhaven, and Salton City, are provided sewer service by municipal districts. The Gateway of the Americas Specific Plan Area, a 1700 acre industrial/commercial development has a County Service Area that provides water and sewer services to the development.

Electricity is delivered to the vast majority of Imperial County, and the Coachella Valley portion of Riverside County, by IID, with some existing and proposed transmission owned by San Diego Gas and Electric (SDG&E). Imperial Irrigation District's generating facilities and sources of power are varied as follows: El Centro, 180 megawatts (MW); Brawley, 18 MW; Rockwood, 50 MW; and the Coachella Plant, 80 MW. The County's geothermal generating facilities and sources of power are located throughout the County and are owned and operated by various entities. Current geothermal power generation is as follows: Salton Sea, 350 MW, East Mesa, 47 MW, and Heber, 90 MW. An upgrade of the El Centro Power Plant was recently proposed by IID to the California Energy Commission and IID is proposing to build a 93 MW natural gas power plant in Niland. Hydroelectric facilities along the All American Canal have a maximum capacity of 45 MW. IID currently serves over 100,000 customers (IID 2006).

Due to the County's seismic conditions, the telephone system is one of the most elaborate communication networks in the country. The equipment and facilities in Imperial County are earthquake resistant up to an 8.0 magnitude.

The Lithium Valley Specific Plan identifies recommendations for public utility improvements to meet the demands of development within the Specific Plan Area; this includes improvements to the water, wastewater, stormwater and drainage, electrical transmission, solid waste disposal, and telecommunications systems. The Lithium Valley Specific Plan also identifies recommended improvements to essential public services including police, fire, and healthcare services. Recommended improvements may be outside the Specific Plan Area, for example, improvements to the water supply system may be needed upstream of the Plan Area, thus further east.

10. Imperial Valley Telecommunications Authority

The Imperial Valley Telecommunications Authority (IVTA) is a collaborative of all Imperial County school districts, city agencies, county agencies, Imperial Community

College and San Diego State University-IVC. The IVTA also has an innovative partnership with the Imperial Irrigation District and is officially recognized as a “Public Joint Powers Authority (JPA)”. IVTA is dedicated to provide new technology and a community-wide system access to the Imperial Valley Public agencies, and contribute to the growth and development of the community.

IVTA major projects include connecting participating agencies to a state-of-the-industry fiber-optic communications network, providing training and support for the use of computers and advanced technologies in public government and schools, planning for future uses of the high-speed network to improve efficiency and reduce costs of operations and providing government and education access television to our community.

11. Petroleum and Natural Gas Lines

Liquid petroleum products are delivered to and are transported through the County via the twenty-inch Santa Fe Pacific Pipe Line. This line is generally located within the Southern Pacific Railroad right-of-way. The right-of-way follows the northwest to southeast trend of Imperial Valley. It passes near the east side of the Salton Sea and serves the storage facility at Niland. The petroleum storage capacity at Niland is 77,500 barrels and at Imperial is 289,000 barrels. Storage tanks, however, are never full at one time but are normally filled fifty percent. Southeast of Ogilby, the line turns east and travels to Yuma. A six-inch branch line distributes gas to the storage facility south of Imperial and a four-inch line serves the Naval Air Facility near Seeley.

Natural gas is delivered by the Southern California Gas Company via twin ten-inch lines which generally run south through the County in Range 14 East. These lines serve Niland, Calipatria, Brawley, Imperial, El Centro, Heber, and Calexico; and branch lines serve Holtville, Westmorland, Seeley, NAF, and Plaster City. Rural residents are served by laterals from the branch lines. The lateral lines typically do not exceed a quarter mile in length.

The North Baja System is an 80-mile U.S. portion of an overall 220-mile pipeline that primarily serves electric-generation load in the Mexican state of Baja California. The pipeline could be a potential entry of LNG-sourced natural gas into southern California and Arizona from a proposed terminal off the coast of Baja California .

C. Future Traffic Volume Forecast

Forecast Model

A modification of SCAG’s 2025 Regional Model was used to forecast Year 2025 traffic volumes on the various street segments. Minor modifications were made to both the land use and network data to improve accuracy. The following key roadway network and land use parameters were verified and/or assumed:

The Socio-Economic and Land Use data was reviewed for the 2025 Imperial County Transportation Model (ICTM). The 2025 ICTM contained two different socio-economic and land use data, one is the Calexico General Plan (CalexGP) version and the other is the Imperial Mall (ImpMall4a) version. After a review of the

demographic information for both versions and consultation with Caltrans staff, it was determined that the CallexGP model provided the most accurate traffic forecast.

The Callexico General Plan (CallexGP) version of the ICTM was updated based on comments from the City of Callexico and is called the CallexGP+ version. The CallexGP+ version is considered a land use alternative to the CallexGP and ImpMall4a versions of the model.

The transportation network in the 2025 Imperial County Transportation Model was modified to include a link for Kloke Road from SR 98 to Cole Road and minor adjustments to some key connections.

I-8 interchanges are assumed in 2050 at Drew Road, Forrester Road, Austin Road, Imperial Avenue, SR-86, Dogwood Road, SR-111, Bowker Road, and SR-7.

Year 2050 Traffic Volumes

Once the land use and network data were modified in the 2025 CallexGP+ Model, Year 2025 ADT volumes were forecasted. The Year 2025 forecasted ADT volumes were reviewed for validity and consistency with existing ADT volumes and the surrounding land use and network data. A review of all 2025 model traffic volumes was conducted and revisions to these forecast volumes were made as deemed appropriate, especially when forecast volumes appeared lower than expected.

Annual growth rates were calculated at the nearby road segments from the existing ADT volumes and Year 2025 ADT volumes. The average annual growth rates were calculated for all the segments in the study area. After a review of the annual growth rates, the following annual growth rates were applied to the segments in the circulation element plan to forecast Year 2050 volumes:

Year 2025 ADT volumes < 20,000 - two percent (2.0%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

Year 2025 ADT volumes between 20,001 and 27,000 - one percent (1.0%) annual growth was applied to the Year 2025 ADT volumes to estimate Year 2050 ADT volumes.

Year 2025 ADT volumes > 27,000 - half percent (0.5%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

The 2025 CallexGP+ Model did not contain volumes for all of the roadway segments in the Imperial County Circulation Element Plan. For those segments, the Year 2050 segment volumes were calculated by applying a reasonable annual growth rate. The resultant Year 2050 forecast traffic volumes for the roadway segments are summarized in Table 3.

As shown in Table 3, all unincorporated area street segments are forecast to operate at LOS C or better on a daily basis. For the purpose of this analysis, LOS C will be targeted as the minimum acceptable level of service. Most roadway segments are forecast to operate at LOS A and B with their proposed Circulation Element classification. Level of service on State Highways, in some cases, deteriorates to LOS D, however the County of

Imperial has no jurisdiction over State Highways and planning for these facilities is undertaken by the State of California. County roads that do intersect with State routes should be given special consideration because delays at intersections tend to deteriorate operating conditions along street segments.

For the purposes of this analysis, a table (see Table 5, Section IV) to compare daily traffic levels of service has been utilized. This is a broad base approach which is used to size roadways to accommodate long term volumes.

D. Roadway Classification Recommendations

The circulation plan is developed to create an efficient transportation system on a countywide basis. Roadway classifications will provide for the effective flow of goods and people with minimum delays in a cost effective and well-maintained system.

The recommended roadway classifications for the key roadways were determined based on Year 2050 volumes. The goal of the recommended roadway classification is to ensure key roadway segments operate at LOS C or better for the forecasted Year 2050 traffic volumes. The recommended roadway classifications were then reviewed for consistency and countywide infrastructure goals based on the future land use and network data. Table 3 shows the recommended roadway classifications for selected road segments.

Dual left-turn lanes and dedicated right-turn lanes should be planned at the intersection of major roadways. Appendix A1 contains guidelines for the provision of left-turn lanes and right-turn lanes at the intersection of various types of roadways. It is recommended that grade-separated railroad crossings be planned at roadways classified as Prime Arterial or Expressway. Appendix A2 contains the typical intersection layouts for the different roadway classifications.

A review of Table 3 shows that some of the classifications are potentially larger than necessary based on the forecasted traffic volumes. However, based on discussions with County staff and the desire to be slightly conservative in terms of setting aside right-of-way, the classifications shown in Table 3 were recommended.

E. Financial Recommendations

There is no single source nor single method of financing that will achieve the goals and objectives. The County will need to apply consistent efforts to secure the necessary financing.

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TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES

Segment Location	2003 Classification	Year 2002 ADT Volume ^a	Year 2005 ADT Volume ^a	Year 2025 ADT Volume ^c	25 Year Total Growth Factor ^d	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS ^e
Alamo Road								
Meloland/SR-115	Major Collector						Major Collector (4)	
Albright Road								
SR-111/SR-115	Minor Collector						Minor Collector (2)	
SR-115/Butters	Major Collector						Major Collector (4)	
Anderholt Road								
Evan Hewes (S-80)/Hunt	Minor Collector						Minor Collector (2)	
Hunt/Carr	Major Collector						Major Collector (4)	
Andre Road								
Forrester/End	Minor Collector						Minor Collector (2)	
Anza Road								
Pulliam/Rockwood	Local						Minor Collector (2)	
Rockwood/Calexico	Prime Arterial						Prime Arterial (6-divided)	
Calexico/Barbara Worth	Prime Arterial						Prime Arterial (6-divided)	
Aten Road								
End/Forrester	Minor Collector						Minor Collector (2)	
Forrester/Austin	Minor Arterial						Minor Arterial (6-divided)	
East Imperial City Limits/Dogwood	Prime Arterial	7,300	8,450	39,000	1.13	44,500	Prime Arterial (6-divided)	C
Dogwood/SR-111	Prime Arterial						Prime Arterial (6-divided)	
Proposed/SR-111/River	None						Prime Arterial (6-divided)	
Austin Road								
McCabe/Wahl	Local						Prime Arterial (6-divided)	
Proposed Wahl/SR-98	None						Prime Arterial (6-divided)	
Evan Hewes Hwy/McCabe	Major Collector						Prime Arterial (6-divided)	
Aten/Evan Hewes Hwy	Minor Arterial						Prime Arterial (6-divided)	
Keystone/Aten	Major Collector						Prime Arterial (6-divided)	
SR-86/Keystone	Minor Collector						Prime Arterial (6-divided)	
Bannister Road								
SR-86/Brandt	Major Collector						Major Collector (4)	
Barbara Worth Road								
Zenos/Evan Hewes (S-80)	Minor Collector						Major Collector (4)	
Evan Hewes Hwy/Anza	Major Collector						Major Collector (4)	
Baughman Road								
Garvey/Lack	Minor Collector						Minor Collector (2)	
Lack/SR-86	Major Collector						Major Collector (4)	
Bell Road								
Alamo/Evan Hewes Hwy	Minor Collector						Minor Collector (2)	
Bennett Road								
Havens/Ross	Minor Collector						Minor Collector (2)	
Best Road								
Rutherford/Brawley	Minor Arterial						Minor Arterial (4)	
Blair Road								
Pound/Sinclair	Minor Collector						Minor Collector (2)	
Peterson/Lindsey	Major Collector						Major Collector (4)	
Lindsey/SR-115	Major Collector						Major Collector (4)	
SR-115/Yocum	Local						Major Collector (4)	
Blais Road								
Wieman/Forrester	Minor Collector						Minor Collector	
Boarts Road (S26)								
Westmorland/Kalin	Major Collector						Major Collector (4)	
Boley Road								
Westmorland/Huff	Minor Collector						Minor Collector (2)	
Bonds Corner Road								
Holtville/I-8	Major Collector						Major Collector (4)	
I-8/SR-98	Minor Arterial						Minor Arterial (4)	
Bonesteale Road								
Kumberg/SR-98	Minor Collector						Minor Collector (2)	
Born Road								
Verde School/SR-98	Minor Collector						Minor Collector (2)	
Bowker Road								
Evan Hewes Hwy/I-8	Major Collector						Major Collector (4)	
I-8/SR-98	Minor Arterial						Expressway (6)	
SR-98/Anza	None						Minor Arterial (4)	

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume	Year 2005 ADT Volume	Year 2025 ADT Volume	25 Year Total Growth Factor	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	205 0 LOS
Bowles Road								
Riley/Lyerly	Minor Collector						Minor Collector (2)	
Boyd Road								
Wiest/SR-78	Local						Minor Collector (2)	
SR-115/Highline	Local						Minor Collector (2)	
Highline/End	Minor Collector						Minor Collector (2)	
Brandt Road								
Pound/Sinclair	Local						2-Lane Industrial Local	
Sinclair/Lindsey	Local						Minor Collector (2) 2-Lane Industrial Local	
Lindsey/Eddins	Local						Minor Collector (2) 2-Lane Industrial Local	
Eddins/Webster	Minor Collector						Minor Collector (2)	
Bridenstein Road								
Proposed SR-78/Hartshorn							Minor Collector (2)	
Hartshorn/Bonds Corner	Minor Collector						Minor Collector (2)	
Brockman Road (S30)								
McCabe/SR-98	Major Collector						Major Collector (4)	
Butters Road (S32)								
Gonder/SR-78	Prime Arterial						Prime Arterial (6)	A
Bowles/Albright	Local						Major Collector (4)	
Albright/SR-78	Major Collector						Major Collector (4)	
Cady Road								
Pellet/SR-86	Major Collector						Major Collector (4)	
Cambell Road								
Jessup/Derrick	Major Collector						Major Collector (4)	
Derrick/Drew	Major Collector						Major Collector (4)	
Carey Road								
SR-86/Dogwood	Minor Collector						Minor Collector (2)	
Carr Road								
Barbara Worth/SR-7	Major Collector						Minor Arterial (4)	
Carter Road								
Kalin/Forrester	Minor Collector						Major Collector (4)	
Casey Road								
Dickerman/SR-78	Minor Collector						Minor Collector (2)	
SR-78/Worthington	Minor Collector						Major Collector (4)	
Purposed Worthington/Norrish	None						Major Collector (4)	
Chick Road								
El Centro/Pitzer	Prime Arterial						Prime Arterial (6)	
Pitzer/Barbara Worth	Major Collector						Major Collector (4)	
Clark Road								
El Centro/SR-98	Minor Arterial						Minor Arterial (4)	
North El Centro City Limits/Worthington	Major Collector	2,100	2,430	12,550	1.64	21,000	Major Collector (4)	B
Worthington/Larsen	Minor Collector	800	930	6,220	1.64	10,500	Major Collector (4)	A
Cole Road								
Dogwood/Calexico	Prime Arterial						Prime Arterial (6-divided)	
East Calexico City Limits/SR-98	Minor Arterial	9,700	11,230	19,340	1.64	30,500	Prime Arterial (6-divided)	B
Connelly Road								
Vencill/Van Der Linden	Minor Collector						Minor Collector (2)	
Cooley Road								
Worthington/Gillett	Minor Collector						Minor Collector (2)	
Corn Road								
Bowles/Eddins	Minor Collector						Minor Collector (2)	
Correll Road								
Dogwood/SR 111	Minor Arterial						Minor Arterial (4)	
Cross Road								
Imperial (City)/Villa	Minor Collector						Minor Collector (2)	
Davis Road								
Gillespie/Schrimpf	Major Collector						Major Collector (4)	
Proposed Schrimpf/Sinclair	Major Collector						Major Collector (4)	
Dearborn Road								
Harrigan/Wormwood	Minor Collector						Minor Collector (2)	
Derrick Road								
Evan Hewes Hwy/Wixom	Minor Collector						Minor Collector (2)	
Dickerman Road								
SR-115/Butters	Minor Collector						Minor Collector (2)	

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume	Year 2005 ADT Volume	Year 2025 ADT Volume	25 Year Total Growth Factor	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS
Dunaway Road								
I-8/Evan Hewes Hwy	Major Collector	900	1,040	2,756	1.64	4,500	Major Collector (4)	A
Eady Road								
Willoughby/Cole	Minor Collector						Minor Collector (2)	
Eddins Road (S30)								
Gentry,SR-111(Calipatria City Limits)	Major Collector						Major Collector (4)	
Edgar Road								
Pierle/Forrester	Minor Collector						Minor Collector (2)	
Elder Road								
Doetsch/Cady	Minor Collector						Minor Collector (2)	
English Road								
Gillespie Road and Highway 111							2-Lane Industrial Local	
Sinclair/Wilkins-Highway 111 / Pound	Minor Collector						Minor Collector (2) 2-Lane Industrial Local	
							Minor Collector (2) 2-Lane Major Industrial Collector	
Gillespie/Pound Pound / Sinclair	Local							
Pound/Lindsey Sinclair / Lindsey	Major Collector						Minor Collector (2)	
Lindsey/Eddins	Local						Minor Collector (2) 2-Lane Industrial Local	
Erskine Road								
Wheeler/Payne	Minor Collector						Minor Collector	
Evan Hewes Hwy (S80)								
Imperial Hwy/El Centro	Prime Arterial						Prime Arterial (6-divided)	
El Centro/SR-115	Prime Arterial						Prime Arterial (6-divided)	
SR-115/End	Prime Arterial						Prime Arterial (6-divided)	
Fawcett Road								
Dogwood/Meadows	Minor Collector						Major Collector (4)	
Ferrell Road								
Kubler/SR-98	Major Collector						Major Collector (4)	
SR-98/Anza	Minor Collector						Minor Collector (2)	
Fifield Road								
SR-78/Streiby	Minor Collector						Minor Collector (2)	
Fisher Road								
Drew/Pulliam	Minor Collector						Minor Collector (2)	
Flett Road								
Wilkinson/Wirt	Minor Collector						Minor Collector (2)	
Forrester Road (S30)								
Proposed Sinclair/Walker	None						Prime Arterial (6-divided)	
Walker/Westmorland	Major Collector						Prime Arterial (6-divided)	
Westmorland/McCabe	Prime Arterial						Prime Arterial (6-divided)	
McCabe/Hime	Minor Collector						Prime Arterial (6-divided)	
Proposed Hime/River	Minor Collector						Prime Arterial (6-divided)	
North Westmorland City Limits/Gentry	Major Collector	1,200	1,390	9,000	1.64	15,000	Prime Arterial (6-divided)	A
Foulds Road								
Pellet/Lack	Minor Collector						Minor Collector (2)	
Fredericks Road								
Loveland/SR-111	Minor Collector						Minor Collector (2)	
Frontage Road								
Ross/Brawley (City)	Major Collector						Major Collector (4)	
Garst Road								
Sinclair/McDonald	Minor Collector						Minor Collector (2)	
Garvey Road								
Baughman/Andre	Minor Collector						Minor Collector (2)	
Gentry Road								
Sinclair/Walker	Major Collector						Major Collector (4)	
Gillespie Road								
Davis/Wilkins	Minor Collector						Minor Collector (2)	
Gillett Road								
Cooley/Bowker	Minor Collector						Minor Collector (2)	
Gonder Road								
Proposed New River/SR-115	None						Major Collector (4)	
SR-115/Butters	Local						Minor Collector (2)	
Butters/Green	Minor Collector						Minor Collector (2)	

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume ^a	Year 2005 ADT Volume ^a	Year 2025 ADT Volume ^c	25 Year Total Growth Factor ^d	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS ^e
Green/Highline	Major Collector						Major Collector (4)	
Gowling Road								
Norrish/Zenos	Minor Collector						Major Collector (4)	
Green Road								
SR-78/Gonder	Major Collector						Major Collector (4)	
Griffin Road								
Wiest/SR-115	Minor Collector						Minor Collector (2)	
Grumbles Road								
James/Meloland	Minor Collector						Minor Collector (2)	
Gullett Road								
Worthington/Aten	Minor Collector						Minor Collector (2)	
Gutherie Road								
Wienert/Worthington	Minor Collector						Minor Collector (2)	
Proposed Worthington/Hackleman	Minor Collector						Minor Collector (2)	
Hackleman Road								
Low/Forrester	Minor Collector						Minor Collector (2)	
Hardy Road								
Dunaway/Jeffrey	Major Collector						Major Collector (4)	
Jeffrey/Hyde	Major Collector						Major Collector (4)	
Hyde/Jessup	Major Collector						Major Collector (4)	
Harrigan Road								
Diehl/Dearborn	Minor Collector						Minor Collector (2)	
Harris Road								
Austin/SR-86	Local						Major Collector (4)	
SR-86/McConnel	Major Collector						Major Collector (4)	
McConnell/Highline	Minor Collector						Major Collector (4)	
Hart Road								
Wiest/SR-115	Minor Collector						Minor Collector (2)	
Hartshorn Road								
Bridenstein/Proposed Bridenstein	Minor Collector						Minor Collector	
Haskell Road								
Evan Hewes Hwy/End	Minor Collector						Minor Collector (2)	
Hastain Road								
Taecker/SR-78	Minor Collector						Minor Collector (2)	
Young/Dickerman	Minor Collector						Minor Collector (2)	
Havens Road								
Haskell/Bennett	Minor Collector						Minor Collector (2)	
Hetzel Road								
Westmorland/Huff	Minor Collector						Minor Collector (2)	
Heber Road								
La Brucherie/SR-86	Local						Minor Collector (2)	
SR-111/Anderholt	Minor Arterial	N/A	2,040	16,700	1.64	27,500	Prime Arterial (6-divided)	B
Anderholt/Keffner	Major Collector						Major Collector (4)	
Keffner/Vencill	Minor Collector						Major Collector (4)	
Highline Road (S33)								
Proposed SR-78/Gonder	None						Major Collector (4)	
Gonder/Kavanaugh	Major Collector						Major Collector (4)	
Proposed Kavanaugh/I-8	None						Major Collector (4)	
Holt Road. (S32)								
Gonder/Holtville city limits	Prime Arterial						Prime Arterial (6-divided)	
Hoskins Road								
SR-86/Steiner	Minor Collector						Minor Collector	
Hovley Road								
Rutherford/Brawley	Major Collector						Major Collector (4)	
Huff Road								
Imler/Evan Hewes Hwy	Major Collector						Major Collector (4)	
Hunt Road								
Barbara Worth/Bonds Corner	Major Collector						Major Collector (4)	
Bonds Corner/Van Der Linden	Minor Collector						Minor Collector (2)	
Huston Road								
Dogwood/McConnell	Minor Collector						Minor Collector (2)	
Imler Road								
Huff/Forrester	Major Collector						Major Collector (4)	
International Road								

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume	Year 2005 ADT Volume	Year 2025 ADT Volume	25 Year Total Growth Factor	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS
Huff Road								
Imler/Evan Hewes Hwy	Major Collector						Major Collector (4)	
Hunt Road								
Barbara Worth/Bonds Corner	Major Collector						Major Collector (4)	
Bonds Corner/Van Der Linden	Minor Collector						Minor Collector (2)	
Huston Road								
Dogwood/McConnell	Minor Collector						Minor Collector (2)	
Imler Road								
Huff/Forrester	Major Collector						Major Collector (4)	
International Road								
Noffsinger/Pound	Minor Collector						Minor Collector (2)	
Irvine Road								
Shank/End	Minor Collector						Minor Collector (2)	
James Road								
Ralph/Evan Hewes Hwy	Minor Collector						Minor Collector (2)	
Jasper Road								
Calexico/Anderholt	Major Collector						Expressway (6)	
Proposed Anderholt/SR-7	None						Expressway (6)	
Jeffrey Road								
Evan Hewes Hwy/Hardy	Minor Collector						Minor Collector (2)	
Kaiser Road								
Wirt/Albright	Minor Collector						Minor Collector (2)	
Kalin (S26)								
Sinclair/SR-78/86	Major Collector						Major Collector (4)	
Kamm Road								
River/SR-115	Local						Prime Arterial (6)	
SR-115/Holt	Minor Collector						Major Collector (4)	
Keffer Road								
SR-98/King	Major Collector						Major Collector (4)	
Kershaw Road								
Yocum/Rutherford	Minor Collector						Minor Collector (2)	
Keystone Road (S27)								
Forrester/SR-111	Prime Arterial						Expressway (6)	
SR-111/Highline	Major Collector						Expressway (6)	
King Road								
Orchard/Keffer	Major Collector						Major Collector (4)	
Kloke Road								
Willoughby/Calexico	Major Collector						Major Collector (4)	
Kramar Road								
Drew/Forrester	Major Collector						Major Collector (4)	
Kubler Road								
Drew/Clark	Minor Collector						Minor Collector (2)	
Kumberg Road								
Bonesteel/Miller	Minor Collector						Minor Collector (2)	
La Brucherie Road								
El Centro City Limits/Kubler	Major Collector						Major Collector (4)	
Larsen/Murphy	Minor Collector						Minor Collector (2)	
Murphy/Imperial City Limits	Minor Collector						Minor Collector (2)	
Lack Road								
Lindsey/Blais	Minor Collector						Minor Collector (2)	
Lindsey/Vail	Local						Minor Collector (2)-2-Lane Industrial Local	
Larsen Road								
Forrester/SR-86	Major Collector						Major Collector (4)	
SR-86/Clark	Minor Collector						Minor Collector (2)	
Lavigne Road								
SR-98/Bowker	Prime Arterial						Prime Arterial (6)	
Proposed Bowker/Barbara Worth	Prime Arterial						Prime Arterial (6)	
Liebert Road								
Wixom/Rd 8018	Minor Collector						Minor Collector (2)	
Proposed Road 8018/SR-98	Minor Collector						Minor Collector (2)	
Lindsey Road								
Lack/Wiest	Minor Collector						Minor Collector (2)	
Gentry/English	Minor Collector						Minor Collector (2)-4-Lane Major Industrial Collector	
English/Blair Highway 111	Major Collector						Minor Collector (2)-4-Lane Major Industrial Collector	
Highway 111 / LVSP Eastern Boundary							2-Lane Industrial Local	

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume ^a	Year 2005 ADT Volume ^a	Year 2025 ADT Volume ^c	25 Year Total Growth Factor ^d	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS ^e
Loveland Road								
Fredericks/Monte	Minor Collector						Minor Collector (2)	
Low Road								
Hackleman/Evan Hewes Hwy	Minor Collector						Minor Collector (2)	
Lyerly Road								
Bowles/Eddins	Minor Collector						Minor Collector (2)	
Lyons Road								
Drew/Nichols	Minor Collector						Major Collector (4)	
Proposed Nichols/La Brucherie	None						Major Collector (4)	
Main ST (Niland)								
SR-111/Blair	Major Collector						Major Collector (4)	
Martin Road								
Baughman/7th	Minor Collector						Minor Collector (2)	
7th/Bannister	Local						Minor Collector (2)	
Mead Road								
Dogwood/McConnell	Minor Collector						Minor Collector (2)	
Meadows Road								
Heber/Calexico (City)	Major Collector						Major Collector (4)	
Meloland Road								
Worthington/Correll	Minor Collector						Minor Collector (2)	
Proposed Correll/SR-98	Minor Collector						Minor Collector (2)	
McCabe Road								
Silsbee/La Brucherie	Major Collector						Prime Arterial (6-divided)	
La Brucherie/SR-111	Minor Arterial	N/A	200	17,270	1.64	28,500	Prime Arterial (6-divided)	B
SR-111/SR-7	Major Collector						Prime Arterial (6-divided)	
McConnell Road								
SR-78/Evan Hewes Hwy	Major Collector						Major Collector (4)	
McDonald Road								
Garst/SR-111	Minor Collector						Minor Collector (2)	
SR-111 TO Rd 8041	Minor Collector						Minor Collector (2)	
McKim Road								
Harris/Ralph	Minor Collector						Minor Collector (2)	
Miller Road (S33)								
I-8/Kumberg	Minor Collector						Minor Collector (2)	
I-8/SR-115	Major Collector	200	230	5,250	1.64	9,000	Major Collector (4)	A
SR-115/Kavanaugh	Major Collector	100	120	5,300	1.64	9,000	Major Collector (4)	A
Monte Road								
Pellet/Loveland	Minor Collector						Minor Collector (2)	
Neckel Road								
Austin/Clark	Minor Collector						Minor Collector (2)	
Nichols Road								
McCabe/Lyons	Minor Collector						Minor Collector (2)	
Noffsinger Road								
SR-111/McDonald	Minor Collector						Minor Collector (2)	
Norrich Road								
Gowling/Holt	Minor Collector						Minor Collector (2)	
Holt/Highline	Local						Major Collector (4)	
Highline/End	Major Collector						Major Collector (4)	
Orchard Road (S32)/ SR 7								
King/McCabe	Major Collector	700	810	50,740	1.13	57,500	Expressway (6)	C
McCabe/I-8	Major Collector	900	1,040	49,000	1.13	56,000	Expressway (6)	C
Holtville/I-8	Minor Arterial						Prime Arterial (6-divided)	
I-8/Connelly	Major Collector						Major Collector (4)	
Orr Road								
Baughman/SR-86	Minor Collector						Minor Collector (2)	
Park Road								
Proposed Dowden/Williams	None						Major Collector (4)	
Williams/Rutherford	Minor Collector						Major Collector (4)	
Proposed Rutherford/Dietrich	None						Major Collector (4)	
Parker Road								
Ross/Gillett	Minor Collector						Minor Collector (2)	
Payne Road								
Huff/Erskine	Minor Collector						Minor Collector (2)	
Pellett Road								

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND VOLUMES
(continued)

Segment Location	2003 Classification	Year 2002 ADT Volume	Year 2005 ADT Volume	Year 2025 ADT Volume	25 Year Total Growth Factor	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS
Foulds/Monte	Minor Collector						Minor Collector (2)	
Proposed Monte/Imler	Minor Collector						Minor Collector (2)	
Pickett Road								
Hastain/Butters	Minor Collector						Minor Collector (2)	
Pierle Road								
Edgar/Wheeler	Minor Collector						Minor Collector (2)	
Pitzer Road								
Proposed Jasper/Willoughby	None						Major Collector (4)	
Chick/SR-86	Major Collector						Major Collector (4)	
SR-86/Jasper	Minor Collector						Major Collector (4)	
Pound Road								
Davis/International	Major Collector						Major Collector (4)	
International/Noffsinger	Minor Collector						Minor Collector (2)	
Pulliam Road								
Fisher/ SR-98	Minor Collector						Minor Collector (2)	
Ralph Road								
Imperial (City)/Dogwood	Major Collector						Major Collector (4)	
Dogwood/Mckim	Minor Collector						Minor Collector (2)	
Riley Road								
Bowles/Eddins	Minor Collector						Minor Collector	
Rockwood Road								
Proposed River/Lyons	Minor Collector						Prime Arterial (6)	
Lyons SR-98	Minor Collector						Prime Arterial (6)	
SR-98/Anza	Major Collector						Major Collector	
Ross Road								
Drew/Bennett	Major Collector	1,500	1,740	2,310	1.64	4,000	Major Collector (4)	A
Drew/Austin	Major Collector						Major Collector (4)	
El Centro/SR-111	Minor Arterial						Minor Arterial (4)	
SR-111/Mets	Local	N/A	560	2,120	1.64	3,500	Minor Collector (2)	B
Ruegger Road								
Kalin/SR-111	Minor Collector						Minor Collector (2)	
Rutherford Road (S26)								
Proposed Banister/Kalin							Major Collector (4)	
Kalin/Butters	Major Collector						Major Collector (4)	
Butters/Irvine	Minor Collector						Minor Collector (2)	
Schartz Road								
Proposed SR-86/Dogwood	None						Major Collector (4)	
Dogwood/McConnell	Minor Collector						Major Collector (4)	
Proposed McConnell/River	None						Major Collector (4)	
Seybert Road								
Taecker/SR-78	Minor Collector						Minor Collector	
Shank Road								
Best/SR-115	Minor Arterial						Minor Arterial (4)	
SR-115/Irvine	Minor Collector						Minor Collector (2)	
Silsbee Road								
Evan Hewes Hwy/McCabe	Minor Collector						Minor Collector (2)	
Sinclair Road								
Gentry/SR-111	Major Collector						Prime Arterial (6-divided) Major Industrial Collector (4)	
SR-111 LVSP Eastern Boundary							Major Industrial Collector (4)	
SR-111 LVSP Eastern Boundary / Weist	Minor Collector						Minor Collector (2)	
Slayton Road								
Worthington/Holtville (City)	Minor Collector						Minor Collector (2)	
Snyder Road								
Worthington/Bonds Corner Road	Minor Collector						Minor Collector (2)	
Stahl Road								
McConnell/End	Minor Collector						Minor Collector (2)	
Streiby Road								
Fifield/Wiest	Minor Collector						Minor Collector (2)	
Taecker Road								
Seybert/Hastain	Minor Collector						Minor Collector (2)	
Titworth Road								
Butters/End	Minor Collector						Minor Collector (2)	
Townsend Road								
SR-115/Holt	Minor Collector						Minor Collector (2)	
Vail Road								
Lack/Kalin	Minor Collector						Minor Collector (2)	
Van Der Linden								
Hunt/Connelly	Minor Collector						Minor Collector (2)	
Vencill Road								
Connelly/Heber	Minor Collector						Minor Collector (2)	

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume ^a	Year 2005 ADT Volume ^a	Year 2025 ADT Volume ^c	25 Year Total Growth Factor ^d	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS ^e
Verde School Road								
Keffer/Bornit	Minor Collector						Minor Collector (2)	
Villa Road								
Dogwood/Cooley	Minor Collector						Minor Collector (2)	
Wahl Road								
Nichols/Clark	Minor Collector						Minor Collector (2)	
Walker Road								
Gentry/End	Major Collector						Major Collector (4)	
Gentry/Brandt	Minor Collector						Minor Collector (2)	
Ware Road								
Fawcett/Willoughby	Major Collector						Major Collector (4)	
Weaver Road								
Kalin/SR-86	Minor Collector						Minor Collector (2)	
Webster Road								
Kalin/Brandt	Minor Collector						Minor Collector (2)	
Westmorland Road								
Boley/Evan Hewes Hwy	Minor Collector						Minor Collector (2)	
Westside Road								
Evan Hewes Hwy/End	Minor Collector						Minor Collector (2)	
Wheeler Road								
Erskine/Pierle	Minor Collector						Minor Collector (2)	
Wieman Road								
Steiner/Cady	Minor Collector						Minor Collector (2)	
Wienert Road								
Guthrie/Forrester	Minor Collector						Minor Collector (2)	
Wiest Road								
SR-78/Griffin	Minor Collector						Minor Collector (2)	
Griffin/Boyd	Local						Minor Collector (2)	
McDonald/SR-115	Minor Collector						Minor Collector (2)	
Wilkins Road								
English/Cuff	Minor Collector						Minor Collector (2)	
Wilkinson Road								
Brandt/SR-111	Minor Collector						Minor Collector (2)	
Wiest/Flett	Minor Collector						Minor Collector (2)	
Willoughby Road								
Proposed La Brucherie/Clark	none						Major Collector (4)	
Clark/Dogwood	Minor Collector						Major Collector (4)	
Dogwood/Kloke	Major Collector						Major Collector (4)	
Wirt Road								
Wiest/Kaiser	Minor Collector						Minor Collector (2)	
Wixom Road								
Liebert/Drew	Minor Collector						Minor Collector (2)	
Wormwood Road								
Dearborn/Fisher	Minor Collector						Minor Collector (2)	
Worthington Road (S28)								
Huff/Highline	Major Collector						Major Collector (4)	
Yocum Road								
Proposed Dogwood/Lyerly	none						Major Collector (2)	
Lyerly/Kershaw	Minor Collector						Major Collector (4)	
Kershaw/Blair	Local						Major Collector (4)	
Young Road								
SR-111/Blair	Minor Collector						Minor Collector (2)	
Zenos Road								
Barbara Worth/Holtville (City)	Minor Collector						Minor Collector (2)	
State Route 78								
S.D.-Imperial County Line/Junction SR-86	State Hwy	N/A	920	8,104	1.64	13,500	Collector (4)	A
SR-111/SR-115N	State Hwy	N/A	3,950	10,592	1.64	17,500	Collector (4)	B
SR-115N/SR-115S	State Hwy	N/A	3,100	13,447	1.64	22,500	Collector (4)	B
115S/Glamis	State Hwy	N/A	1,950	7,340	1.64	12,500	Collector (4)	A
Glamis/Ogilby	State Hwy	N/A	1,850	4,909	1.64	8,500	Collector (4)	A
Ogilby/Palo Verde, Fourth	State Hwy	N/A	2,000	5,307	1.64	9,000	Collector (4)	A
Palo Verde, Fourth/Imperial County Line	State Hwy	N/A	2,000	5,307	1.64	9,000	Collector (4)	A

TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND
VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume ^a	Year 2005 ADT Volume ^a	Year 2025 ADT Volume ^c	25 Year Total Growth Factor ^d	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS ^e
State Route 86								
Imperial County Line/Desert Shores	State Hwy	N/A	12,900	21,138	1.28	27,500	Minor Arterial (4)	C
Desert Shores/Brawley Ave.	State Hwy	N/A	12,400	20,319	1.28	26,500	Collector (4)	C
Brawley Ave./S. Marina	State Hwy	N/A	13,400	21,957	1.28	28,500	Minor Arterial (4)	C
S. Marina/Air Park	State Hwy	N/A	12,100	19,827	1.64	33,000	Prime Arterial (6-divided)	B
Air Park/SR-78 West	State Hwy	N/A	10,800	17,697	1.64	29,500	Minor Arterial (4)	C
SR-78 West/Lack	State Hwy	N/A	10,800	17,890	1.64	29,500	Minor Arterial (4)	C
Lack/West Westmorland City Limits	State Hwy	N/A	10,200	19,650	1.64	32,500	Prime Arterial (6-divided)	B
E Westmorland C. Limits/W Brawley C. Limits	State Hwy	N/A	14,000	19,440	1.64	32,000	Prime Arterial (6-divided)	B
South Brawley City Limits/Legion	State Hwy	N/A	21,400	28,300	1.13	32,500	Prime Arterial (6-divided)	B
Legion/Keystone	State Hwy	N/A	19,100	27,940	1.13	32,000	Prime Arterial (6-divided)	B
Keystone/Imperial Ave.	State Hwy	N/A	14,700	27,980	1.13	32,000	Prime Arterial (6-divided)	B
I-8/McCabe	State Hwy	N/A	21,500	24,890	1.28	32,000	Prime Arterial (6-divided)	B
McCabe/Heber	State Hwy	N/A	7,100	26,100	1.28	33,500	Prime Arterial (6-divided)	B
Heber/Dogwood	State Hwy	N/A	7,500	26,100	1.28	33,500	Prime Arterial (6-divided)	B
Dogwood/SR-111	State Hwy	N/A	5,200	26,000	1.28	33,500	Prime Arterial (6-divided)	B
South Imperial City Limits/North El Centro City Limits	State Hwy	N/A	6,500	27,980	1.13	32,000	Prime Arterial (6-divided)	B
State Route 98								
Imperial Hwy/Drew	State Hwy	N/A	2,300	1,730	1.64	3,000	Local Collector (2)	B
Drew/Clark	State Hwy	N/A	3,800	5,350	1.64	9,000	Collector (4)	A
Clark/Dogwood	State Hwy	N/A	4,550	8,800	1.64	14,500	Collector (4)	B
Dogwood/West Calexico City Limits	State Hwy	N/A	9,800	24,180	1.64	31,500	Prime Arterial (6-divided)	B
East Calexico City Limits/Barbara Worth	State Hwy	N/A	24,400	26,000	1.64	33,500	Prime Arterial (6-divided)	B
Barbara Worth/Bonds Corner	State Hwy	N/A	16,300	26,000	1.64	33,500	Prime Arterial (6-divided)	B
Bonds Corner/E. Highline Canal	State Hwy	N/A	4,500	770	1.64	1,500	Local Collector (2)	A
E. Highline Canal/I-8	State Hwy	N/A	2,200	250	1.64	500	Local Collector (2)	A
State Route 111								
North Calexico City Limits	State Hwy	N/A	50,000	97,570	1.13	111,000	Freeway (8)	C
Heber/McCabe	State Hwy	N/A	33,500	98,650	1.13	112,000	Freeway (8)	C
McCabe/I-8	State Hwy	N/A	37,000	90,830	1.13	103,000	Freeway (8)	C
I-8/Evan Hewes Hwy	State Hwy	N/A	16,300	52,980	1.13	60,500	Expressway (6)	D
Evan Hewes/Aten	State Hwy	N/A	14,100	60,200	1.13	68,500	Expressway (6)	D
Aten/Worthington	State Hwy	N/A	11,300	58,160	1.13	66,000	Expressway (6)	D
Worthington/Keystone	State Hwy	N/A	10,600	58,710	1.13	67,000	Expressway (6)	D
Keystone/E. Junction 78	State Hwy	N/A	9,300	57,590	1.13	65,500	Expressway (6)	D
North Brawley City Limits/Rutherford	State Hwy	N/A	9,500	18,510	1.64	30,500	Prime Arterial (6-divided)	B
Rutherford/South Calipatria City Limits	State Hwy	N/A	6,600	18,560	1.64	30,500	Prime Arterial (6-divided)	B
North Calipatria City Limits/Sinclair	State Hwy	N/A	5,700	15,640	1.64	26,000	Minor Arterial (4)	C
Sinclair/Niland Ave	State Hwy	N/A	5,100	13,532	1.64	22,500	Collector (4)	B
Niland Ave/English	State Hwy	N/A	3,700	9,817	1.64	16,500	Collector (4)	B
English/Bombay Beach	State Hwy	N/A	2,300	6,103	1.64	10,500	Collector (4)	A
Bombay Beach/Imperial-Riverside County line	State Hwy	N/A	1,900	5,041	1.64	8,500	Collector (4)	A
State Route 115								
Junction I-8/East Holtville City Limits	State Hwy	N/A	1,850	4,140	1.64	7,000	Local Collector (2)	C
West Holtville City Limits/West Junction Evan Hewes Hwy	State Hwy	N/A	6,600	8,320	1.64	14,000	Collector (4)	B
West Junction Evan Hewes Hwy/SR-78	State Hwy	N/A	2,850	27,870	1.13	32,000	Prime Arterial (6-divided)	B
SR-78/Rutherford	State Hwy	N/A	990	13,450	1.64	22,500	Minor Arterial (4)	B
Rutherford/Wirt	State Hwy	N/A	1,650	9,720	1.64	16,000	Collector (4)	B
Wirt/East Calipatria City Limits	State Hwy	N/A	1,150	9,240	1.64	15,500	Collector (4)	B
State Route 186								
I-8/International Border	State Hwy	N/A					State Hwy	

Notes:

* See Table 1 regarding additional right-of-way for transit facility with roadway.

a. Volume from Imperial County Circulation and Scenic Highways Element Manual (Dec. 2003).

b. Volume from Caltrans, Imperial County, or Linscott Law & Greenspan, Engineers counts.

c. Volumes from Caltrans CalxGP+ Model and adjusted higher in some cases.

d. A 0.5%, 1.0%, or 2.0% annual growth rate was applied to the Year 2025 volumes to obtain Year 2050 volumes.

e. Capacity based on the Imperial County Classification Table (depending on the Year 2050 volume amount).

III. GOALS AND OBJECTIVES

A. Preface

The following are the Goals and Objectives of the Circulation and Scenic Highways Element along with policies to achieve these specific goals and objectives.

The Goals and Objectives, together with the Implementation Programs and Policies in Chapter IV, are the statements that shall provide direction for private development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the citizens as being desirable and deserving of community time and resources to achieve. These Goals and Objectives, therefore, are important guidelines for land use decision making. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these Goals and Objectives, and those of the other General Plan Elements, should be used as guidelines but not doctrines.

B. Goals and Objectives

Safe, Convenient, and Efficient Transportation System

Goal 1: The County will provide and require an integrated transportation system for the safe and efficient movement of people and goods within and through the County of Imperial with minimum disruption to the environment.

Objective 1.1 Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.

Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads. A traffic analysis may not be necessary in every situation, such as when the size or location of the project will not have a significant impact upon and generate only a small amount of traffic. Also, certain types of projects, due to the trip generation characteristics, may add virtually no traffic during peak periods. These types of projects may be exempt from the traffic analysis requirements. Whether a particular project qualifies for any exemption will be determined by the Department of Public Works Road Commissioner.

Objective 1.3 Ensure safe and coordinated traffic patterns, contiguous growth, and promote a planned and consistent development around city/township areas. Require that coordination with other jurisdictions, including the cities and CALTRANS results in a coordinated system that is consistent in classification, RoW and improvement standards. When annexations are proposed, projects must provide consistent roadway standards. This is intended to provide "throughways" that allow for the flow of traffic at LOS "C" or better throughout the system, both in cities as well as the County.

Objective 1.4 In addition to Collector and Arterial roads, maintain and, where appropriate, extend the existing network of Local Streets which have been historically plotted along section, half-section and tract lines, and which provide alternative local routes to connect with Collector and Arterial streets.

Objective 1.5 Encourage the balance of employment, services, and housing throughout the County to preclude future traffic congestion. The result of balancing housing and employment demands at a community scale allows residents to live and work in the same area, potentially decreasing demand on inter-regional transportation facilities.

Objective 1.6 Expand and improve needed public utilities relating to transportation.

Objective 1.7 Finance, or seek funding for circulation system maintenance projects.

Objective 1.8 The County's circulation system shall promote efficient intra- and inter-County travel with minimum disruption to established and planned communities.

Objective 1.9 Identify busy agricultural roads to create special crossings for farm equipment.

Objective 1.10 Maintain and expand public transit services to keep pace with population and job growth.

Objective 1.11 Improve County circulation system roadways in concert with land development to ensure sufficient levels of service.

Objective 1.12 Review new development proposals to ensure that the proposed development provides adequate parking and would not increase traffic on existing roadways and intersection to a level of service (LOS) worse than "C" without providing appropriate mitigations to existing infrastructure. This can include fair share contributions on the part of developers to mitigate traffic impacts caused by such proposed developments.

Objective 1.13 Work with adjacent jurisdictions and transportation agencies to identify necessary improvements to the regional roadway system to ensure adequate interregional and intraregional access throughout the County.

Objective 1.14 Coordinate improvement to the County circulation system with other major transportation improvement programs including compliance with air pollution control district regulations and mitigation.

Objective 1.15 Review and update County Road Functional Classifications periodically in accordance with Federal Highway Administration (FHWA) requirements. Purpose is to ensure current road classifications are accurate and appropriate. Functional Road Classifications within the County are updated by the

County Public Works Department routinely and require both County Board and IVAG approvals prior to notifications to Caltrans and FHWA.

Objective 1.16 Design transportation corridors to be co-located/joint use (within the ROW) with transmission, water and other infrastructure corridors to the extent possible.

Objective 1.17 Assure that road systems are adequate to accommodate emergency situations and evacuation plans.

Multiple Modes of Transportation

Goal 2: Consider all modes of transportation including motor vehicle, rail, transit, air transportation, and non-motorized transportation.

Objective 2.1 Develop a balanced circulation system which will provide for the economical, efficient, and safe movement of people and goods within and through the County.

Objective 2.2 Encourage a mix of transportation modes to meet community needs, including access to medical, educational, economic and social service facilities. The local circulation system should include pedestrian, bicycle and transit methods to enable residents to choose alternate modes in lieu of reliance on the automobile.

Objective 2.3 Develop and improve aviation facilities.

Objective 2.4 Reduce aviation-related hazards, including hazards to aircraft and hazards posed by aircraft.

Objective 2.5 Ensure consistency of the General Plan with the provisions of the Airport Land Use Plan.

Objective 2.6 Coordinate and plan for the expansion of the County Airport in Imperial or new location to encourage interregional travel and commerce.

Objective 2.7 Encourage passenger rail or trolley service between El Centro and Mexicali/Calexico and also between Imperial Valley and San Diego.

Objective 2.8 Encourage existing railroad corridor right of ways to be preserved for future transportation needs.

Alternate Modes of Transport

Goal 3: Develop alternative transportation strategies designed to reduce traffic volumes and improve traffic flow. This includes providing alternatives to residents such as pedestrian, bicycle and public transit options.

Objective 3.1 Develop, promote, and improve transit and para-transit services and programs for convenient access to major destinations.

Objective 3.2 Encourage the improvement and expansion of needed railroads and bus routes in the County transportation system.

Objective 3.3 Coordinate with the Imperial Valley Association of Governments (IVAG) to ensure that adequate bus service, including a fixed route public transit system, is available for all segments of the community.

Objective 3.4 Provide for the location of necessary transit infrastructure, such as bus stops, shelters or intermodal use facilities, in major activity centers. Include requiring developments that are identified as significant trip generators to incorporate design of such potential transit infrastructure.

Objective 3.5 Support ridesharing services and other similar alternative modes of transportation.

Objective 3.6 Develop and improve bicycle routes and pedestrian walkways. Consider the needs of bicyclists in the design, construction, and maintenance of all County roads, with specific attention to those roads established and defined in a network of key bicycling routes in the most current approved Imperial County Bicycle Master Plan.

Objective 3.7 Ensure the safety of the traveling public, including pedestrians and bicyclists.

Objective 3.8 Attempt to reduce motor vehicle air pollution. Require all major projects to perform an air quality analysis to determine the amount of pollution, as well as the alternative reduction options.

Objective 3.9 Continue to improve the accessibility of public facilities and commercial centers to improve access and the mobility of the elderly and disabled.

Objective 3.10 Encourage the incorporation of bicycle facilities, such as bike lockers and showers at workplaces, and bicycle racks on buses, to better facilitate bicycle travel.

Objective 3.11 Maintain the pedestrian and bicycle system, including improving the road surface and sidewalk, to reduce the safety hazard associated with drainage grates, manholes, potholes and uneven surfaces.

Scenic Highways

Goal 4: The County shall make every effort to develop a circulation system that highlights and preserves the environmental and scenic amenities of the area.

Objective 4.1 Establish various systems of scenic recreational travel utilizing multiple transportation modes.

Objective 4.2 Preserve, enhance, and protect Imperial County's scenic resources by the removal of illicit billboards from scenic areas and restrictions on new off-site sign construction visible from designated scenic highways.

Objective 4.3 Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.

Objective 4.4 Acquire scenic easements from private owners when required.

Objective 4.5 Develop standards for aesthetically valuable sites. Design review may be required so that structures, facilities, and activities are properly merged with the surrounding environment.

Regional Transportation System

Goal 5: Participate in and assist with coordinating regional efforts which integrate the County Transportation System with the Regional Transportation System.

Objective 5.1 The County's Circulation Element shall be designed to provide the facility and level of access necessary to serve the specific existing and proposed land uses designated in the Land Use Element and to satisfy regional travel needs.

Objective 5.2 The County shall provide and/or requires as appropriate the necessary facilities to obtain balanced use of all travel modes to address the transportation needs of all ages and to provide mobility for a variety of trip purposes. The County shall generally recognize the following priorities for new transportation facilities: vehicular, freight movement, transit, pedestrian, and bicycle.

Objective 5.3 The County shall cooperate with the adjacent communities and agencies such as the Federal Government, State Department of Transportation (Caltrans District 11), El Centro, Brawley, Calexico, Holtville, Imperial, Westmorland, and Calipatria to provide the maximum compatibility of adopted circulation elements and regional facility plans, provided however that the minimum standards of this element are maintained..

Objective 5.4 The County shall coordinate regularly with Caltrans to obtain information on trends and plans for roadway changes and improvements which would affect the noise environment.

C. Relationship to Other General Plan Elements

The Circulation and Scenic Highways Element Policy Matrix (Table 4) identifies the relationship between the Circulation and Scenic Highways Element Goals and Objectives to other Elements of the Imperial County General Plan. The Issue Area identifies the broader goals of the Element and the "Xs" identify that related objectives are contained in the corresponding Elements.

TABLE 4 CIRCULATION AND SCENIC HIGHWAYS ELEMENT POLICY MATRIX								
Issue Area	Land Use	Housing	Noise	Seismic/ Public Safety	Agricultural	Open Space Conservation	Geothermal	Water
Safe/Efficient System	X	X		X			X	
Scenic Highways	X					X		
Regional Transport	X		X					

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IV. IMPLEMENTATION PROGRAMS AND POLICIES

A. Preface

Any plan is only as good as the means of implementation. There are various tools and methods to insure that the intent of the Circulation and Scenic Highways Element is followed. These programs are described below.

B. Programs and Policies

1. Circulation and Scenic Highways Element

The goal of the Circulation and Scenic Highways Element (see Figures 1, 1a-c) is to provide a network of roadways throughout the County, which is the foundation of the transportation system. The street system is used for vehicular, bicycle, transit, pedestrian, and freight movement. Thus, it is essential to define a hierarchical system in which each roadway functions in a manner consistent with its intended use.

a. Roadway Classifications

The policies contained in this section are intended to encourage design standards which promote efficiency and safety of the circulation system. The Circulation Element roadway classifications are Expressway, Prime Arterial, Minor Arterial, Collector, Local Collector Street, Industrial Collector, Industrial Local Street, and Residential Street as described in Chapter I. A large scale map of these proposed routes is available at the County Planning and Development Services Department and Department of Public Works. Table 5 presents a summary of the estimated level of service for each classification, as well as for residential streets, cul-de-sacs, and loop streets.

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**TABLE 5
IMPERIAL COUNTY STANDARD STREET CLASSIFICATION
AVERAGE DAILY VEHICLE TRIPS**

Road		Level of Service (LOS)				
Class	X-Section	A	B	C	D	E
Expressway	154/210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106/136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82/102	14,800	24,700	29,600	33,400	37,000
Major Collector (Collector)	64/84	13,700	22,800	27,400	30,800	34,200
Minor Collector (Local Collector)	40/70	1,900	4,100	7,100	10,900	16,200
Local County (Residential)	40/60	*	*	<1,500	*	*
Local County (Residential Cul-de-Sac or Loop Street)	40/60	*	*	<200	*	*
Major Industrial Collector – (Industrial)	76/96	5,000	10,000	14,000	17,000	20,000
Industrial Local	44/64	2,500	5,000	7,000	8,500	10,000
* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.						

Table 5 was originally developed for the County of San Diego by the San Diego County Department of Public Works in 1985 and compares ADT to levels of service (LOS) for various roadway classifications. Proposed functional classifications were then inserted into this table and right-of-way widths adjusted to match County of Imperial standards.

Transition Areas

The Circulation and Scenic Highways Element is the graphical reference guide which shows the present and planned street system, along with the classification of those streets. It is important to note that where there is a change from one classification to another along a certain street, the transition will occur in mid-block areas to preclude non-continuing lanes and intersections. The design criteria (design, speed, curve radii, etc.) for the higher classification shall generally take precedence through the transition area. The County Director of Public Works shall review these transition areas and provide guidance in achieving this policy.

c. New or enlarged Roads:

Local Roads

The County shall require all new developments to provide for local roads to serve the direct access needs of abutting property. These streets should be designed with a discontinuous pattern to discourage through traffic. They generally should not intersect with arterial street classifications. Typical design features include two travel lanes with parking on both sides of the street. Local roads include loop streets and cul-de-sacs.

Regional Roads (Roads beyond the actual development project)

The County shall require that all new developments participate in the improvement of regional roads that may be impacted by the proposed development. The extent to which a project impacts regional roads is generally determined by a traffic study. In some cases however the County may have predetermined improvement requirements for certain road segments or road intersections. The new developments will be required to either make certain regional improvements or in the alternative contribute a "fair share" towards the cost of such improvements.

d. Level of Service Standards

As the County continues to grow, transportation demand management and systems management will be necessary to preserve and increase available roadway "capacity". Level of Service (LOS) standards are used to assess the performance of a street or highway system and the capacity of a roadway.

An important goal when planning the transportation system is to maintain acceptable levels of service along the federal and state highways and the local roadway network. To accomplish this, the California Department of Transportation (Caltrans), Imperial County and local agencies adopt minimum levels of service to determine future infrastructure needs.

Imperial County must provide and maintain a highway system with adequate capacity and acceptable levels of service to accommodate projected travel demands associated with the projected population growth within the Land Use Element. This can be accomplished by establishing minimum service levels for the designated street and conventional state highway system. Strategies that result in improvements to the transportation system, coupled with local job creation, will allow County residents to have access to a wide range of job opportunities within reasonable commute times.

The County's goal for an acceptable traffic service standard on an ADT basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections. These service values are defined by the 1985 or 2000 edition of the *Highway Capacity* Manual or any subsequent edition thereof. This policy shall acknowledge that the aforementioned level of service standards may not be obtainable on some existing facilities where abutting development precludes acquisition of additional right-of-way needed for changes in facility classification.

In order to achieve the level of service goals in the previous policy, the County shall develop and institute a long-range funding program in which new land development shall bear the major burden of the associated costs and improvement requirements.

e. Design Standards

The County shall adopt design standards for all streets in accordance with their functional classifications and recognized design guidelines. In developing these standards, the County shall consider the design standards of Caltrans and the American Association of State and Highway Transportation Officials (AASHTO). All streets within the County shall be designed in accordance with the adopted County of Imperial Design Standards. Typical cross sections and design criteria for the various street classifications are shown as an attachment to this document.

f. Private Streets

The County may permit construction of private streets within individual development projects (gated community). providing the following are addressed:

- They are designed geometrically and structurally to meet County standards.
- Only project occupants are served (gated community).
- Emergency vehicle access requirements are satisfied.
- The streets do not provide a direct through route between public streets.
- The Homeowners Associations and/or property owners provide an acceptable program for financing regular street maintenance.
- If the private street is permitted with a waiver of any of the above standards, any future requests to make the private street a public street shall require that all adjacent property owners provide and pay for all improvements and right of way required to bring the street to current public street or road standards. This includes road width, right of way widths and structural section. In no circumstance shall the County pay for any costs to upgrade a private street to public street standards if the above-mentioned requirements were waived at the request of the original developer or subdivider.

g. Street Access Guidelines

The County shall institute street access guidelines consistent with the street classifications. These shall be applied where feasible to all new developments. The following guidelines shall be used to define appropriate access:

- The County shall prohibit driveway access to Prime Arterials, unless there is no other reasonable means of access.
- Access to Minor Arterials shall not be permitted unless there is no other reasonable means of access to the public street system. Where access to Minor Arterial or Collectors must be allowed, it shall be limited through the use of medians and/or access controls in order to maintain street capacity.
- Along Minor Arterials, access spacing shall be a standard distance of 1,200 feet or more. Under special circumstances, this distance may be reduced to a minimum of 600 feet. Along Collectors the corresponding access spacing shall be 600 feet for the standard distance and 300 feet for the minimum distance. The above measurements shall be from the ends of the curb returns.
- All access spacing requirements shall consider the above guidelines. Should more stringent requirements be imposed by the County Road Commissioner, his decision shall be final.
- No driveway access will be allowed to some roads such as Expressways and Major Collectors.

h. Specific Alignment Plans

The County shall adopt specific alignment plans when "stand equal sided" widening is not adequate for future needs, or when special conditions exist which require a detailed implementation plan. When necessary, the specific alignment plan should be prepared prior to the official submittal of the development proposal. The need for such plans will be indicated by the following:

- Variable terrain or other sensitive areas which may preclude straightforward preparation of street improvement plans.
- Alignments which are necessary because of existing street design and/or land use configurations.
- Development proposals which must deal with extraordinary physical or environmental features.
- Transmission facilities for electric, water, gas and other infrastructure systems.

i. Functional Road Classification Updates

The County shall periodically review and update County Road Functional Classifications as necessary to ensure accurate and appropriate classifications are assigned to roads. The County Road Commissioner performs this task. Factors which contribute to necessary modifications include existing and proposed developments, types of development, County and City Land Use (Zoning) and vehicular driving patterns. All changes to the Functional Road Classifications must comply with the requirements described in the “Highway Functional Classifications – Concepts, Criteria and Procedures Manual”, published by the Federal Highway Administration (FHWA). Functional Road Classifications shown in the Circulation Element, although current, are subject to future revisions prepared by the County Public Works Department and approved by the County Board, concurred by IVAG and subsequently provided to Caltrans and FHWA for their review.

Since Functional Road Classifications are updated independently of the Circulation Element the latest approved Functional Road classifications are hereby incorporated into the Circulation and Scenic Highway Element by reference.

In some cases final approval of functional road classifications may not be in place when a private development project is being initiated or the development itself may require increasing the roads functional classification to address the near term and future traffic impacts. In these cases the higher road functional classification shall govern. Final determination of road functional classification is by the County Road Commissioner.

2. Ordinance Review

The County Land Use Ordinance Regulations and the setback portions must be reviewed and made to conform with the needs of this Element. This will insure that future construction will not interfere with present and potential highway needs. In addition, the currently established road right of ways must be analyzed to determine if these are adequate. In those areas where the present right of ways are inadequate, a program for securing such should be commenced.

It shall be the policy and direction under this circulation element that the dedication of rights of way and street improvements as a condition of issuance of a building permit and/or land use development application shall be required. All such rights of ways established in the functional road classifications shall be protected and procurement of needed rights of ways and improvements shall be made wherever possible. The County Planning and Development Services Director in conjunction with the County Road Commissioner shall review every building permit and land use development application in regards to obtaining the necessary right of ways and public improvements as a condition of permit issuance. This shall also be performed during the CEQA review of any projects which fall under the CEQA guidelines. All setbacks established by County Ordinance shall be deemed to commence from the edge of ultimate right of ways on any parcel or property fronting on a public street, right of way, or any other public transit corridor and not from the property line.

The County Subdivision, Division 8 of the Title 9 Land Use Ordinance should be enforced in such a manner that street and roads installed shall conform to this element and the

appropriate geometric section. If this is appropriately implemented, future widening or roadbed strengthening will not be required later at County expense.

3. Monitoring for Plan Compliance

It will be the responsibility of the Department of Public Works (DPW) to maintain surveillance of the Element and the various items that might affect it. Periodic formal reviews should be conducted by the Planning Commission and the Board of Supervisors to keep it current. Generally, such a review should be held at least every five years and more often if needed. In this way, the Element will be kept current and vital, and it will be kept visible to all areas of the public.

The Planning and Development Services Department shall be responsible for advising the Department of Public Works of proposed development projects and building permit applications along designated routes. Recommendations for right of way, street improvements, including but not limited to, off-site improvements of road segments, intersection widenings, traffic control devices, street lights, and bike lanes shall be made by DPW. For projects affecting State routes, Caltrans' input shall be sought.

4. Financing Alternatives

Revenues for maintenance and construction improvements to the County Road System are mainly derived from the Gas Tax Fund and Local Transportation Authority Sales Tax Funds (Measure D).

The Gas Tax Fund is distributed to the County in accordance with formulas enacted by the State Legislative Body. The Local Transportation Authority Sales Tax Fund is a 1/2 percent sales tax specifically targeted for repairs and rehabilitation, safety improvements and construction of needed facilities. It is a Countywide tax, distributed to cities and the County, by a formula based on road mileage and population. Collection of Measure D funds began in 1990 and will terminate in the year 2010.

Other revenues are derived from developer impact fees, development mitigation fees, vehicle code fines and miscellaneous fees. Total estimated revenue for Fiscal Year 1991 is 8.3 million dollars.

a. Objective

In order to achieve a viable multi-modal transportation system, financing options must be considered. The majority of funds to provide needed capital improvements as shown on the circulation map must come from the developer impact fees, Federal or State grants, or bond issues if so desired by a vote of the people.

b. Policies

Distribute the costs of transportation improvements equitably among those who will benefit, including current roadway users.

Use annexations, development agreements and the CEQA process as tools to ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts.

Participate in the establishment of regional traffic mitigation fees to be assessed on new development. The fees shall cover a reasonable share of the costs of providing local and sub regional transportation improvements needed for serving new development in the unincorporated area.

Seek all available means to finance improvements, including state and federal grants, to ensure that a non-motorized system is implemented, in addition to the current motorized system being adequately maintained.

Seek to work cooperatively with the Cities to require that development is their jurisdiction, also to contribute its fair share to County road improvements.

5. Roadway Improvements

a. Objective

The ultimate circulation system is not in place at this time, nor is it necessary for it to be fully completed until the County and regional growth warrant it. In general, the road network will be constructed in phases consistent with the needs of the community. This section incorporates policies which will encourage the orderly development and funding of the street system. It is expected that the construction will be funded through a combination of developer contributions and fees, County funds such as gasoline tax, and state and federal subventions.

b. Policies

It shall be the policy and direction under this circulation element that the dedication of rights of way and street improvements as a condition of issuance of a building permit and/or land use development application shall be required. All such rights of ways established in the functional road classifications shall be protected and procurement of needed rights of ways and improvements shall be made wherever possible. The County Planning and Development Services Director in conjunction with the County Road Commissioner shall review every building permit and land use development application in regards to obtaining the necessary right of ways and public improvements as a condition of permit issuance. This shall also be performed during the CEQA review of any projects which fall under the CEQA Guidelines. All setbacks established by County Ordinance shall be deemed to commence from the edge of ultimate right of ways on any parcel or property fronting on a public street, right of way, or any other public transit corridor and not from the property line.

The County shall assure that each addition to the circulation system is a functional link on the total system so that new routes and links are coordinated with existing routes to ensure that each new and existing roadway continues to function as it was intended.

The County shall require or provide adequate traffic safety measures on all new and existing roadways. These measures may include, but not be limited to, appropriate levels of maintenance, proper street design, traffic control devices (signs, signals, and striping), street lighting, and coordination with the school districts to provide school crossing signs and protection.

The County shall give priority to funding and implementing projects which either complete links on the circulation system, or relieve existing deficiencies.

Where feasible, the County shall interconnect traffic signals to form area networks or corridor systems. These systems shall be timed to facilitate the flow of through traffic on the arterial system, thus enhancing the movement of vehicles and goods through the County, while reducing fuel consumption and air pollution.

The County shall impose appropriate pro-rated fees for construction of roadway facilities and associated landscaping to ensure that all new development contributes to the completion of the circulation system. In addition to pre-permit collection, such fees may be imposed through creation of assessment districts.

The County shall only approve and build streets as per County of Imperial Design Standards. Likewise, the County shall not allow impacts to other jurisdictions to be unmitigated, nor shall the County allow impacts created by projects within incorporated areas, to be unmitigated in the County.

The County shall require additional right-of-way and additional improvements of expressways and major arterials where required for turning movements, bus turnouts, school bus stops or shelters or to provide access to adjacent properties wherever access is not feasible from the lower classification street system.

The County shall actively continue all efforts to standardize street design requirements with all Cities.

The County shall:

- a. Require development to provide collector and local street improvements according to standards of the County Public Works Department.
- b. Require development to dedicate necessary right-of-way when the subdivision or development of property adjacent or straddling Circulation and Scenic Highway Plan streets is proposed.
- c. Require development to provide all necessary grading, installation of curbs, gutters, sidewalks, and parkway tree planting, unless these improvements are provided through other means.
- d. Require development to provide half-width street improvements plus 12-feet beyond the centerline in accordance with County standards.
- e. Require development to provide right of way and improvements for transit infrastructure, including bus turnouts, stops, benches and shelters.
- f. Assure that new developments adopted by the Specific Plan process (In accordance with the General Plan Land Use Element, Section 1-D) have appropriate circulation access. The provision of such access may include the development of new local roads along with intersections or interchanges (that may not be currently listed in the Circulation Element) to the existing local and regional road networks. Areas that may require additional, intersections or interchanges to the road networks when new large scale development occurs include, but not be limited to the County's outlining communities of Salton Sea/ West Shores, Palo Verde, Ocotillo, and Bard/ Winterhaven.

If the location and traffic generation of a proposed development will result in congestion on major streets or failure to meet LOS C at peak hour periods, or if it creates safety hazards, the proposed development shall be required to make necessary off-site improvements. Such improvements may be eligible for reimbursement from collected impact fees. In some cases, the development may have to wait until financing for required off-site improvements is available. In other cases where development would result in unavoidable impacts, appropriate findings of overriding consideration would be required to allow temporary undesirable levels of service.

6. Transportation Demand Management

a. Objective

The transportation system envisioned for the County is a balanced system, incorporating the needs of all groups, as well as making provisions for many different modes of transportation. To accomplish this, it is necessary to implement policies encouraging a range of transportation opportunities while reducing the dependency upon automobiles.

b. Policies

The County shall encourage the reduction of vehicle miles, reduction of the total number of daily peak hour vehicular trips, and provide better utilization of the circulation system through development and implementation of Transportation Demand Management and Transportation Systems Management programs. These may include implementation of mandatory peak hour trip reduction, requirements for staggered work hours, telecommunications, increased development of employment centers where transit usage is highly viable, encouraging ride sharing in the public and private sector, provision for park and ride facilities adjacent to the regional transportation system, preparation of Traffic Management Plans and provision for transit subsidies.

The County in its role as a major employer shall commit to the use of trip reduction and vehicle miles traveled reduction strategies identified by Transportation Demand Management and Transportation Systems Management programs.

The County shall consider the use of bicycles electric cars and walking paths during the design and implementation of the street system.

The County shall update and maintain a recreational trails bikeway plan to recommend use of bicycle routes. These routes shall connect residential areas with schools, parks, recreation areas, major employment centers, and neighborhood commercial centers.

The County shall require pedestrian facilities along all streets, except expressways.

The County shall require that adequate off-street parking be provided for all properties. This assumes that on-street parking will not be available on Prime Arterials, Minor Arterials or Collectors since it is necessary in most cases to utilize paved width for vehicular traffic, transit, and bicycle uses.

The County shall maintain curb use priorities that consider, in descending order, the needs of through traffic, transit stops, bus turnouts, passenger loading needs, and short and long term parking.

The County shall prohibit the use of public streets for freight loading and unloading.

7. Public Transit and Railway Improvements

a. Objective

An integral part of the multi-modal system is the provision for public transit and adequate rail service for freight hauling and, when feasible, passenger service. For transit service to be successful, it should be properly planned so as to be accessible to users and operate on a reasonable schedule. The following policies are intended to provide guidance in establishing a transit system and encouraging usage to serve the needs of the County and region.

b. Policies

The County shall cooperate with the SCAG and IVAG and the provider of the Countywide Transit System to attain a balance of transportation opportunities. This shall include the establishment of criteria to implement transit improvements, short and long range transit service plans, corridor improvements, transit centers, and park-and-ride lots.

The County shall require developers to construct, where appropriate, transit facilities, including bus pull-outs on arterials and Collectors and bus stop amenities, including lighted shelters, benches, telephones, and route information signs.

The County shall work with the Countywide Transit System to establish transit stops adjacent to senior housing facilities, areas with a high concentration of medical facilities, major educational and employment centers, and retail and commercial areas.

The County should continue to work with the Countywide Transit System, Caltrans, and appropriate agencies to plan and implement rail service between the international border crossings in Calexico and the Coachella Valley.

The County shall encourage use of the existing railway between San Diego and Imperial Counties for potential public transportation as well as cargo hauling.

The County shall encourage the use of railroad freight service to minimize long haul truck traffic by providing efficient rail freight loading access facilities.

The County shall encourage existing railroad corridor right of ways to be preserved for future transportation needs wherever possible.

8. Non-Motorized Transportation

a. Objective

The goal of this program is to enhance environmental and social benefits for the citizens of Imperial County by providing an integrated network system of bicycle and pedestrian facility for the safe and efficient movement in and through the County of Imperial in accordance with the most current approved County of Imperial Bicycle Master Plan. This document is periodically updated and approved by the County and IVAG. The most current approved Master Plan is therefore made a part of the County Circulation Element by reference (Appendix D).

The goal of the bicycle facilities program is to provide an integrated bicycle circulation system which includes facilities to promote the environmental and social benefits of commuter and recreational bicycling. The bicycle circulation system and associated bicycle facilities shall provide mobility and safety to all persons and areas within the County of Imperial.

The goals of the pedestrian facilities plan are:

Provide for safe pedestrian circulation throughout the County, including sidewalks, pedestrian malls, and hiking trails.

Provide properly designed pedestrian facilities for the handicapped and elderly population to ensure their safety and enhanced mobility.

b. Policies

Class II bikeways (on-street bike lanes) shall be planned into appropriate Expressways, Prime Arterials, Minor Arterials, and Collectors in accordance with the most current County of Imperial Bicycle Master Plan.

The County shall cooperate with other governmental agencies to provide connection and continuation of bicycle corridors.

The utilization of land shall integrate the bicycle circulation system with auto, pedestrian, and transit systems.

The County shall seek funds at the private, local, state, and federal levels for the bicycle circulation system.

The County shall encourage the inclusion of green belts and common open space for pedestrian use within residential development areas.

The County shall, in accordance with state and federal law (as applicable), provide access for the disabled and elderly to all public buildings by removal of architectural and access barriers.

The County shall require all new development to provide handicap and pedestrian access in compliance with Americans with Disabilities Act (ADA).

The County shall require all new development to provide necessary right of way and improvements to accommodate bike lanes in accordance with the most current approved County of Imperial Bicycle Master Plan.

9. Scenic Highway Program/ Landscaping

a. Objective

The purpose of this program is to protect and enhance the County's scenic, historic, and recreational resources within a network of scenic highway corridors. This shall also include landscape standards for streets and roads particularly in urban areas.

b. Policies

The County shall consider creation of a Scenic Highway Advisory Committee to:

- a. Review and recommend amendments to existing ordinances, development standards, road classifications, and State Scenic Highway Law;
- b. Initiate corridor studies and recommend additional policies, programs and specific plans for managing scenic resources; and
- c. Review and revise Scenic Highway Program.

The County shall provide staff assistance to the Scenic Highway Advisory Committee.

The County shall emphasize protection of scenic highway resources in all County actions affecting land use.

The County shall initiate a study of land use development standards for Scenic Highway Advisory Committee review.

The County shall develop standards for road/street landscape requirements.

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APPENDIX A

GLOSSARY/DEFINITIONS/ABBREVIATIONS

Arterial: A major street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties.

Collector: A street for traffic moving between arterial and local streets, generally providing direct access to properties.

Expressway: A highway with full or partial control of access with some intersections at grade.

Freeway: A highway serving high-speed traffic with no crossings interrupting the flow of traffic (i.e., no crossings at grade). Street and Highways Code Section 23.6, in part, states that "Freeway means a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access."

Levels-of-Service (LOS): According to the Transportation Research Board's 1985 *Highway Capacity Manual Special Report 209*, level-of-service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by persons traveling in a traffic stream. Levels-of-service measurements describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. Measurements are graduated ranging from level-of-service A (representing free flow and excellent comfort for motorist, passenger or pedestrian) to level-of-service F (reflecting highly congested traffic conditions where traffic volumes exceed the capacities of streets, sidewalks, etc.). Levels-of-service can be determined for a number of transportation factors including freeways, multi-lane highways, two-lane highways, signalized intersections, intersections that are not signalized, arterials, transit and pedestrian facilities.

Local Scenic Highway: A segment of a state or local highway or street that a city or county has designated as "scenic."

Official County Scenic Highway: A segment of a county highway the Director of the Department of Transportation (Caltrans) has designated as "scenic."

Official State Scenic Highway: A segment of a state highway identified and designated by the Director of the Department of Transportation (Caltrans).

Paratransit: Transportation systems, such as dial-a-ride arrangements.

Recreational Trails: Public areas that include pedestrian trails, bikeways, equestrian trails, boating routes, trails, and areas suitable for use by physically handicapped people, trails and areas for off-highway recreational vehicles, and cross-country skiing trails.

Residential Street: A street providing direct access to properties and designed to discourage through-traffic. Includes residential cul de sacs and loop streets.

Scenic Highway Corridor: The visible area outside the highway's right-of-way, generally described as "the view from the road."

Transit: Urban and suburban rail, bus systems and ferryboats.

LIST OF ABBREVIATIONS:

ADT- Average Daily Trips

FHWA – Federal Highway Administration

IVAG – Imperial Valley Association of Governments

IVT – Imperial Valley Transit

LOS – Level of Service

RCP-Regional Comprehensive Plan

ROW- Right of Way

RTP- Regional Transportation Plan

SCAG – Southern California Association of Governments

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APPENDIX A1

INTERSECTION STANDARDS

Mainline Street	Intersecting Street	Left-Turn Lane Requirements	Right-Turn Lane
Local Collector*	Local Collector	Single	No
Local Collector	Collector	Single	No
Local Collector	Minor	Single	No
Local Collector	Prime	Single	No
Collector**	Local Collector	Single	No
Collector	Collector	Single	No
Collector	Minor	Single	No
Collector	Prime	Single	No
Minor	Local Collector	Single	No
Minor	Collector	Single	No
Minor	Minor	Double	No
Minor	Prime	Double	Yes
Prime	Local Collector	Single	No
Prime	Collector	Single	No
Prime	Minor	Double	Yes
Prime	Prime	Double	Yes

Note: * Also Industrial Collector

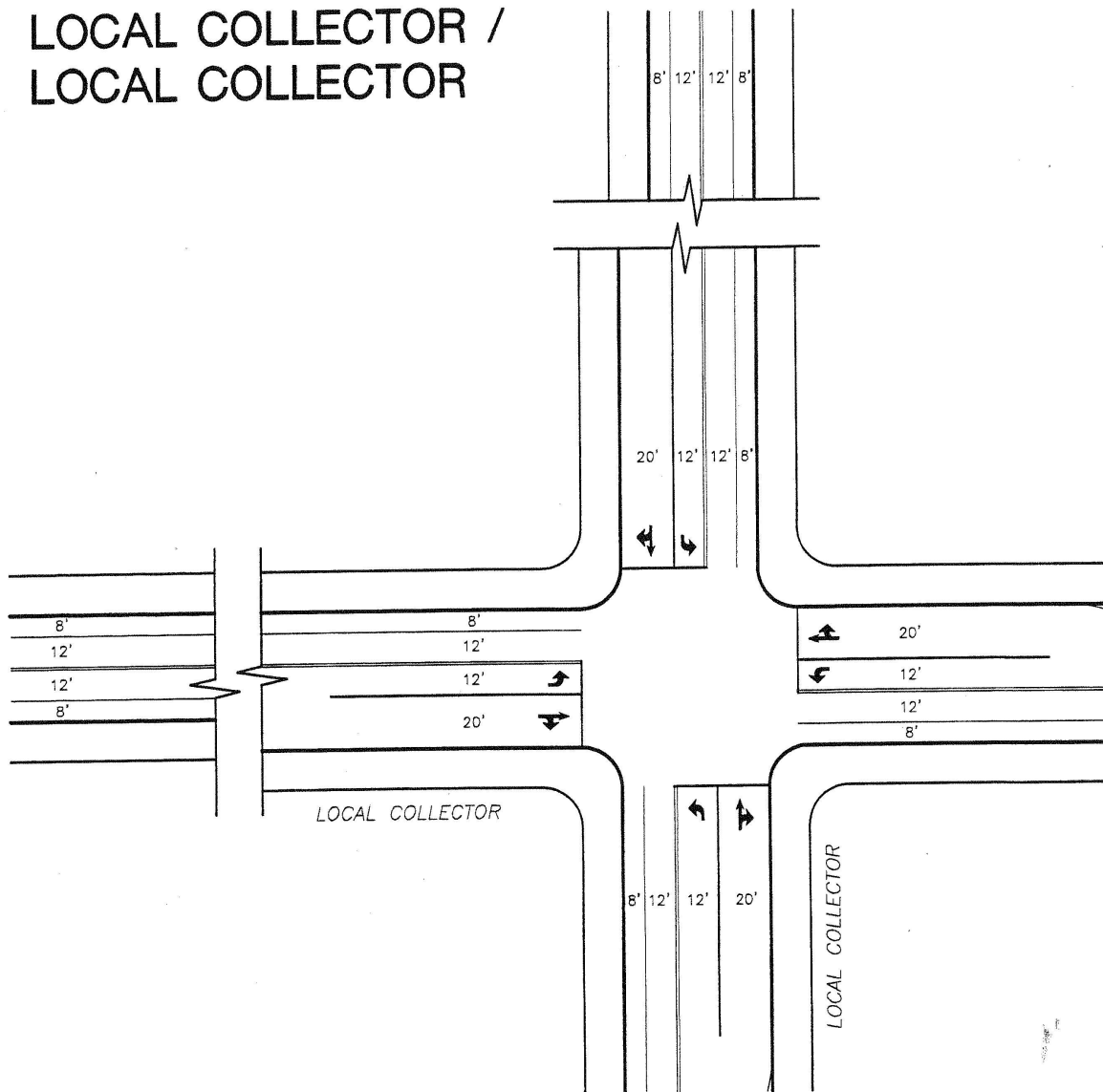
** Also Industrial Local

APPENDIX A2

TYPICAL INTERSECTION ILLUSTRATION

[FIGURES TO BE SUBMITTED SEPARATELY BY LL&G ENGINEERS, INC.]

LOCAL COLLECTOR / LOCAL COLLECTOR



GENERAL NOTES:

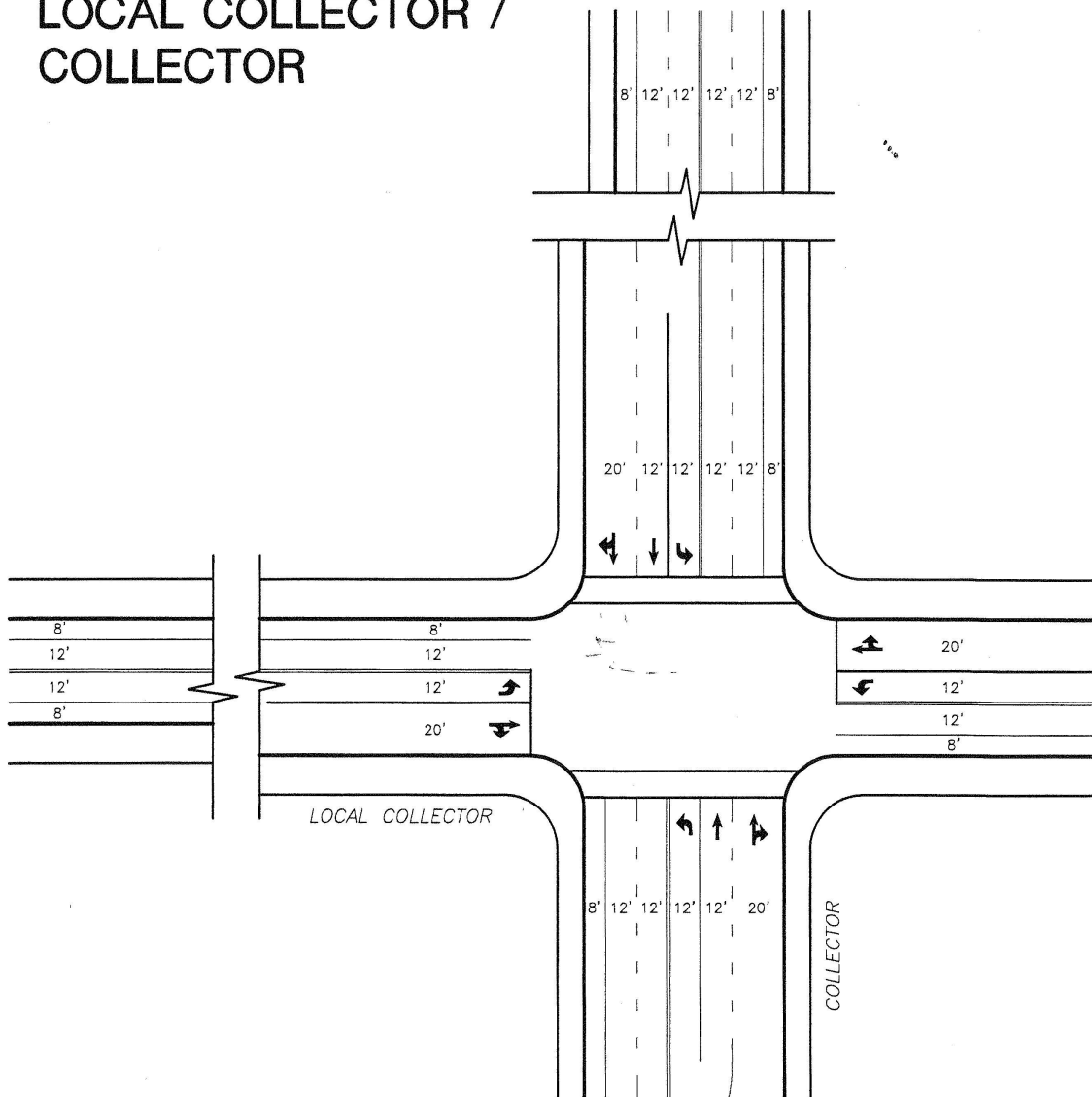
1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 1

Imperial County Typical Intersection Layout (Sheet 1 of 16)



LOCAL COLLECTOR / COLLECTOR



GENERAL NOTES:

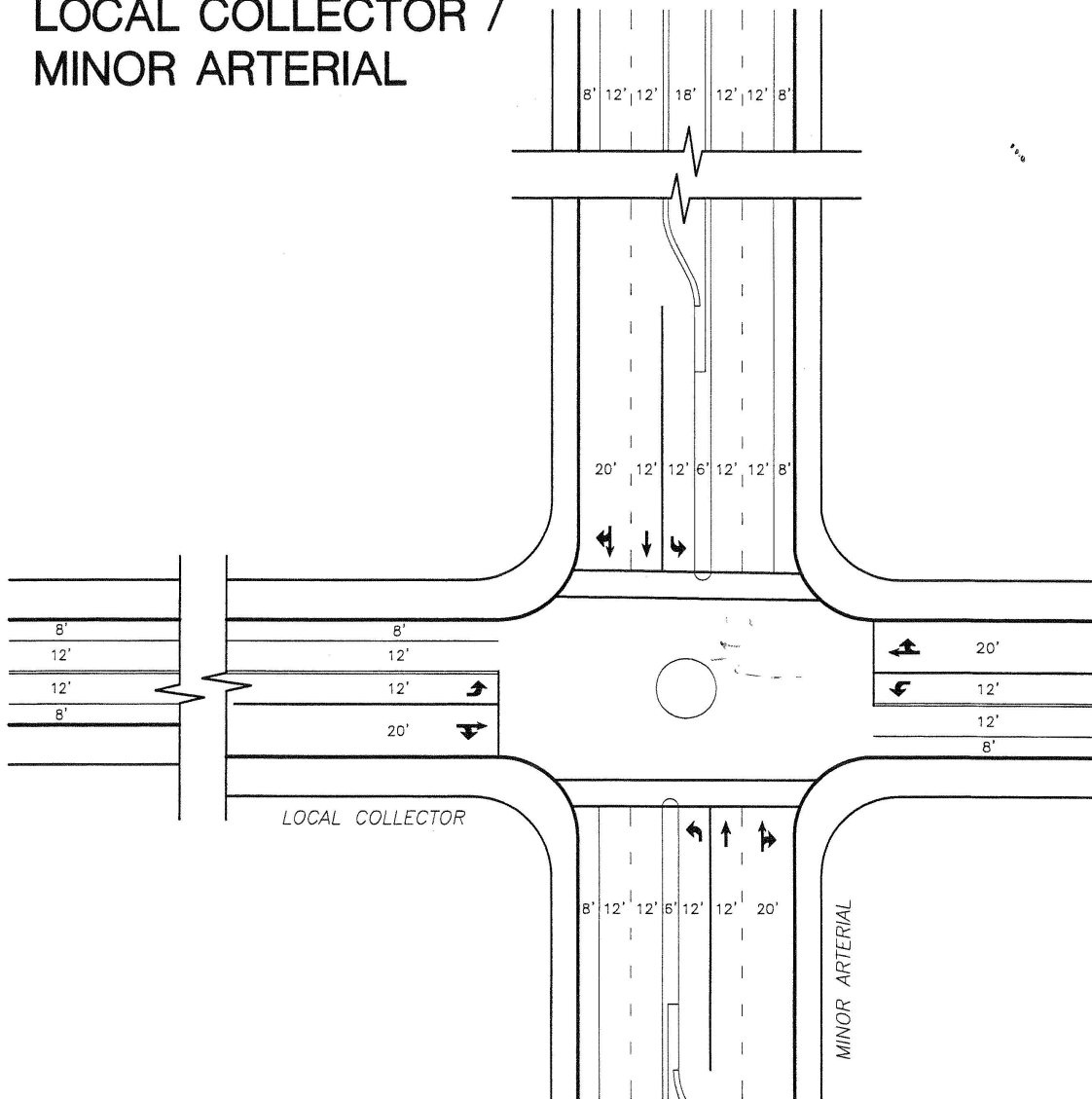
1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 2

Imperial County
Typical Intersection Layout
(Sheet 2 of 16)



LOCAL COLLECTOR / MINOR ARTERIAL



GENERAL NOTES:

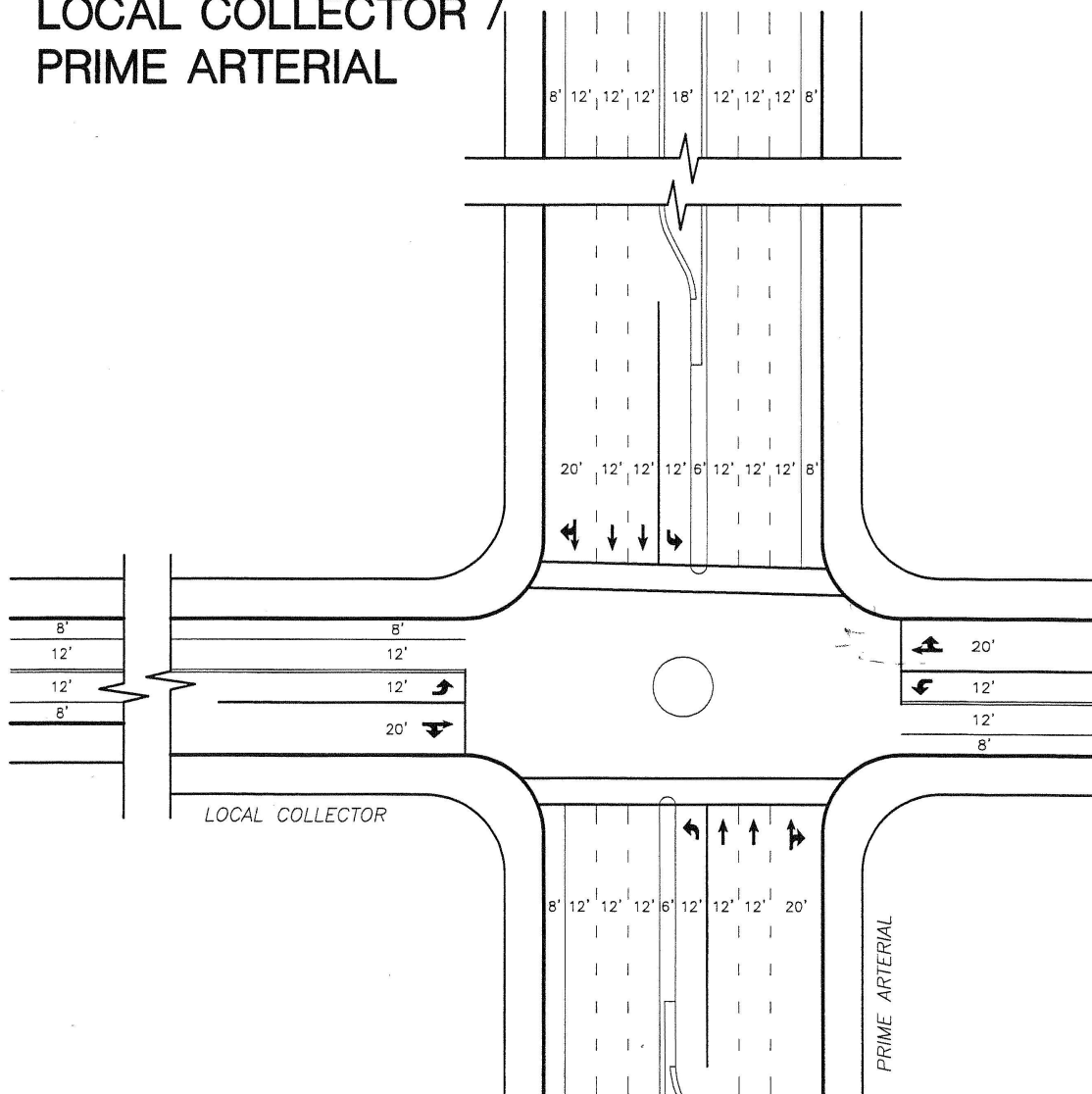
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Appendix A2 - 3

Imperial County Typical Intersection Layout (Sheet 3 of 16)



LOCAL COLLECTOR / PRIME ARTERIAL



GENERAL NOTES:

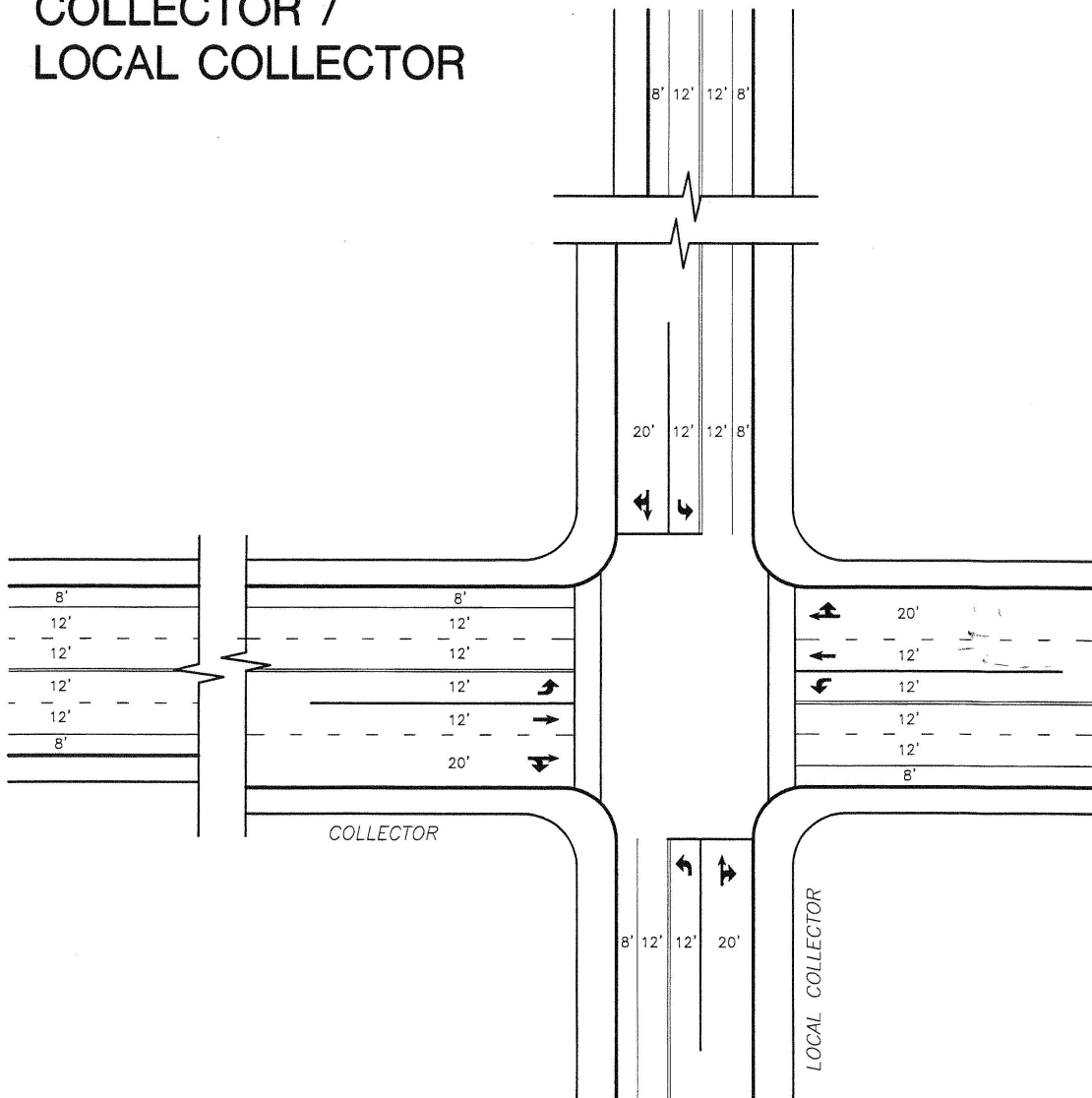
1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
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Appendix 2A - 4

Imperial County
Typical Intersection Layout
(Sheet 4 of 16)



COLLECTOR / LOCAL COLLECTOR



GENERAL NOTES:

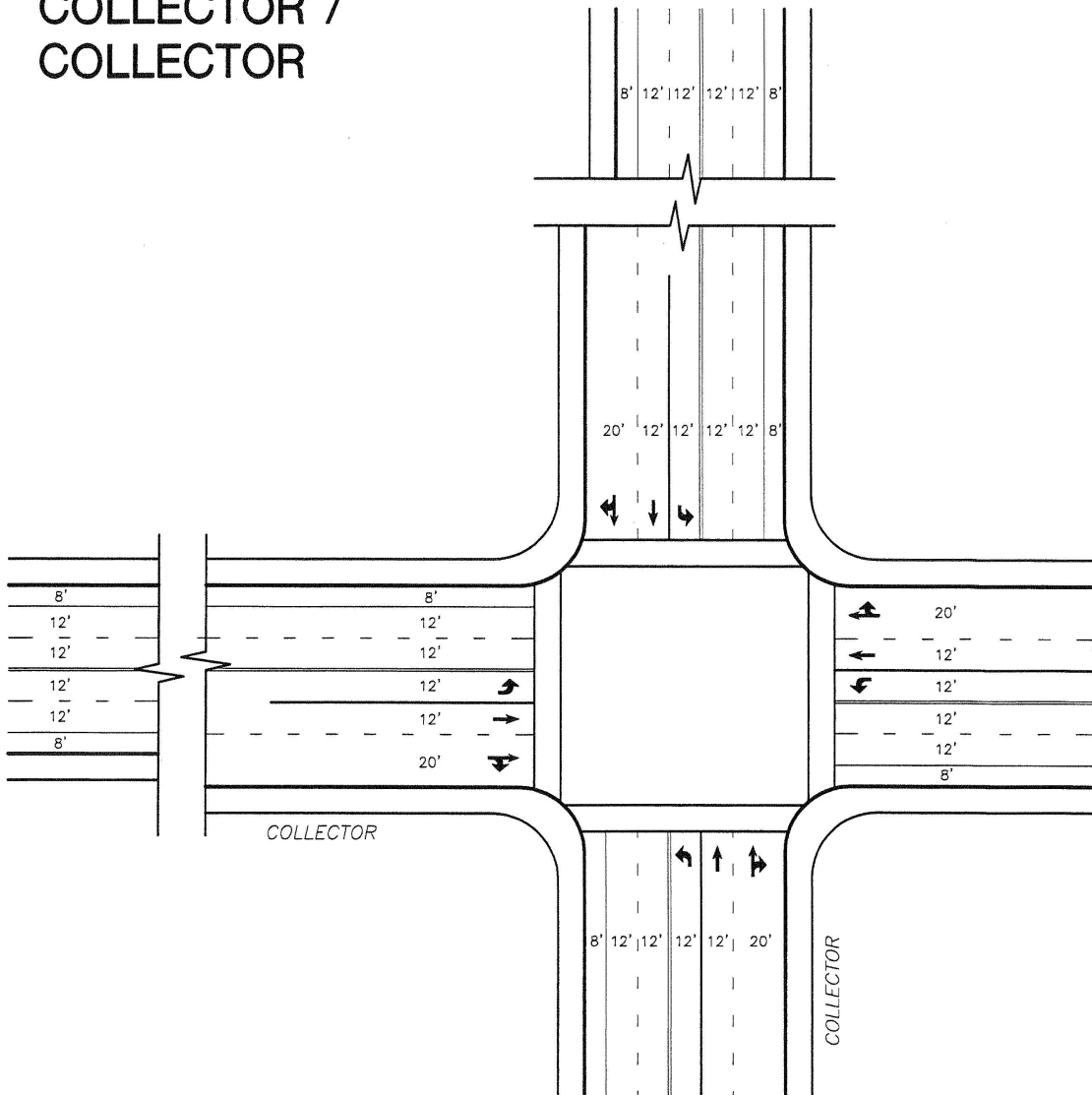
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Appendix A2 - 5

Imperial County Typical Intersection Layout (Sheet 5 of 16)



COLLECTOR / COLLECTOR



GENERAL NOTES:

1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

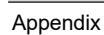
Appendix A2 - 6

Imperial County
Typical Intersection Layout
(Sheet 6 of 16)

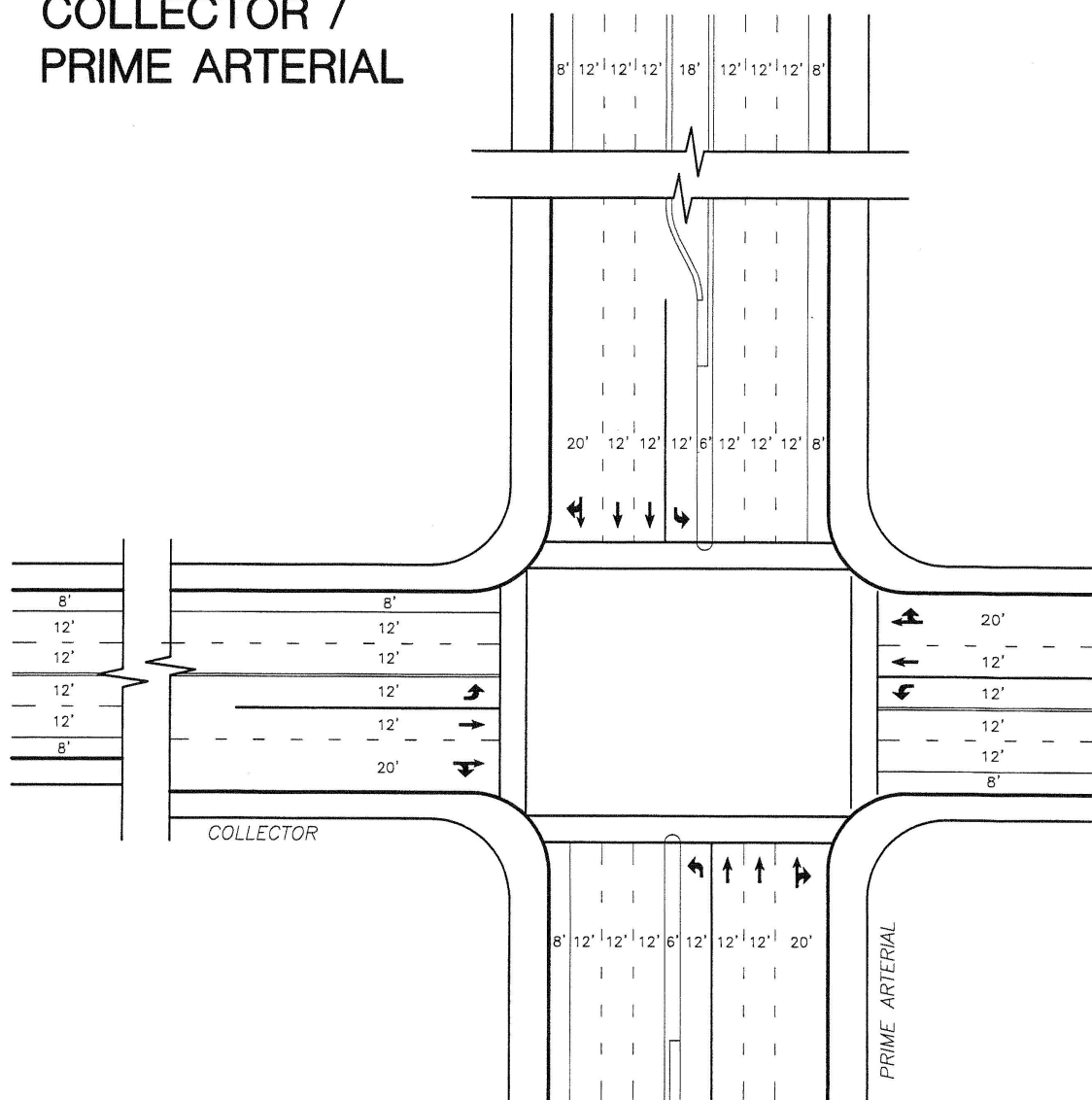


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3. Modifications to roadway classification and any widths shown are subject to County Road Commissioner determination and approval.

*Imperial County
Typical Intersection Layout
(Sheet 7 of 16)*



COLLECTOR / PRIME ARTERIAL



GENERAL NOTES:

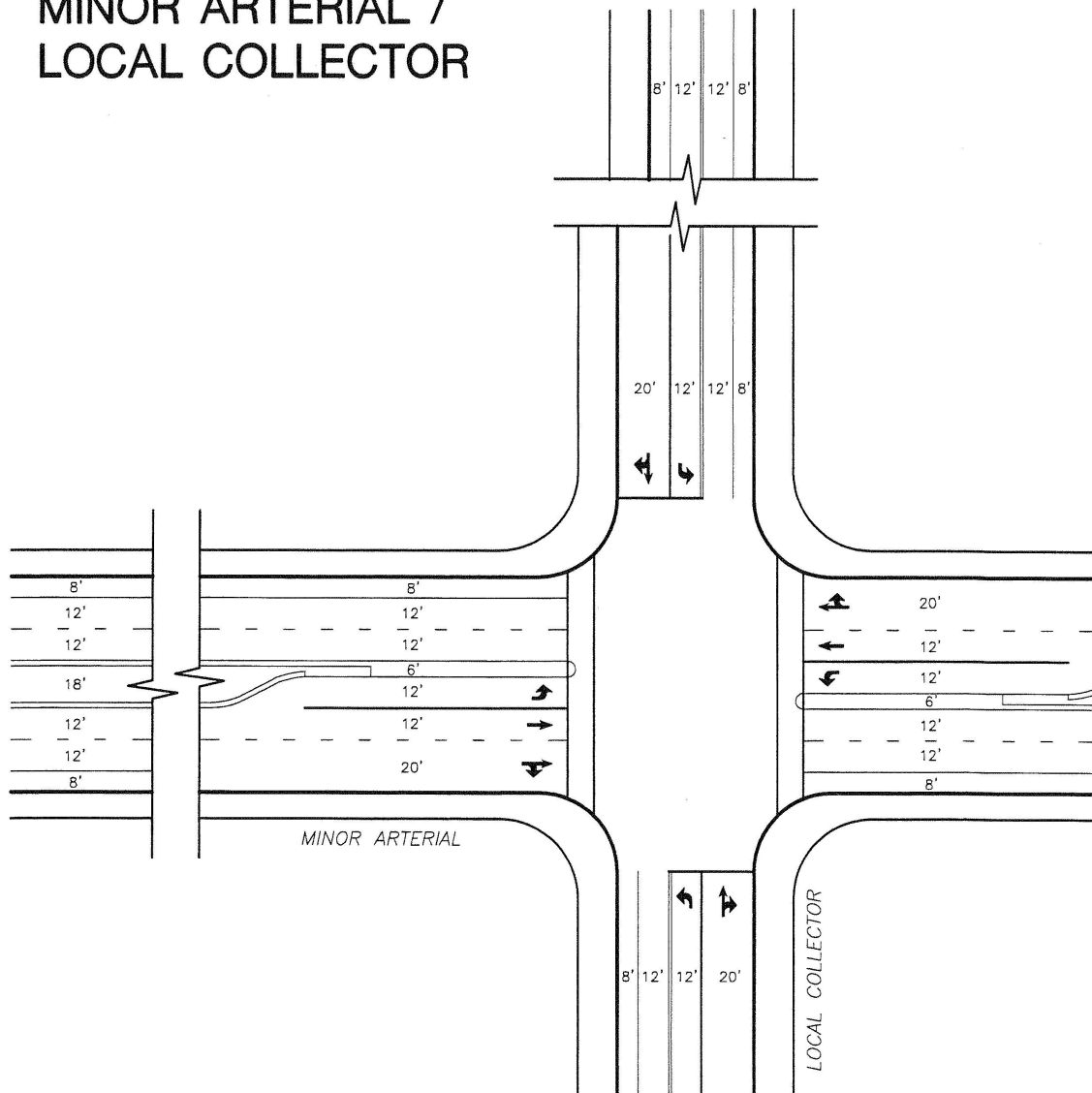
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Appendix A2 - 8

Imperial County Typical Intersection Layout (Sheet 8 of 16)



MINOR ARTERIAL / LOCAL COLLECTOR



GENERAL NOTES:

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3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 9

*Imperial County
Typical Intersection Layout
(Sheet 9 of 16)*



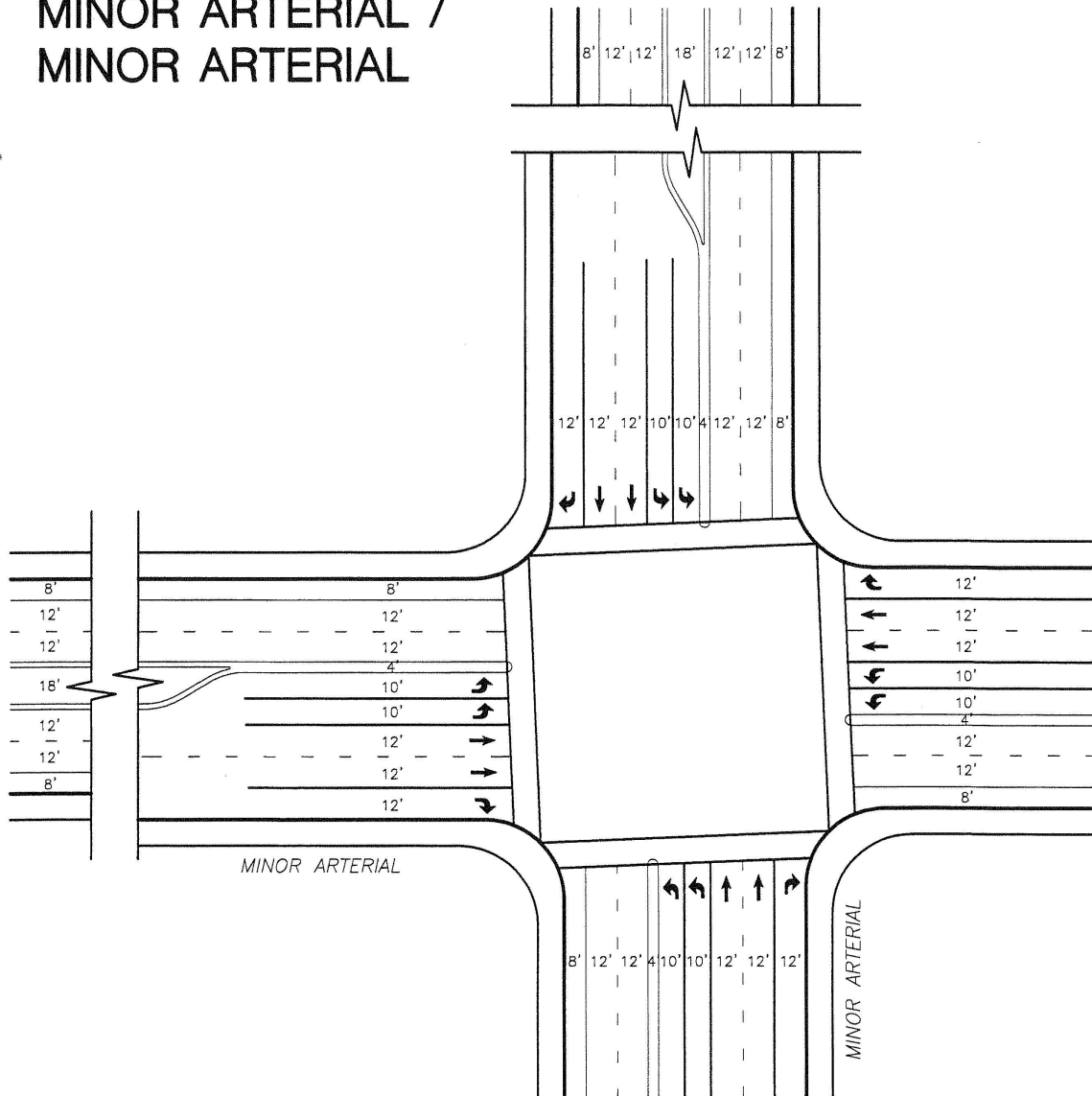
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3. Modifications to roadway classification and any widths shown are subject to County Road Commissioner determination and approval.

*Imperial County
Typical Intersection Layout
(Sheet 10 of 16)*



MINOR ARTERIAL / MINOR ARTERIAL



GENERAL NOTES:

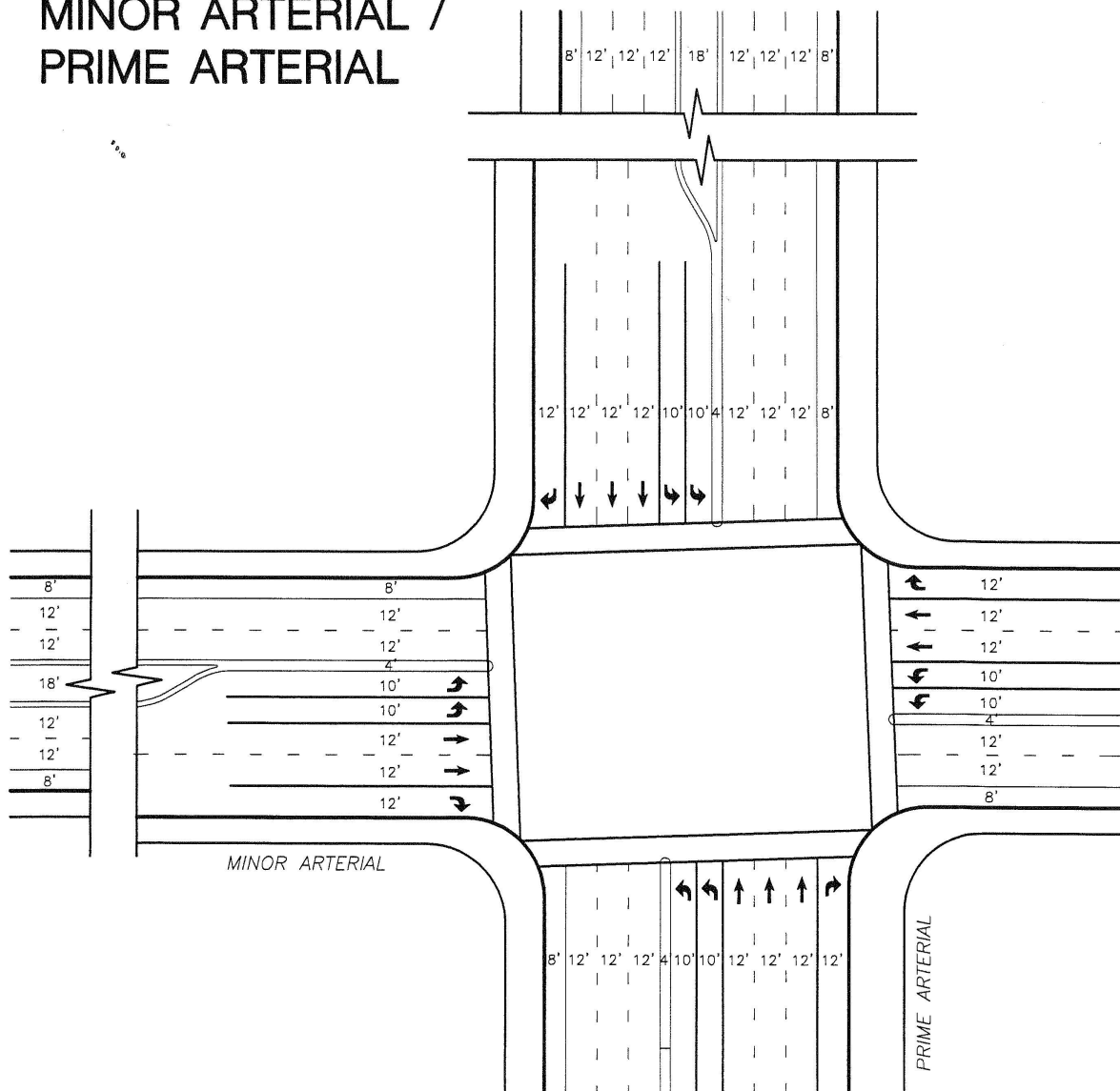
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2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 11

Imperial County
Typical Intersection Layout
(Sheet 11 of 16)



MINOR ARTERIAL / PRIME ARTERIAL



GENERAL NOTES:

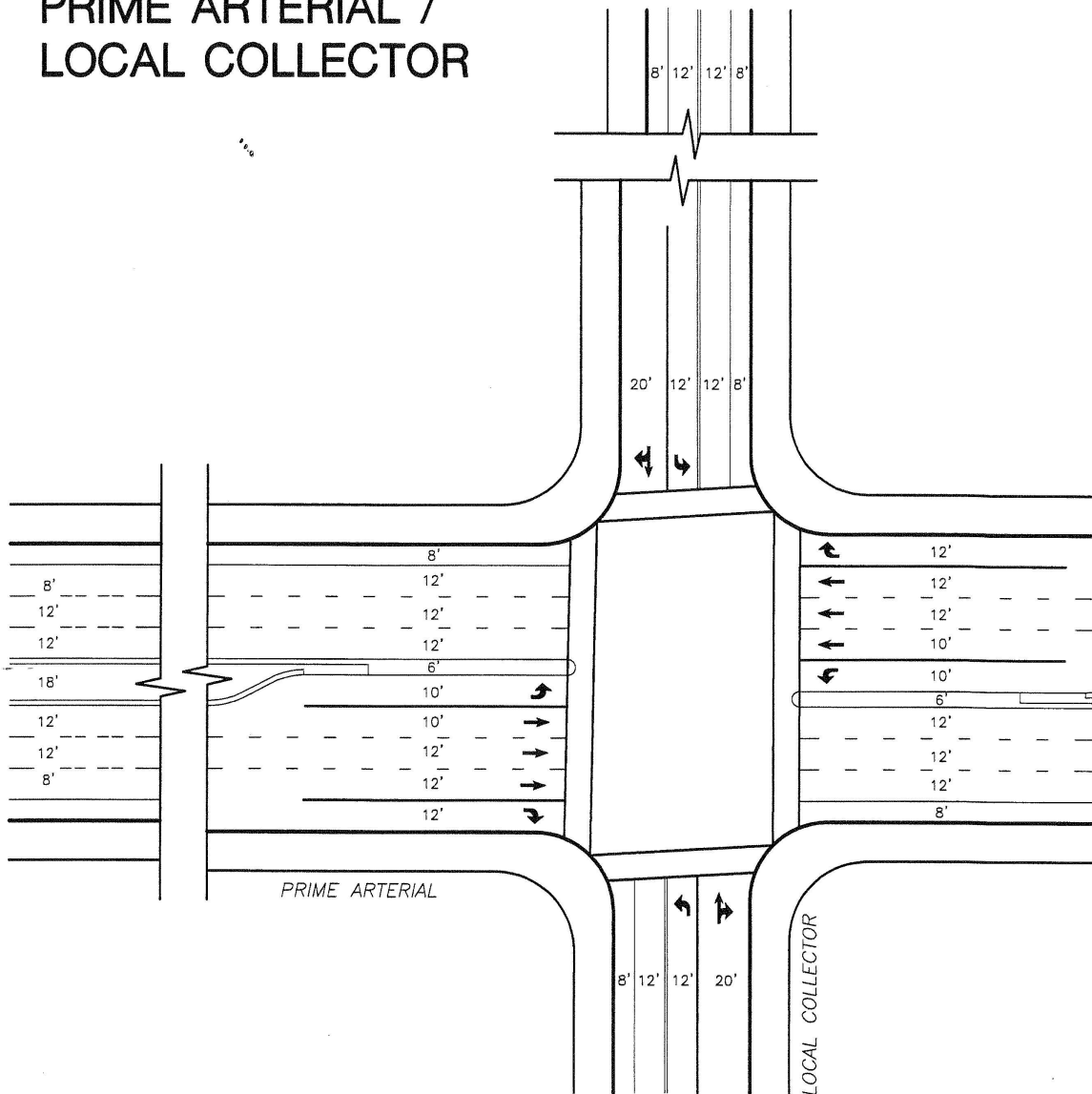
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2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 12

Imperial County Typical Intersection Layout (Sheet 12 of 16)



PRIME ARTERIAL / LOCAL COLLECTOR



GENERAL NOTES:

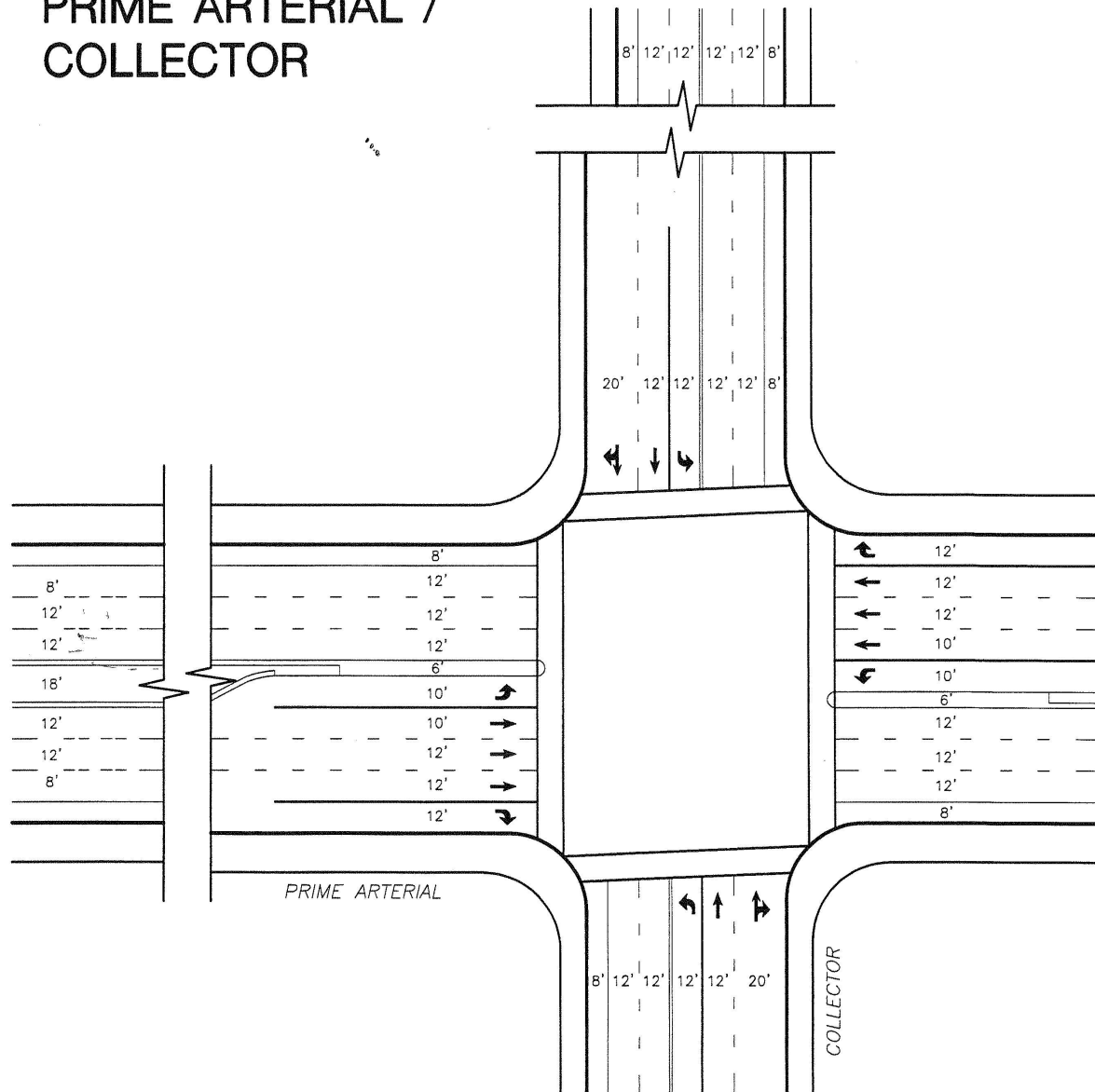
1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 13

*Imperial County
Typical Intersection Layout
(Sheet 13 of 16)*



PRIME ARTERIAL / COLLECTOR



GENERAL NOTES:

1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 14

Imperial County
Typical Intersection Layout
(Sheet 14 of 16)



The diagram illustrates a four-way intersection between a **PRIME ARTERIAL** (horizontal) and a **MINOR ARTERIAL** (vertical). The intersection is shown with a central square area, likely a traffic island or a specific lane configuration.

PRIME ARTERIAL (Horizontal):

- Left Side (Approach):** Labeled **PRIME ARTERIAL**. Lane widths from left to right: 8', 12', 12', 12', 18', 12', 12', 12', 8'.
- Right Side (Departure):** Labeled **PRIME ARTERIAL**. Lane widths from left to right: 8', 12', 12', 12', 10', 10', 4', 12', 12', 8'.

MINOR ARTERIAL (Vertical):

- Top Side (Approach):** Labeled **MINOR ARTERIAL**. Lane widths from left to right: 8', 12', 12', 18', 12', 12', 8'.
- Bottom Side (Departure):** Labeled **MINOR ARTERIAL**. Lane widths from left to right: 8', 12', 12', 4', 10', 10', 12', 12', 12'.

Intersection Details:

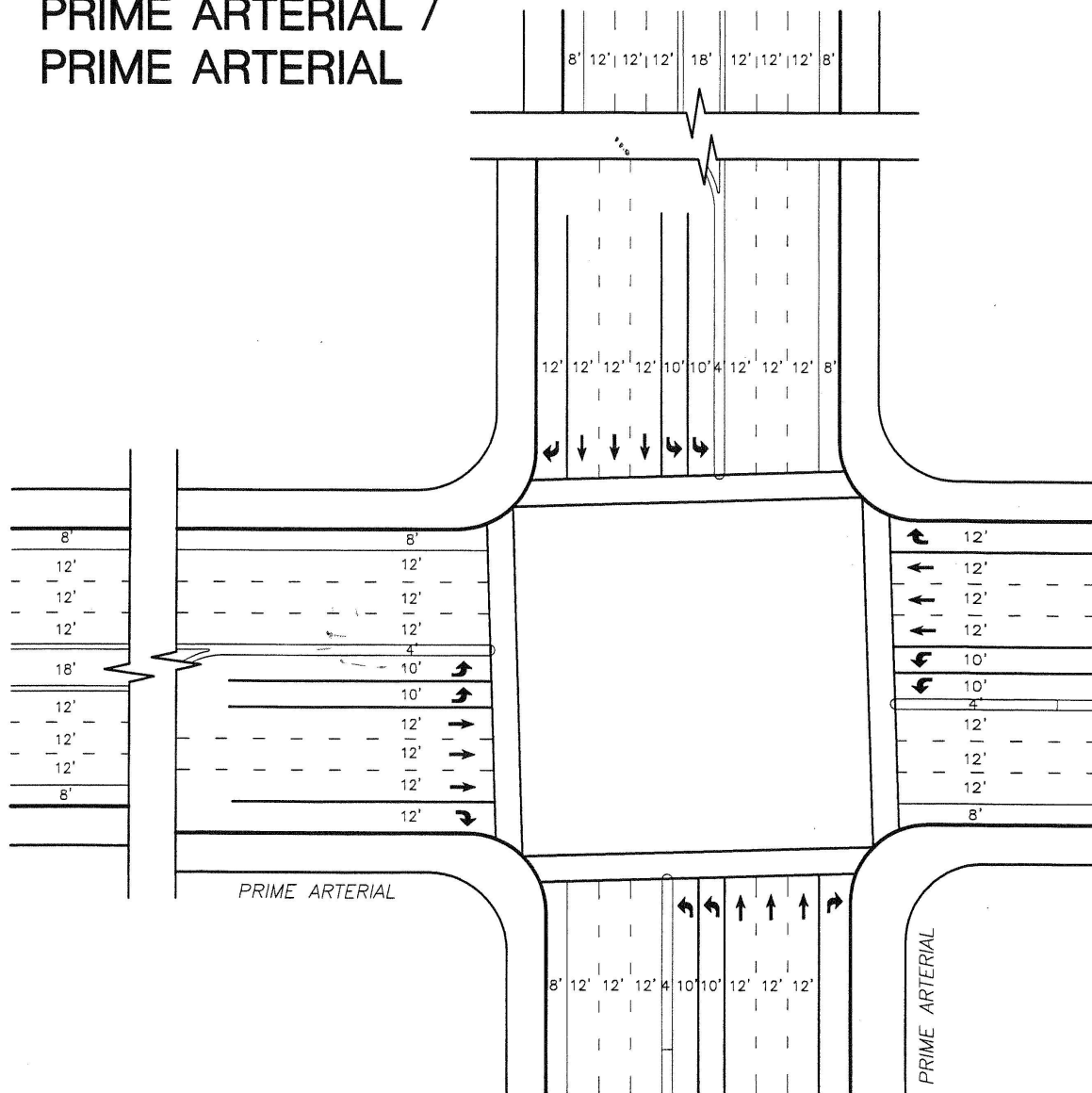
- Central Area:** A large square area in the center of the intersection, possibly a traffic island or a specific lane configuration.
- Lane Markings:** Dashed lines indicate lane boundaries. Solid lines indicate lane edges.
- Traffic Flow:** Arrows indicate the direction of traffic flow. For example, on the Prime Arterial, traffic flows from left to right and from right to left. On the Minor Arterial, traffic flows from top to bottom and from bottom to top.

1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

*Imperial County
Typical Intersection Layout
(Sheet 15 of 16)*



PRIME ARTERIAL / PRIME ARTERIAL



GENERAL NOTES:

1. Additional through lanes, dual turn lanes, or other unusual circumstances may require additional right-of-way, road surface widths, etc. in addition to those shown.
2. Roads in undeveloped, unincorporated portions of the County may require different standards such as unpaved shoulders or no curb, gutter improvements, etc.
3. Modifications to roadways classification and any widths shown are subject to County Road Commissioner determination and approval.

Appendix A2 - 16

Imperial County Typical Intersection Layout (Sheet 16 of 16)



APPENDIX B

California Scenic Highway Program Frequently Asked Questions

- **What is the California Scenic Highway Program and when did it start?**

Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

- **What elements make a highway "scenic"?**

A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

- **What does the "State Scenic Highway System" include?**

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from Caltrans' Scenic Highway Coordinators.

- **What is the difference between an "eligible" and an "officially designated" scenic highway?**

The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway.

- **What is a scenic corridor protection program?**

When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

- **What is included in a scenic corridor protection program?**

There are minimum requirements for scenic corridor protection:

1. Regulation of land use and density of development;
2. Detailed land and site planning;
3. Control of outdoor advertising (including a ban on billboards);
4. Careful attention to and control of earthmoving and landscaping; and
5. Careful attention to design and appearance of structures and equipment.

Citizen participation in developing these requirements is very important if the program is to have popular support.

● **How are the boundaries of a scenic corridor determined?**

A scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Jurisdictional boundaries of the applicants are also considered.

● **What steps are necessary to receive official designation?**

If a route is included on the list of scenic highways eligible for official designation, contact the Caltrans District Scenic Highway Coordinator for a copy of the [Guidelines for the Official Designation of Scenic Highways](#). The city or county with jurisdiction over lands adjacent to the highway must take the following steps:

1. Inspect and evaluate the route to determine if it meets the current scenic highway criteria and to what extent, if any, development has intruded on the scenic views.
2. Submit a Resolution of Intent Package to the Departmental Transportation Advisory Committee (DTAC) through the appropriate Caltrans district office. The package should include a Resolution of Intent by the local governing body, maps showing the scenic corridor and existing zoning, a map overlay of development in the corridor, a narrative description of the scenic elements, and a videotape representative of the highway segment. Caltrans District and Headquarters Scenic Highway Coordinators and DTAC evaluate each proposal. If it is determined that the corridor meets the scenic criteria, the applicant proceeds to Step 3. If the route fails this review, it is not advisable to continue seeking official designation.
3. Prepare and adopt a scenic corridor protection program. Caltrans staff and DTAC review the protection program. If it is determined that the program meets the legislative standards, a recommendation to designate the highway as scenic will be forwarded to the Caltrans Director.

● **Can highways still be added to the Scenic Highway System?**

A city or county may propose adding routes with outstanding scenic elements to the list of eligible state highways. However, state legislation is required. Local governments should consult Caltrans' District Scenic Highway Coordinator before initiating action, to ensure that the route qualifies.

● **Can county roads become part of the Scenic Highway System?**

Yes. Although there is no official list of county highways eligible for scenic designation, county highways that are believed to have outstanding scenic qualities are considered eligible. To receive official designation, the county must follow the same process required for official designation of state scenic highways.

● **How are officially designated scenic highways identified?**

Caltrans places the colorful "poppy" sign, logo of the scenic highway program, along the route. Also, the poppy logo identifies scenic highways on travel maps, and maps produced by the [State Division of Tourism](#).

● **Is there special funding for the Scenic Highway Program?**

There is no special funding for preparation of scenic highway nominations. Some types of projects on scenic highways may qualify for funding under the [Transportation Enhancement Activities \(TEA\) Program](#).

- **Can scenic highways be widened or otherwise changed?**

Official scenic highway status places no restrictions for making improvements on scenic highways. However, Caltrans works with appropriate agencies to coordinate transportation proposals and maintenance activities and to ensure the protection of scenic corridors to the maximum extent feasible.

- **Does official designation preclude development?**

No, but the corridor protection program seeks to encourage quality development that does not degrade the scenic value of the corridor.

- **Can official designation be revoked?**

The most critical element of the scenic highway program is implementation and maintenance of the scenic corridor protection program. Caltrans monitors officially designated scenic highways at least every five years. Designation can be revoked if the local government ceases to enforce its protection program. A city or county may request revocation if it no longer wishes to be part of the program.

- **What advantages does official designation offer?**

A scenic highway can create a positive image for a community, preserve and protect environmental assets and encourage tourism.

- **How can I find out more about the Scenic Highway Program?**

The Scenic Highway Coordinator at your local Caltrans district office can provide additional information.

- **Other Information on Scenic Highways**

- [Guidelines for the Official Designation of Scenic Highways](#) -- A process for the designation of official scenic highways whereby cities and/or counties develop and implement scenic protection measures.
- [What Scenic Highway Designation Can Do](#) -- The benefits of Scenic Highway Designation.
- [California Scenic Routes](#) -- A list of the officially designated California scenic highways.
- [California Scenic Highway System](#) -- A list of eligible and officially designated routes.
- [California Scenic Highway Mapping System](#) -- A description and photo tour of California's scenic routes.

- **Other Scenic Resources**

[National Scenic Byways Program](#) -- National Scenic Byways Online provides travelers with current, detailed information about scenic byways throughout the United States. NSBO also gives byway organizations easy access to government and private resources related to scenic byways.

[Office of State Landscape Architecture Homepage](#)

APPENDIX C

Guidelines for the Official Designation of Scenic Highways

(Obtained from Caltrans website)

SECTION I

INTRODUCTION AND BACKGROUND

Program History

In 1963, the State Legislature established the California Scenic Highway Program through Senate Bill 1467 (Farr). The bill declared:

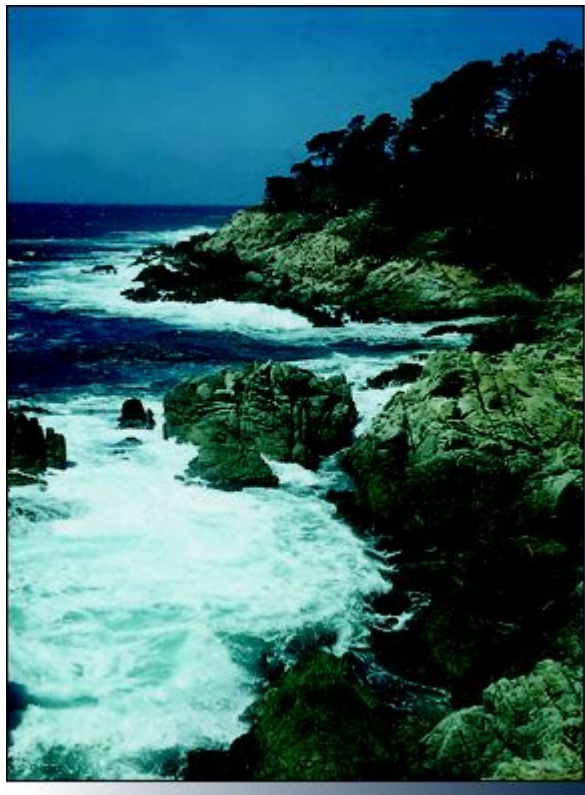
"The development of scenic highways will not only add to the pleasure of the residents of this State, but will also play an important role in encouraging the growth of the recreation and tourist industries upon which the economy of many areas of this State depend."

Senate Bill 1467 added Sections 260 et seq. to the Streets and Highways Code. In these statutes the State proclaims its intent to:

"establish the State's responsibility for the protection and enhancement of California's natural scenic beauty."

The legislation further declares the State's intent to assign responsibility for the development of scenic highways to local jurisdictions. These and related codes are located in Appendix A.

Provisions for a California Scenic Highway Program were added to the Streets and Highways Code in 1963. Since that time, key features in the Code have remained substantially unchanged.



Highway 1, Monterey County

Program Features

The following features characterize the program:

- A State Scenic Highway System that includes a list of highways eligible to become, or designated as, official scenic highways. Legislative action establishes and amends this list.
- A process for the designation of official scenic highways whereby cities and/or counties (hereafter referred to as local jurisdictions) develop and implement a scenic corridor protection program containing five pertinent, generally accepted land use planning standards.
- A legislatively appointed body, the Departmental Transportation Advisory Committee (DTAC), whose responsibilities include:
 - Recommending program criteria;
 - Reviewing applications and recommending eligible highways for official scenic highway designation; and
 - Advising the Director of the California Department of Transportation (Caltrans) to revoke the official designation of any existing scenic highway which is no longer in compliance with the program.
- A poppy sign as the logo of the California Scenic Highway Program. Caltrans places this on officially designated scenic routes.
- A process for designating county roads as official county scenic highways.



Highway 395, Mono County

SECTION II

SCENIC HIGHWAY CRITERIA

The goal of the California Scenic Highway Program is to preserve and enhance the natural beauty of California. Therefore, the merits of a nominated highway are evaluated on how much of the natural landscape a passing motorist sees and the extent to which visual intrusions (e.g., buildings, unsightly land uses, noise barriers) impact the "scenic corridor." Visual intrusions are considered in the following manner:

- The more pristine and unaffected by intrusions, the more likely the nominated highway will qualify as scenic.
- Where intrusions have occurred, the less the impact on an area's natural beauty, the more likely the nominated highway will qualify as scenic.
- The extent to which intrusions, rather than the natural landscape, dominate views from the highway determines the significance of their impact on the scenic corridor.

State highways nominated for scenic designation must be included on the list of highways eligible for scenic designation in the State Scenic Highway System. These highways are identified in Section 263 of the Streets and Highways Code, located in Appendix A. A process for adding "eligible" highways to the system is described in Section III.

Scenic highway nominations will be evaluated using the following qualifications:

- The proposed scenic highway is principally within an unspoiled native habitat and showcases the unique aspects of the landscape. However, the scenic corridor can also showcase agriculture or manmade water features.
- Existing visual intrusions do not significantly impact the scenic corridor.
- Strong local support for the proposed scenic highway designation is demonstrated.
- The length of the proposed scenic highway is not short or segmented.

After it is determined the proposed scenic highway satisfies these qualifications, the local jurisdiction, with support of its citizens, must adopt a program to protect the scenic corridor. The zoning and land use along the highway must meet the State's minimum requirements for scenic highway corridor protection as stated in Section IV.

Scenic Corridor: defined as the area of land generally adjacent to and visible from the highway. It is usually limited by topography and/or jurisdictional boundaries.



Highway 89, Hope Valley Area, El Dorado County

SECTION III NOMINATION PROCESS

Obtaining Eligibility

If a route is not included on the list of highways eligible for scenic highway designation in the Streets and Highways Code Section 263 et seq. (see Appendix A), it must be added before it can be considered for official designation. Additions and deletions can only be made through legislative action. As a general policy, short or segmented routes are not recommended for inclusion in the State Scenic Highway System. If several suitable routes within a jurisdiction are being considered, they can be incorporated by means of a single piece of legislation.

It is advisable that the local jurisdiction consult with the Caltrans District Scenic Highway Coordinator and/or Headquarters Scenic Highway Coordinator to determine suitability for scenic designation before seeking legislative action. A listing of Caltrans Headquarters and District Offices is found in Appendix C.

Additions and deletions to the list of highways eligible for scenic designation can only be made through legislative action.

Eligible Scenic Highways

The application for nominating eligible scenic highways for official designation requires the preparation of a visual assessment and a resolution package. The resolution package is to include a resolution of intent, two maps, a video, and a narrative description of the scenic elements in the corridor, including intrusions on scenic views. Steps for completing the application are explained below. A chart summarizing the process and procedure is found in Appendix B.

STEP 1 - VISUAL ASSESSMENT

The local jurisdiction is to prepare a brief visual assessment, in the form of a written summary, to familiarize themselves and Caltrans' staff with the proposed scenic highway. The purpose of the

visual assessment is to inventory the natural landscape (e.g., landforms, vegetation, water features) and the type and amount of visual intrusions along the proposed scenic highway.

Since California contains several diverse landscape regions, the merits of a particular landscape are considered within the context of its own region. However, the highway should go through an area of outstanding scenic quality, containing striking views, flora, geology, and other unique natural attributes.

The following three visual concepts are to be addressed in the visual assessment:

- **Vividness** - the extent to which the landscape is memorable. This is associated with the distinctiveness, diversity and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.
- **Intactness** - the integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions.

Not more than one third of the proposed scenic highway should be impacted by major intrusions.* Examples of visual intrusions are found in Appendix D.

- **Unity** - the extent to which intrusions are sensitive to and in visual harmony with the natural landscape.

Major intrusions are those that dominate the landscape, degrading or obstructing scenic views

STEP 2 - CONSULTATION WITH CALTRANS

The local jurisdiction is to discuss and field review the visual assessment with the Caltrans District Scenic Highway Coordinator before proceeding to Step 3. A map showing Caltrans district locations and telephone numbers is found in Appendix C.

STEP 3 - SCENIC HIGHWAY RESOLUTION PACKAGE

The local jurisdiction for the lands adjacent to the proposed scenic highway must prepare a scenic highway resolution package, consisting of the following:

MINOR

intrusions are those that are either complementary to the landscape or are recognized cultural or historical significance. Color these yellow.

A. Resolution of Intent - An official Resolution of Intent is to be enacted by the local governing body. This should cite the reason for seeking official scenic designation. It is highly advisable to place the discussion of this resolution on the agenda at a regularly scheduled public meeting to allow public input at the beginning of the project.

B. Topographic map and map overlay - A two-part mapping procedure is required to illustrate the visual quality of the proposed scenic highway.

A topographic map (USGS or comparable) should show the suggested scenic corridor boundaries and proposed scenic highway limits. The map should show natural features in the landscape (land forms, water, vegetative cover) that make it scenic and include any visual intrusions within the scenic corridor. Also, Caltrans post-mile designations should be shown.

MODERATE

intrusions are those that are integrated into the landscape and do not degrade or

The map overlay should be colored where minor, moderate, and major intrusions are shown on the underlying topographic map (see definitions and colors at left). A chart listing examples of intrusions is

obstruct scenic views. Color these orange.

provided in Appendix D.

C. Zoning map - A zoning map delineating the scenic corridor and showing allowable land use.

D. Narrative - A narrative description of the elements that make the route scenic. This would include natural features, structures of historical significance and other scenic resources visible from the highway. In addition, the narrative must describe present zoning and future plans for lands in the scenic corridor. It should also describe the type (e.g., buildings, unsightly land uses, noise barriers) and extent of intrusions on scenic views.

MAJOR
intrusions are those that dominate the landscape, degrading or obstructing scenic views. Color these red.

E. Video - A modest (15 minutes maximum) video cassette tape showing both sides of the corridor, or a representative sample (as attested to by the department) of the characteristics along the corridor, as viewed by the motorist. The video will be used to familiarize DTAC with the proposed scenic highway and for future reference.

STEP 4 - CALTRANS REVIEW OF RESOLUTION PACKAGE

Following receipt of the Scenic Highway Resolution Package, the Caltrans District and Headquarters Scenic Highway Coordinators will review the resolution package for completeness and accuracy and evaluate the proposed scenic highway for official designation potential. The evaluation will be based on the qualifications stated in Section II.

STEP 5 - DTAC REVIEW OF RESOLUTION PACKAGE

The Scenic Highway Resolution Package, as well as recommendations by the District and Headquarters Scenic Highway Coordinators, will be sent to DTAC prior to the meeting at which the project will be discussed. Local jurisdiction applicants will be notified of the meeting and may attend at their discretion. After receiving approval by DTAC, the local jurisdiction can proceed to Section IV.

If DTAC determines that the route proposed for designation does not meet the legislative intent of the California Scenic Highway Program, which is to showcase the State's natural scenic beauty, the local jurisdiction should stop here.

If DTAC does not approve the proposed route, the local jurisdiction should stop proceedings.

SECTION IV **DESIGNATION PROCESS**

STEP 1 - PREPARATION AND ADOPTION OF SCENIC CORRIDOR PROTECTION PROGRAM

This step requires the local jurisdiction to develop and adopt protection measures in the form of ordinances to apply to the area of land within the scenic corridor. Such regulations may already exist in various portions of local codes. They should, however, be assembled under an easy to

read format that includes, at a minimum, the five legislatively required standards listed below. They should be written in sufficient detail to avoid broad discretionary interpretation.

Scenic Corridor Protection Programs do not preclude development but ensure compatible development that is consistent with the community's scenic values and goals of the California Scenic Highway Program.

Minimum Standards

The five minimum requirements* under Section 261 of the Streets and Highways Code are:

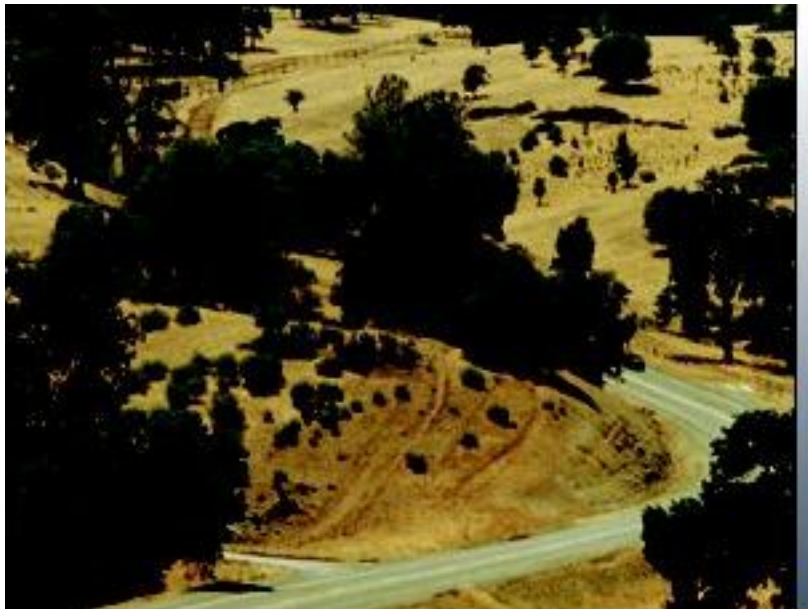
- Regulation of land use and density of development (i.e., density classifications and types of allowable land uses),
- Detailed land and site planning (i.e., permit or design review authority and regulations for the review of proposed developments),
- Prohibition of off-site outdoor advertising** and control of on-site outdoor advertising,
- Careful attention to and control of earthmoving and landscaping (i.e., grading ordinances, grading permit requirements, design review authority, landscaping and vegetation requirements), and
- The design and appearance of structures and equipment (i.e., placement of utility structures, microwave receptors, etc.).

* also see "Undergrounding of Utility Lines" in Section VI.

** as required per Section 5440.1 of the Business and Professions Code (Outdoor Advertising Act)

Public Participation

Public participation is an important part of the preparation of a scenic corridor protection program. Affected property owners, local citizens' committees, environmental groups and anyone else who might be impacted or interested in the proposed designation should be involved at the earliest possible date to afford ample time for review and comment before official action is taken. Notification by mail to affected property owners is strongly suggested. Effective citizen participation will result in a protection program which generally meets local desires and will reduce the probability of last minute controversy.



Highway 4, Calaveras County

STEP 2 - CALTRANS REVIEW OF PROTECTION PROGRAM

Following the adoption of the scenic corridor protection program, the local jurisdiction submits a request for official designation to Caltrans. The request should be addressed to: Chair, Departmental Transportation Advisory Committee. The submittal must include:

- The adopted scenic corridor protection program, arranged under the headings of the five required minimum standards,
- A brief description of the process employed for public participation, and
- Evidence of adoption of protection program (i.e., official resolution).

The protection program will be reviewed by the Caltrans District and Headquarters Scenic Highway Coordinators. They will check for compliance with the five minimum requirements described in this section, and if necessary, indicate to the jurisdiction any deficiencies of the scenic corridor protection program. If the deficiencies are corrected or the original submittal is found to be adequate, the coordinators will recommend that DTAC approve the request for official scenic highway designation of the route.

STEP 3 - DTAC REVIEW OF PROTECTION PROGRAM

Upon receipt of the Caltrans staff review, if DTAC concurs that the scenic corridor protection program is adequate, it will recommend official designation of the route to the Director of Caltrans.

STEP 4 - OFFICIAL DESIGNATION AND PLACEMENT OF POPPY SIGNS

If the Director agrees with the DTAC recommendation, the route will be designated an official state or county scenic highway. This will be indicated in departmental publications or maps for public distribution. The department will place and maintain poppy signs along the scenic highway. Standards for scenic highway signing are published in the Caltrans Traffic Manual. They call for the following:

- Posting standard poppy signs (48" x 26"), when appropriate, with the words "scenic route," to identify routes which have been designated as official state scenic highways. The sign is installed on the right at the beginning of the scenic route. A standard sign indicating "begin" (26" x 12") may be used with this sign.
- Posting standard poppy signs (12" x 18" or 18" x 27") at beginning, end and/or intermittent locations on the state scenic highway. These signs are posted below and on the same post as the route shields. On conventional highways, these signs will be installed at important urban and rural intersections and at three- to five-mile intervals in rural areas. Standard signs indicating "begin" (26" x 12") and/or "end" (18" x 12") may be used in combination with these signs.
- Posting standard five-sided poppy signs (18" x 18" or 24" x 24") at beginning and/or intermittent locations on the county scenic highway.

All requests for new or replacement signs must be ordered and approved by the Caltrans District Traffic Engineer.



SECTION V

MONITORING PROCESS

The degree to which a scenic corridor protection program is successful depends on enforcement of the protection measures. This requires that the Caltrans district staff remain familiar with the requirements of the protection program and experienced in inspection procedures.

To maintain the consistency and integrity of the California Scenic Highway Program, Caltrans, in conjunction with DTAC, will conduct a monitoring program. The appropriate local jurisdiction will be asked to attest to continued enforcement of the approved corridor protection measures once every five years. The District Scenic Highway Coordinator will inspect the scenic highway to confirm compliance.

Caltrans, with the advice of DTAC, is authorized by statute to revoke official scenic highway designations if the scenic corridor protection program has ceased to be enforced or if it is determined that the scenic appearance of the corridor has not been protected.

Caltrans will extend designation for another five years if the local jurisdiction has reasonably enforced its adopted corridor protection measures. If the local jurisdiction is not in compliance, Caltrans will send notification of the infraction(s). When it is feasible for the local jurisdiction to remedy the infraction(s), a time period of one year (from the date of the notification) will be granted to make corrections. When the infraction(s) cannot be remedied, the scenic highway designation will be revoked.

A local jurisdiction may request that Caltrans remove a route from Official Scenic Highway status at any time.

SECTION VI

MISCELLANEOUS

Route Realignments and Relocation

When a route is realigned from its original location, scenic designation or eligibility status is not necessarily carried over. The new alignment may be eligible if the original route was either a designated or eligible scenic highway and it essentially covers similar terrain and other natural features. Scenic designation may be transferred if the new alignment remains within the protected scenic corridor. These determinations will be made by the Caltrans District and Headquarters Scenic Highway Coordinators with the advice of DTAC.

County Scenic Highways

County roads and highways that are scenic may be designated as official county scenic highways. The designation process is initiated in the same manner as for a state scenic highway. When the department, with the advice of DTAC, determines that the county highway meets the minimum standards for official state scenic highways prescribed in this guide, the department may authorize the route to be signed as an official county scenic highway.

Undergrounding of Utility Lines

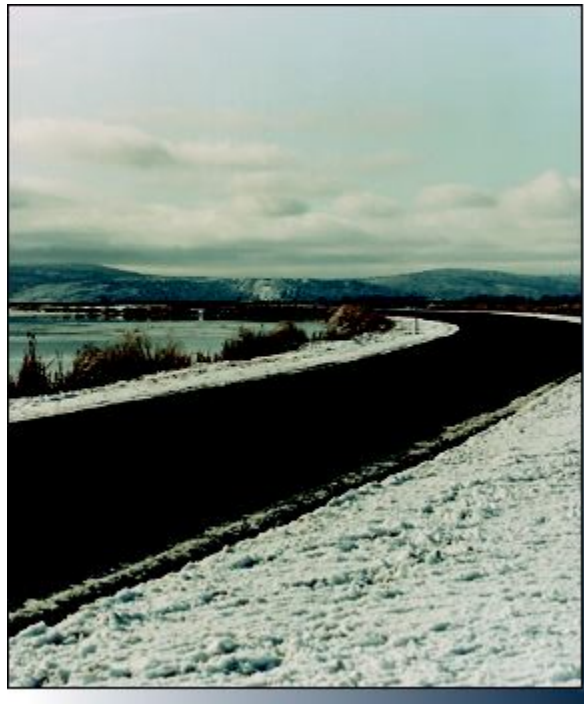
Section 320 of the California Public Utilities Code requires that all new or relocated electric and communication distribution facilities within 1,000 feet of an official designated scenic highway and visible from that highway, be buried undergrounded where feasible. Appendix A provides the full

text of Section 320. Copies of the Public Utilities Commission's Order and Court Decisions Relating to Section 320, which can be obtained from the Caltrans District Scenic Highway Coordinator, provide more detail on utility undergrounding.

Effects of Official Designation on Future Highway Construction and Maintenance Activities

Highway construction proposed on designated state scenic highways is evaluated in terms of the visual impact to scenic views as part of the environmental process. If major impacts occur, then appropriate mitigation measures shall be proposed. Generally, designating portions of a route as a scenic highway would not substantially alter the type of project proposed nor the environmental clearance process.

There are no special restrictions for construction or maintenance activities on scenic highways. However, Caltrans works with appropriate agencies to coordinate transportation proposals and maintenance activities and to ensure the protection of scenic corridors to the maximum extent feasible.



Route 88, Alpine County

APPENDIX A
STATUTES RELATING TO THE CALIFORNIA STATE SCENIC HIGHWAY PROGRAM

STREETS AND HIGHWAY CODE
Division 1, Chapter 2, Article 2.5

260. LEGISLATIVE INTENT

It is the intent of the Legislature in designating certain portions of the state highway system as state scenic highways to establish the State's responsibility for the protection and enhancement of California's natural scenic beauty by identifying those portions of the state highway system which, together with the adjacent scenic corridors, require special scenic conservation treatment. It is further declared to be the intent of the Legislature in designating such scenic highways to assign responsibility for the development of such scenic highways and for the establishment and application of specific planning and design standards and procedures appropriate thereto and to indicate, in broad statement terms, the location and extent of routes and areas requiring continuing and careful coordination of planning, design, construction, and regulation of land use and development, by state and local agencies as appropriate, to protect the social and economic values provided by the State's scenic resources.

261. PLANNING AND DESIGN STANDARDS; COMPLETE HIGHWAY

The department shall, with the advice of the Departmental Transportation Advisory Committee, establish and apply pertinent planning and design standards for development of official scenic highways. In establishing and applying such standards for, and undertaking the development of official scenic highways, the department shall take into consideration the concept of the "complete highway" which is a highway which incorporates not only safety, utility, and economy, but also beauty. The department shall also take into consideration in establishing such standards that, in a "complete highway," pleasing appearance is a consideration in the planning and design process. In the development of official scenic highways, the department shall give special attention both to the impact of the highway on the landscape and to the highway's visual appearance. The standards for official scenic highways shall also require that local governmental agencies have taken such action as may be necessary to protect the scenic appearance of the scenic corridor, the band of land generally adjacent to the highway right-of-way, including, but not limited to (1) regulation of land use and intensity (density) of development; (2) detailed land and site planning; (3) control of outdoor advertising; (4) careful attention to and control of earthmoving and landscaping; and (5) the design and appearance of structures and equipment.

262. DESIGNATION AS SCENIC HIGHWAYS

Whenever the department determines that the corridor protection program for any state highway in the state scenic highway system established by this article has been implemented by local governmental agencies and a plan and program has been developed by the department for bringing the highway up to the standards for official scenic highways established by the department, including the concept of the "complete highway," as described in Section 261, the department shall designate the highway as an official state scenic highway and shall so indicate the highway in any publications of the department or in any maps which are issued by the department to the public.

The department shall cause appropriate signs to be placed and maintained along the portions of the state scenic highway system which the department has designated as official state scenic highways that indicate that the highways are official state scenic highways.

If at any time the department, with the advice of the Departmental Transportation Advisory Committee, determines that the corridor protection program of local governmental agencies, with respect to any highway which has been designated as an official state scenic highway no longer adequately carries out responsibility of the local governmental agencies for the protection of the scenic corridor, it may revoke the designation of the highway as an official state scenic highway and remove the signs which so indicate the highway.

262.1 LOCATION AND CONSTRUCTION OF NEW DISTRICT FACILITY OF LOCAL AGENCY WITHIN SCENIC CORRIDOR; APPROVAL

A local agency as defined in subdivision (c) of Section 65402 of the Government Code, shall coordinate its planning with, and obtain the approval from, the appropriate local planning agency on the location and construction of any new district facility that would be within the scenic corridor of any state scenic highway.

263. SCENIC HIGHWAY SYSTEM; ESTABLISHMENT; COMPOSITION

The state scenic highway system is hereby established and shall be composed of the highways specified in this article. The highways listed in Sections 263.1 to 263.8, inclusive are either eligible for designation as state scenic highways or have been so designated.

263.1 THE STATE SCENIC HIGHWAY SYSTEM SHALL INCLUDE:

Routes 28, 35, 38, 52, 53, 62, 74, 75, 76, 89, 96, 97, 127, 150, 151, 154, 156, 158, 161, 173, 197, 199, 203, 209, 221, 236, 239, 243, 247, 254, and 330 in their entirety.

263.2 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 1 TO 4

The state scenic highway system shall also include:

- Route 1 from: (a) Route 5 south of San Juan Capistrano to Route 19 near Long Beach, (b) Route 187 near Santa Monica to Route 101 near El Rio, (c) Route 101 at Las Cruces to Route 246 near Lompoc, (d) Route 227 south of Oceano to Route 101 near Pismo Beach, (e) Route 101 near San Luis Obispo to Route 35 near Daly City, (f) Route 35 in San Francisco to Route 101 near the approach to the Golden Gate Bridge in San Francisco, (g) Route 101 near Marin City to Route 101 near Leggett.
- Route 2 from Route 210 in La Canada Flintridge to Route 138 via Wrightwood.
- Route 3 from: (a) Route 36 near Peanut to Route 299 near Douglas City, (b) Route 299 near Weaverville to Montague.
- Route 4 from: (a) Route 160 near Antioch to Route 84 near Brentwood, (b) Route 49 near Angels Camp to Route 89.

263.3 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 5, 8 TO 10, 12, 14 TO 18, 20, 24, 25, 27, 29, 30, 33 AND 36

The state scenic highway system shall also include:

- Route 5 from: (a) The international boundary near Tijuana to Route 75 near the south end of San Diego Bay, (b) San Diego opposite Coronado to Route 74 near San Juan Capistrano, (c) Route 210 near Tunnel Station to Route 126 near Castaic, (d) Route 152 west of Los Banos to Route 580 near Vernalis, (e) Route 44 near Redding to the Shasta

- Reservoir, (f) Route 89 near Mt. Shasta to Route 97 near Weed, (g) Route 3 near Yreka to the Oregon state line near Hilts.
- Route 8 from Sunset Cliffs Boulevard in San Diego to Route 98 near Coyote Wells.
- Route 9 from: (a) Route 1 near Santa Cruz to Route 2 near Boulder Creek, (b) Route 236 near Boulder Creek to Route 236 near Waterman Gap, (c) Route 236 near Waterman Gap to Route 35, (d) Saratoga to Route 17 near Los Gatos, (e) Blaney Plaza in Saratoga to Route 35.
- Route 10 from Route 38 near Redlands to Route 62 near Whitewater.
- Route 12 from Route 101 near Santa Rosa to Route 121 near Sonoma.
- Route 14 from Route 58 near Mojave to Route 395 near Little Lake.
- Route 15 from: (a) Route 76 near the San Luis Rey River to Route 91 near Corona, (b) Route 58 near Barstow to Route 127 near Baker.
- Route 16 from Route 20 to Capay.
- Route 17 from Route 1 near Santa Cruz to Route 9 near Los Gatos.
- Route 18 from Route 138 near Mt. Anderson to Route 247 near Lucerne Valley.
- Route 20 from: (a) Route 1 near Fort Bragg to Route 101 near Willits, (b) Route 101 near Calpella to Route 16, (c) Route 49 near Grass Valley to Route 80 near Emigrant Gap.
- Route 24 from the Alameda-Contra Costa county line to Route 680 in Walnut Creek.
- Route 25 from Route 198 to Route 156 near Hollister.
- Route 27 from Route 1 to Mulholland Drive.
- Route 29 from: (a) Route 37 near Vallejo to Route 221 near Napa, (b) The vicinity of Trancas Street in northwest Napa to Route 20 near Upper Lake.
- Route 30 from Route 330 near Highland to Route 10 near Redlands.
- Route 33 from: (a) Route 101 near Ventura to Route 150, (b) Route 150 to Route 166 in Cuyama Valley, (c) Route 198 near Coalinga to Route 198 near Oilfields.
- Route 36 from: (a) Route 101 near Alton to Route 3 near Peanut, (b) Route 89 near Morgan Summit to Route 89 near Deer Creek Pass.

263.4 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 37, 39 TO 41, 44, 46, 49, 50, 57, 58, 68, 70 AND 71

The state scenic highway system shall also include:

- Route 37 from: (a) Route 251 near Nicasio to Route 101 near Novato, (b) Route 101 near Ignacio to Route 29 near Vallejo.
- Route 39 from Route 210 near Azusa to Route 2.
- Route 40 from Barstow to Needles.
- Route 41 from: (a) Route 1 near Morro Bay to Route 101 near Atascadero, (b) Route 46 near Cholame to Route 33, (c) Route 49 near Oakhurst to Yosemite National Park.
- Route 44 from Route 5 near Redding to Route 89 near Old Station.
- Route 46 from: (a) Route 1 near Cambria to Route 101 near Paso Robles, (b) Route 101 near Paso Robles to Route 41 near Cholame.
- Route 49 from: (a) Route 41 near Oakhurst to Route 120 near Moccasin, (b) Route 120 to Route 20 near Grass Valley, (c) Route 20 near Nevada City to Route 89 near Sattley.
- Route 50 from Route 49 near Placerville to the Nevada state line near Lake Tahoe.
- Route 57 from Route 90 to Route 60 near Industry.
- Route 58 from Route 14 near Mojave to Route 15 near Barstow.
- Route 68 from Monterey to Route 101 near Salinas.
- Route 70 from Route 149 near Wicks Corner to Route 83 north of Corona.
- Route 71 from Route 91 near Corona to Route 83 north of Corona.

263.5 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 78 TO 80, 84, 88, 91, 92 AND 94

The state scenic highway system shall also include:

- Route 78 from Route 79 near Santa Ysabel to Route 86 passing near Julian.
- Route 79 from: (a) Route 8 near Descanso to Route 78 near Julian, (b) Route 78 near Santa Ysabel to Route 371 near Aguanga.
- Route 80 from: (a) Route 280 near First Street in San Francisco to Route 61 in Oakland, (b) Route 20 near Emigrant Gap to the Nevada state line near Verdi, Nevada.
- Route 84 from Route 238 to Route 680 near Sunol.
- Route 88 from Route 49 in Jackson to the Nevada state line via Pine Grove, Silver Lake, and Kirkwood.
- Route 91 from Route 55 near Santa Ana Canyon to Route 15 near Corona.
- Route 92 from Route 1 near Half Moon Bay to Route 280 near Crystal Springs Lake.
- Route 94 from Route 125 near Spring Valley to Route 8 west of Jacumba.

263.6 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 101, 108, 111, 116, 118, 120, 121, 125 AND 126

The state scenic highway system shall also include:

- Route 101 from: (a) Route 27 (Topanga Canyon Road) to Route 46 near Paso Robles, (b) Route 156 near Prunedale northeasterly to Route 156, (c) A point in Marin County opposite San Francisco to Route 1 near Marin City, (d) Route 37 near Ignacio to Route 37 near Novato, (e) Route 20 near Calpella to Route 20 near Willits, (f) Route 1 near Leggett to Route 199 near Crescent City, (g) Route 197 near Fort Dick to the Oregon state line.
- Route 108 from Route 49 near Sonora to Route 395.
- Route 111 from: (a) Bombay Beach in Salton Sea State Park to Route 195 near Mecca, (b) Route 74 near Palm Desert to Route 10 near Whitewater.
- Route 116 from Route 101 near Cotati to Route 1 near Jenner.
- Route 118 from Route 23 to DeSoto Avenue near Browns Canyon.
- Route 120 from: (a) Route 49 near Chinese Camp to Route 49 near Moccasin, (b) The east boundary of Yosemite National Park to Route 395 near Mono Lake.
- Route 121 from: (a) Route 37 near Sears Point to Route 12 near Sonoma, (b) Route 221 near Napa State Hospital to near the vicinity of Trancas Street in northeast Napa.
- Route 125 from Route 94 near Spring Valley to Route 8 near La Mesa.
- Route 126 from Route 150 near Santa Paula to Route 5 near Castaic.

263.7 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 138 TO 140, 142, 146, 152, 160, 163, 166, 174, 178, 180, 190 AND 266

The state scenic highway system shall also include:

- Route 138 from Route 2 near Wrightwood to Route 18 near Mt. Anderson.
- Route 139 from Route 299 near Canby to the Oregon state line near Hatfield.
- Route 140 from Route 49 at Mariposa to Yosemite National Park near El Portal.
- Route 142 from the Orange-San Bernardino county line to Peyton Drive.
- Route 146 from Pinnacles National Monument to Route 25 in Bear Valley.
- Route 152 from: (a) Route 1 to the Santa Clara county line at Hecker Pass, (b) Route 156 near San Felipe to Route 5.
- Route 160 from Route 4 near Antioch to Sacramento.
- Route 163 from Ash Street in San Diego to Route 8.
- Route 166 from Route 101 near Santa Maria to Route 33 in Cuyama Valley.
- Route 168 from: (a) Route 65 near Clovis to Huntington Lake, (b) Camp Sabrina to Route 395, (c) Route 395 at Big Pine to Route 266 at Oasis.

- Route 174 from the Bear River to the Grass Valley city limits.
- Route 178 from the east boundary of Death Valley National Monument to Route 127 near Shoshone.
- Route 180 from: (a) Route 65 near Minkler to General Grant Grove section of Kings Canyon National Park, (b) General Grant Grove section of Kings Canyon National Park to Kings Canyon National Park boundary near Cedar Grove.
- Route 190 from Route 65 near Porterville to Route 127 near Death Valley Junction.
- Route 266 from the Nevada state line easterly of Oasis to Route 168 at Oasis.

263.8 ADDITIONAL INCLUSIONS; PORTIONS OF ROUTES 198, 210, 215, 251, 280, 299, 395, 580 AND 680

The state scenic highway system shall also include:

- Route 198 from: (a) Route 101 near San Lucas to Route 33 near Coalinga, (b) Route 33 near Oilfields to Route 5, (c) Route 99 near Goshen to the Sequoia National Park line.
- Route 210 from Route 5 near Tunnel Station to Route 134.
- Route 215 from Route 74 near Romoland to Route 74 near Perris.
- Route 251 from Route 37 near Nicassio to Route 1 near Point Reyes Station.
- Route 280 from Route 17 in Santa Clara County to Route 80 near First Street in San Francisco.
- Route 299 from: (a) Route 101 near Arcata to Route 96 near Willow Creek, (b) Route 3 near Weaverville to Route 5 near Redding, (c) Route 89 near Burney to Route 139 near Canby.
- Route 395 from Route 14 near Little Lake to Route 89 near Coleville.
- Route 580 from Route 5 southwest of Vernalis to Route 80.
- Route 680 from the Santa Clara-Alameda county line to Route 24 in Walnut Creek.
-

STREETS AND HIGHWAYS CODE

Division 1, Chapter 1, Article 3

154. COUNTY SCENIC HIGHWAYS; ENCOURAGEMENT; DESIGNATION; REVOCATION OF DESIGNATION

The department shall encourage the construction and development by counties of portions of the county highways as official county scenic highways and may furnish to the counties any information or other assistance which will aid the counties in the construction or development or such scenic highways.

Whenever the department with the advice of the Departmental Transportation Advisory Committee, determines that any county highway meets the minimum standards prescribed by the department for official scenic highways, including the concept of the "complete highway," as described in Section 261, it may authorize the county in which the highway is located to designate the highway as an official county scenic highway and the department shall so indicate the highway in publications of the department and in any maps which are prepared by the department for distribution to the public which show the highway.

If the department, with the advice of the Departmental Transportation Advisory Committee, determines that any county highway which has been designated as an official county scenic highway no longer meets the minimum standards prescribed by the department for official scenic highways, it may, after notice to the county and a hearing on the matter, if requested by the county, revoke the authority of the county to designate the highway as an official county scenic highway.

STREETS AND HIGHWAYS CODE

Division 3, Chapter 4

2157. DEPARTMENTAL TRANSPORTATION ADVISORY COMMITTEE

There is hereby created the Departmental Transportation Advisory Committee. At the 1973-74 Regular Session of the Legislature, and at the commencement of the 1977-78 Regular Session and each four years thereafter, the Speaker of the Assembly and the Rules Committee of the Senate shall jointly appoint a committee of 16 members, to consist of county and city officials, representatives of transportation planning agencies, representatives of air, highway, motoring, and public transportation organizations, and others interested in transportation planning to act in an advisory capacity to the department in the preparation of various transportation reports required by statute, including but not limited to, functional classification and needs studies. The department shall cooperate and confer with the advisory committee so appointed. Each committee so appointed shall remain in existence until such time as a new advisory committee is appointed.

Any vacancy on the committee shall be filled by a joint appointment by the Speaker of the Assembly and the Rules Committee of the Senate, and the appointee shall serve until the appointment of a new committee.

2158. TRANSPORTATION ADVISORY COMMITTEE; SUCCESSION TO THE POWERS AND DUTIES OF THE SCENIC HIGHWAY ADVISORY COMMITTEE

The Departmental Transportation Advisory Committee shall succeed to and is hereby vested with all of the powers, duties, purposes, responsibilities, and jurisdiction in matters now or hereafter vested by law in the Scenic Highway Advisory Committee, or any officer or employee thereof. Whenever reference is made to the Scenic Highway Advisory Committee, it shall be deemed to be a reference to the Departmental Transportation Advisory Committee. The Department of Transportation shall have possession and control of all records, books, papers, and other property, real, personal and mixed, now or hereafter held for the benefit or use of the Scenic Highway Advisory Committee.

PUBLIC UTILITIES CODE

Division 1, Part 1, Chapter 2

320. UNDERGROUNDING OF ELECTRIC AND COMMUNICATION DISTRIBUTION FACILITIES NEAR STATE SCENIC HIGHWAYS

The Legislature hereby declares that it is the policy of this State to achieve, whenever feasible and not inconsistent with sound environmental planning, the undergrounding of all future electric and communication distribution facilities which are proposed to be erected in proximity to any highway designated a state scenic highway pursuant to Article 2.5 (commencing with Section 260) of Chapter 2 of Division 1 of the Streets and Highways Code and which would be visible from such scenic highways if erected above ground. The commission shall prepare and adopt by December 31, 1972, a statewide plan and schedule for the undergrounding of all such utility distribution facilities in accordance with the aforesaid policy and the policy and the rules of the commission relating to the undergrounding of facilities.

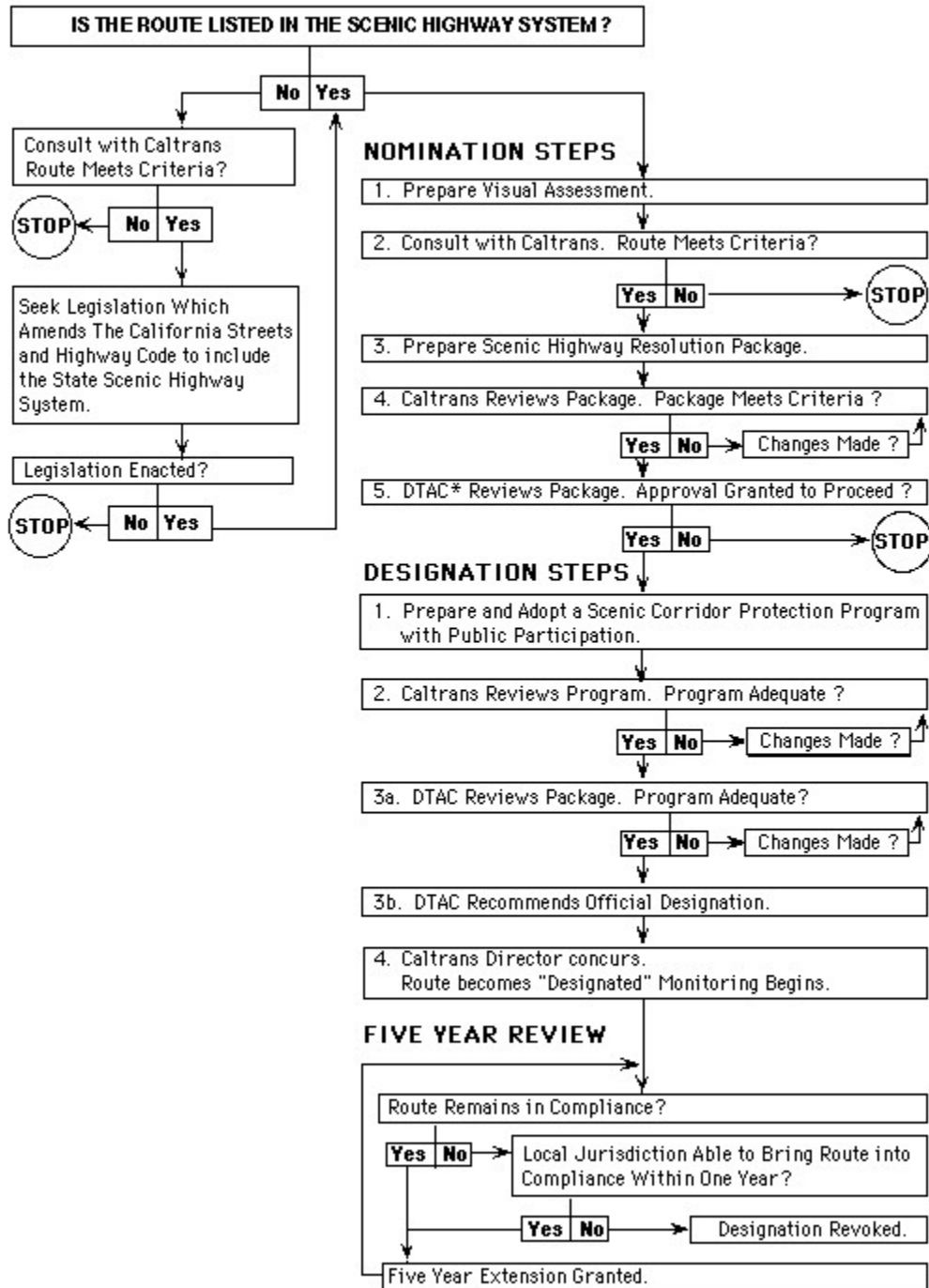
The commission shall coordinate its activities regarding the plan with local governments and planning commissions concerned.

The commission shall require compliance with the plan upon its adoption.

This section shall not apply to facilities necessary to the operation of any railroad.

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APPENDIX B SCENIC HIGHWAYS PROCESS



*DTAC: Departmental Transportation Advisory Committee

APPENDIX C CALTRANS HEADQUARTERS AND DISTRICT OFFICES



Below are the street and mailing addresses and phone numbers for the Caltrans District Offices. Contact the District Scenic Highway Coordinator, who is generally in the Landscape Architecture Office. You may also contact the Statewide Scenic Highway Coordinator at Caltrans Headquarters.

Caltran Headquarters

1120 N Street, Sacramento CA 95814 (916) 654-5370

District 1

1656 Union Street, Eureka CA 95501 (P.O. Box 3770, 95502) (707) 445-6407

District 2

1657 Riverside Drive, Redding, CA 96001 (P.O. Box 494040, 96049-4040) (530) 225-3372

District 3

703 B Street, Marysville, CA 95901 (P.O. Box 911) (530) 741-4436

District 4

111 Grand Avenue, Oakland, CA 94612 (P.O. Box 23660, 94623-0660) (510) 286-5924

District 5

50 Higuera Street, San Luis Obispo, CA 93401 (805) 549-3083

District 6

1352 West Olive Avenue, Fresno, CA 93728 (P.O. Box 12616, 93778-2616) (559) 230-3135

District 7

120 South Spring Street, Los Angeles, CA 90012-3606 (213) 897-0624

District 8

247 West Third Street, San Bernardino, CA 92402 (P.O. Box 231, 92402) (909) 383-4521

District 9

500 South Main Street, Bishop, CA 93514 (760) 872- 0681

District 10

1976 East Charter Way, Stockton, CA 95205 (P.O. Box 2048, 95201) (209) 948-7190

District 11

2829 Juan Street, San Diego, CA 92110 (P.O. Box 85406, 92186-5406) (619) 688-6719

District 12

2501 Pullman Street, Santa Ana, CA 92705 (714) 724-2449

APPENDIX D

EXAMPLES OF VISUAL INTRUSIONS* ALONG SCENIC CORRIDORS

NOTE: Where more than one example is listed, only one example need be applicable for an intrusion to occur.

BUILDINGS:

Residential Development, Commercial Development, Industrial Development

- **MINOR (yellow)**

Widely dispersed buildings. Natural landscape dominates. Wide setbacks and buildings screened from roadway. Exterior colors and materials are compatible with environment. Buildings have cultural or historical significance.

- **MODERATE (orange)**

Increased number of buildings, but these are complementary to the landscape. Smaller setbacks and lack of roadway screening. Buildings *do not* degrade or obstruct scenic view.

- **MAJOR (red)**

Dense and continuous development. Highly reflective surfaces. Buildings poorly maintained. Visible blight. Development along ridge lines. Buildings *degrade* or *obstruct* scenic view.

UNSIGHTLY LAND USES:

Dumps, Quarries, Concrete Plants, Tank Farms, Auto Dismantling

- **MINOR (yellow)**

Screened from view so that facility is not visible from the highway.

- **MODERATE (orange)**

Not screened and visible but programmed/funded for removal and site restoration.

- **MAJOR (red)**

Not screened and visible by motorists. Will not be removed or modified. Scenic view is *degraded*.

STRIP MALLS:

- **MODERATE (orange)**

Neat and well landscaped. Single story. Blend with surroundings.

- **MAJOR (red)**

Not harmonious with surroundings. Poorly maintained or vacant. Blighted. Development *degrades* or *obstructs* scenic view.

PARKING LOTS:

- **MINOR (yellow)**

Screened from view so that vehicles and pavement are not visible from the highway.

- **MODERATE (orange)**

Neat and well landscaped. Blend with surroundings.

- **MAJOR (red)**

Not screened or landscaped. Scenic view is *degraded*.

OFF-SITE ADVERTISING STRUCTURES:

- **MAJOR (red)**

Billboards *degrade* or *obstruct* scenic view.

NOISE BARRIERS:

- **MODERATE (orange)**

Noise barriers are well landscaped and complement the natural landscape. Noise barriers *do not* degrade or obstruct scenic view.

- **MAJOR (red)**

Noise barriers *obstruct* scenic view.

POWER LINES:

- **MINOR (yellow)**

Not easily visible from road.

- **MODERATE (orange)**

Visible, but compatible with surroundings.

- **MAJOR (red)**

Poles and lines dominate view. Scenic view is *degraded*.

AGRICULTURE:

Structures, Equipment, Crops

- **MINOR (yellow)**

Blends in and complements scenic view. Indicative of regional culture.

■ **MODERATE (orange)**

Not in harmony with surroundings. Competes with natural landscape for visual dominance.

- **MAJOR (red)**

Incompatible with and dominates natural landscape. Structures, equipment or crops *degrade* scenic view.

EXOTIC VEGETATION:

- **MINOR (yellow)**

Used as screening and landscaping. Blends in and complements scenic view.

■ **MODERATE (orange)**

Competes with native vegetation for visual dominance.

- **MAJOR (red)**

Incompatible with and dominates natural landscape. Scenic view is *degraded*.

CLEARCUTTING:

■ **MODERATE (orange)**

Trees bordering highway remain so that clearcutting is not evident.

- **MAJOR (red)**

Clearcutting or deforestation is evident. Scenic view is *degraded*.

EROSION:

- **MINOR (yellow)**

Minor Soil Erosion.

■ **MODERATE (orange)**

Slopes beginning to erode. Not stabilized.

- **MAJOR (red)**

Large slope failures and no vegetation. Scenic view is *degraded*.

GRADING:

- **MINOR (yellow)**

Grading blends with adjacent landforms and topography.

■ **MODERATE (orange)**

Some changes, but restoration is taking place.

- **MAJOR (red)**

Extensive cut and fill. Scarred hillsides and landscape. Canyons filled in. Scenic view is *degraded*.

ROAD DESIGN:

- **MINOR (yellow)**

Blends in and complements scenic view. Roadway structures are suitable for location and compatible with surroundings.

■ **MODERATE (orange)**

Cut and fill is visible, but has vegetative cover.

Last update 9/17/99

Other Information on Scenic Highways:

[The California Scenic Highway Program](#) - Frequently asked questions (and answers) about the Scenic Highway Program.

[What Scenic Highway Designation Can Do](#) - The benefits of scenic highway designation.

[California Scenic Routes](#) - A list of the officially designated California scenic highways.

[California Scenic Highway System](#) - A list of eligible and officially designated routes.

[California Scenic Highway Mapping System](#) - A description and photo tour of California's scenic routes.

[Office of State Landscape Architecture Homepage](#)

If you have any questions or suggestions, please e-mail dennis.cadd@dot.ca.gov

[Caltrans Homepage](#)

APPENDIX D

County of Imperial Bicycle Master Plan

APPENDIX E

2002 Imperial County 20-Year Transportation Plan

- **Highway Element Executive Summary**
- **Transit Vision Element Executive Summary**
- **Non Motorized Transportation Element Executive Summary**

APPENDIX F

GREATER CALEXICO AREA ARTERIAL NEEDS AND CIRCULATION ANALYSIS

**For the Imperial Valley Association of Governments (IVAG)
in the County of Imperial**

**prepared and submitted to IVAG original date May 9, 2005
with latest revised date June 16, 2005 by Darnell and Associates, Inc.**

APPENDIX G

References

- **Destination 2030: 2004 Regional Transportation Plan, Southern California Association of Governments (SCAG), <http://www.scag.ca.gov/rtp2001/2004draft/FinalPlan.htm>, July 25, 2006.**
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IMPERIAL COUNTY CONSERVATION AND OPEN SPACE ELEMENT

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I. INTRODUCTION

A. PREFACE

The County of Imperial is rich in natural and cultural resources. The landscape is dominated by native desert habitat and stark topographic features. Prime soils, Colorado River water, and year-round sunlight facilitate productive agricultural operations. Natural mineral resources are extracted for commercial purposes. The wide expanses of open space are useful for military maneuvers and recreational activities.

Population growth and subsequent development have intensified the rate of resource use and regional environmental degradation. Urban expansion is decreasing the amount of land available for agriculture and mineral extraction. The pollution of air and water has diminished regional aesthetics, limited recreational opportunities, and threatened public health. Native desert biological communities are being impacted by accelerated human activity in Imperial Valley.

The Conservation and Open Space Element is the official conservation guide for all decision makers including the County Board of Supervisors, Planning Commission, Airport Land Use Commission, and various Departments in addition to other Federal, State, or County governmental decision-making bodies. It shall also serve as a guide to the private sector, business community, investors, and developers in the County.

This Conservation and Open Space Element is concerned with the following environmental resources:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Mineral Resources
- Regional Aesthetics
- Air Quality and Climate Change
- Open Space and Recreation

Separate elements have been prepared for the conservation of water, agricultural, and renewable energy resources. These three types of resources are critical to the long-term economic stability of Imperial County. In addition, the issues surrounding these resources are particularly complex. The Water Element, Agricultural Element, and Renewable Energy and Transmission Element contain focused goals and objectives, and an implementation program specific to each resource.

The implementation of this Element does not negate the environmental review process required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). While a proposed project may conform to the Conservation and Open Space Element, it may still be subject to environmental impact assessment pursuant to CEQA and NEPA. This

Element supports environmental review for proposed projects in addition to determining the extent that proposed projects promote the Element goals and objectives.

B. PURPOSE OF THE ELEMENT

The County is charged with the responsibility of conserving environmental and cultural resources while encouraging economic development and growth. The Conservation and Open Space Element identifies goals and policies to ensure the managed use of environmental resources. The goals and policies are also designed to prevent limiting the range of resources available to future generations.

The purpose of the Conservation and Open Space Element is to:

- Promote the protection, maintenance, and use the County's natural and cultural resources with particular emphasis on scarce resources and resources that require special control and management.
- Prevent the wasteful exploitation, destruction, and neglect of the State's natural and cultural resources.
- Recognize that natural resources must be maintained for their ecological value as well as for the direct benefit to the public.
- Protect open space for the conservation of natural and cultural resources, the managed production of resources, outdoor recreation, and public health and safety.

C. APPLICABILITY

The Conservation and Open Space Element applies to all unincorporated land within the County of Imperial. Each incorporated City must adopt its own general plan and subsequent conservation and open space elements. It is the intent of the County to be consistent and supportive of complementary plans of incorporated areas. Since natural and cultural resources characteristically cross political boundaries, planning for the use and conservation of resources requires cooperation between various governmental divisions and departments. When an area falls under more than one jurisdiction, each should consider the Conservation and Open Space Element goals and programs of the other jurisdiction when making decisions. All public and private projects are subject to this Element.

It is not the intent of this Element to impose any restriction on the use of any private land which would constitute a taking or a damaging of property for public use. In the event that the County Board of Supervisors, Planning Commission, or an official of the County determines that the application of any provision of this Element to any private property constitutes such a taking, the restrictions should be modified or waived to the extent necessary to avoid the taking or damaging.

It is specifically not the intent of this Element to preclude the placement, construction, or the use of one single-family residence on any parcel that existed as a legal parcel of record at the time of the adoption of the Element, and no individual or public safety hazard or danger would result from such placement or construction. Furthermore, the inventory of conservation issues and subsequent policy discussed in this Element are not intended to be all inclusive and may be amended when additional information or studies become available or are required.

II. EXISTING CONDITIONS AND TRENDS

This report focuses on specific environmental resources in Imperial County, including biological and cultural resources, soils, minerals, regional aesthetics, air quality, and open space.

A. BIOLOGICAL RESOURCES

1. Plants and Vegetation Communities

An extensive range of vegetation communities have been identified in the County, including native and nonnative communities on which sensitive and common plant and wildlife species are dependent. Native communities include wetland and riparian habitats within fresh and saltwater systems and high and low elevation woodland and scrub habitats, some with saline and alkali soil conditions. Nonnative communities include agriculture, annual grasslands, and tamarisk or salt cedar stands.

2. Sensitive Habitats and Conservation Areas

A number of sensitive vegetation communities, identified by the California Department of Fish and Wildlife (CDFW) and others as rare and worthy of consideration in California, occur in Imperial County. Of the total 2,942,080 acres in the County, approximately 215,220 are sensitive habitats. Sensitive vegetation and habitats are a conservation priority for local, State, and Federal regulatory agencies because they have limited distribution and support a variety of sensitive plants and wildlife.

Several areas in Imperial County have been designated as environmentally sensitive areas by various public agencies or entities. These include US Fish & Wildlife Service (USFWS)-designated critical habitat, USFWS National Wildlife Refuges, Bureau of Land Management (BLM), National Landscape Conservation System (NLCS) lands, BLM Desert Wildlife Management Areas (DWMAs) and Areas of Critical Environmental Concern (ACECs), wilderness and wildlife areas, State parks, and other protective designations by Federal and State agencies in the County. Many of these areas have development restrictions or prohibitions to facilitate conservation of biological resources or other sensitive resources. These areas are shown on **Figures 1 through 3**.

Critical habitat is a Federal designation to provide essential habitat for listed species. While development is not precluded from designated critical habitat, these areas have been afforded legal protection which requires developers to consult with the USFWS if a project would affect critical habitat or any listed species. Critical habitat units support important habitat and often support more than one listed species. Critical habitat is designated in Imperial County for the following species:

- Desert pupfish
- Razorback sucker
- Desert tortoise
- Peirson's milk-vetch
- Peninsular bighorn sheep

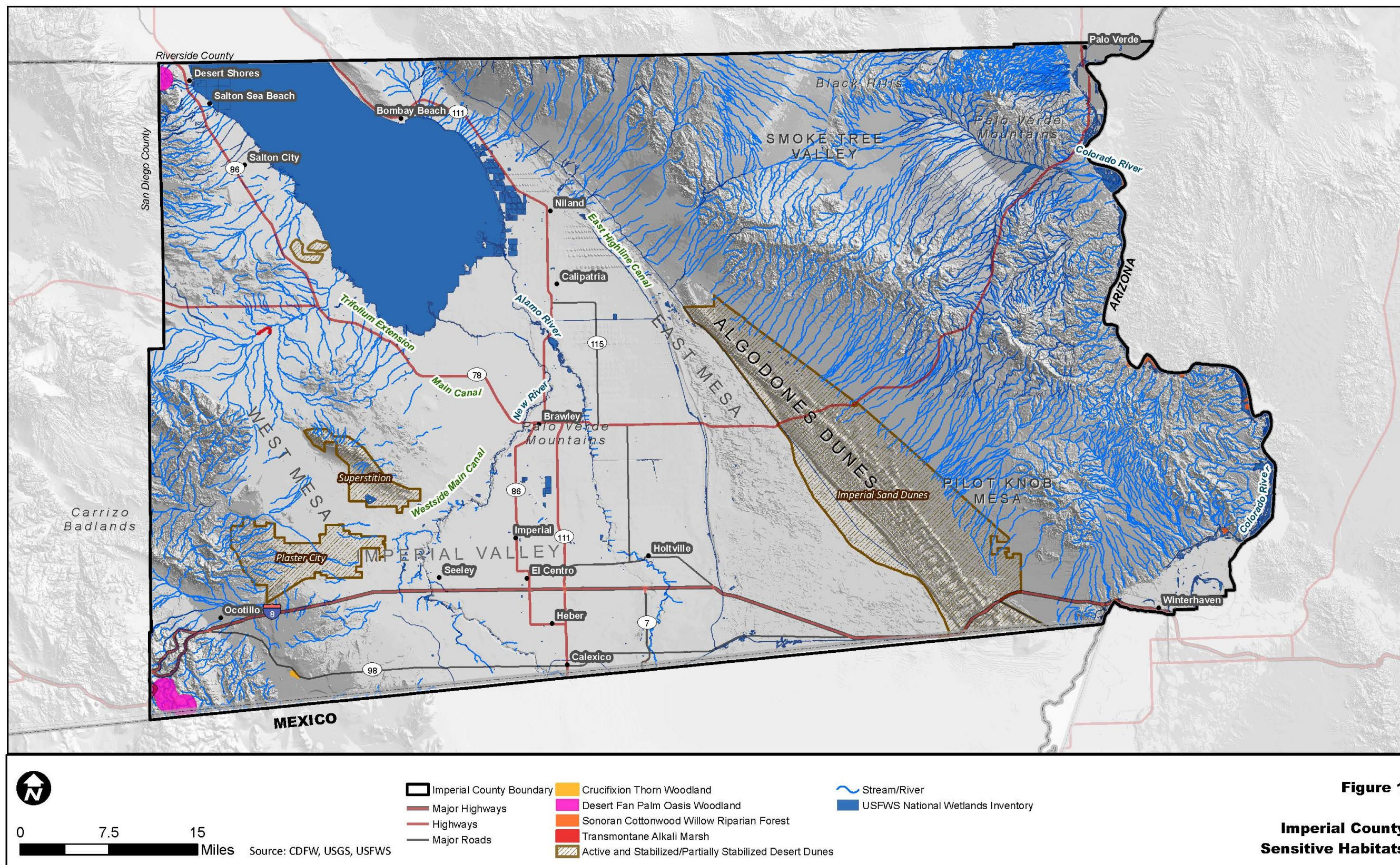
- Yellow-billed cuckoo (proposed as of October 2014)

3. Sensitive Species

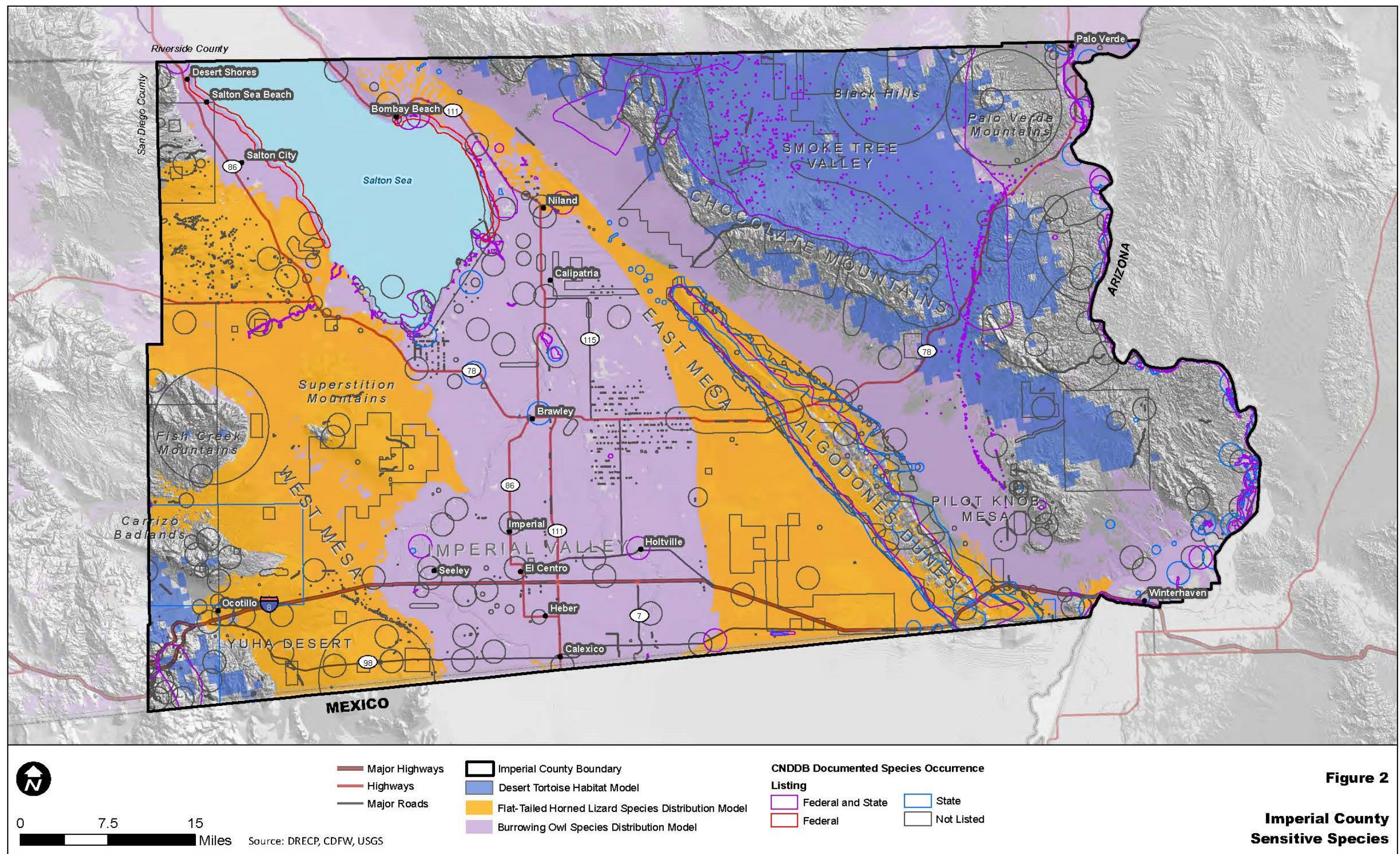
A number of species listed or candidates for listing as endangered or threatened under the Endangered Species Act or California Endangered Species Act, or listed as rare under the California Native Plant Protection Act, have been recorded or potentially occur in Imperial County. Listed species documented in the California Natural Diversity Database (CNDDDB) for the County include:

- | | |
|----------------------------------|-----------------------------|
| • Desert tortoise | • Gila woodpecker |
| • Barefoot gecko | • Elf owl |
| • Townsend's big-eared bat | • Bald eagle |
| • Peninsular bighorn sheep | • Desert pupfish |
| • Western yellow-billed cuckoo | • Bonytail |
| • Southwestern willow flycatcher | • Colorado pikeminnow |
| • Least Bell's vireo | • Razorback sucker |
| • Arizona Bell's vireo | • Peirson's milk-vetch |
| • Western snowy plover | • Wiggins' croton |
| • California black rail | • San Diego button-celery |
| • Yuma clapper rail | • Algodones Dunes sunflower |
| • Gilded flicker | |

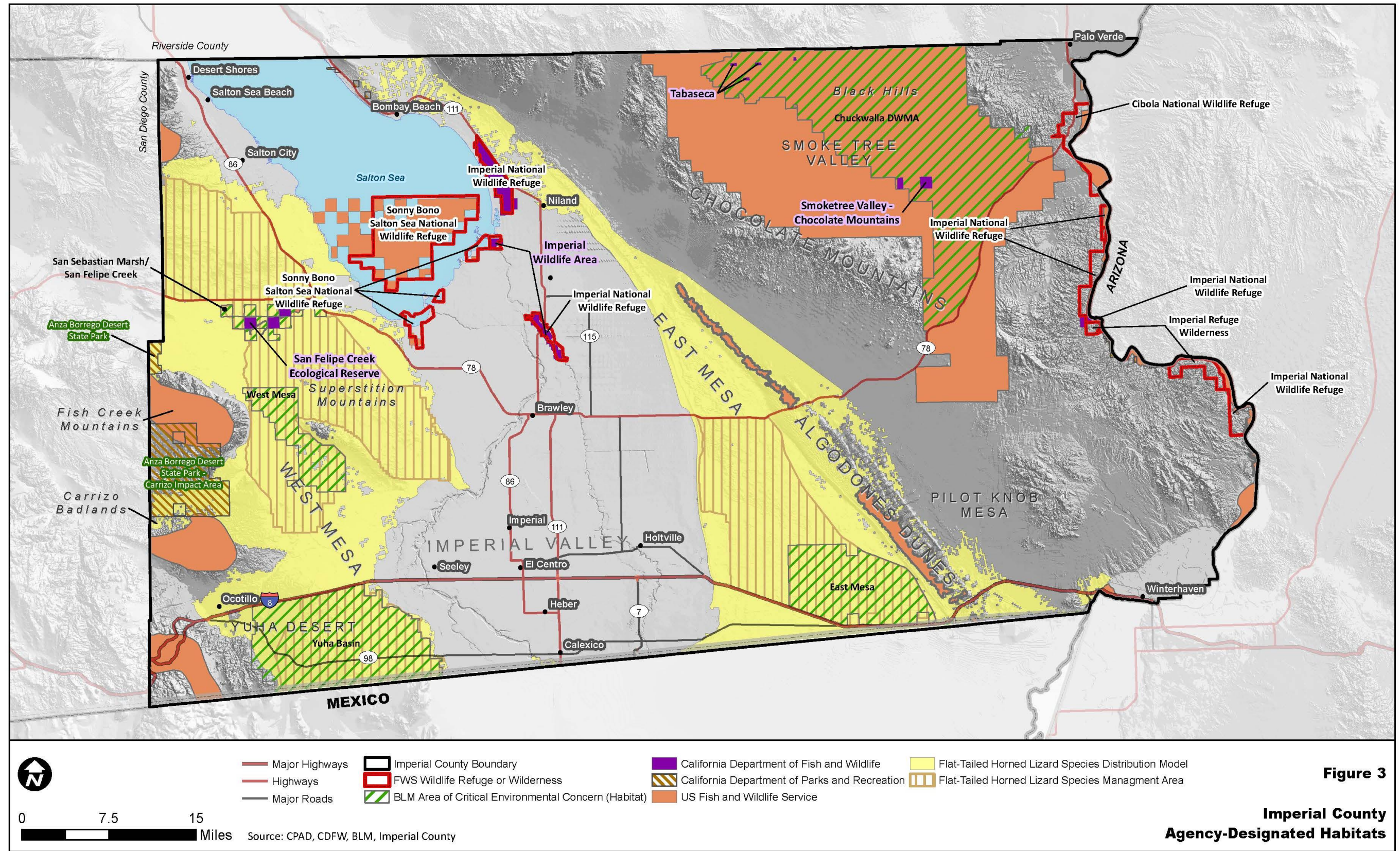
Numerous other special-status species occur in the County, including wildlife designated as California fully protected species or California Species of Special Concern as well as plants identified as California Rare Plant Rank. Several California Species of Special Concern are of particular conservation focus in Imperial County including the burrowing owl and flat-tailed horned lizard. Approximately two-thirds of the burrowing owl population in California occurs in agricultural areas in the Imperial Valley. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley; both populations extend south into Mexico.



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B. CULTURAL RESOURCES

In Imperial County most archeological resources can be separated into two distinct sections: prehistoric and historic. All prehistoric archeology involves indigenous culture that existed prior to Spanish colonization in 1769. Additional cultural resources, which have been identified by the State of California, include sacred lands that are manifested in cultural landscapes.

1. Prehistoric Resources

Prehistoric resources are the remains of activities in the past prior to sustained European contact. The Cahuilla, Tipai, and Quechan inhabited the Imperial County area since before Spanish contact. The Cahuilla people occupied a territory in south-central California, between the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, east to the Colorado Desert, and west into the San Jacinto Plain near Riverside and the Palomar Mountains. The Tipai, previously called Diegueño or Kamia, occupied an area that roughly extended from the Pacific Coast at San Diego eastward to the Sand Hills of Imperial County as well as south into modern-day Mexico. The Quechan, also known as the Yuma, continue to occupy their traditional territory at the confluence of the Gila and Colorado rivers at the edge of the California, Arizona, and Mexican borders. From here their territory stretched north along the Colorado River and to the east of the Gila River.

The previous studies conducted in the County identified resources including villages, rock shelters, habitation sites, lithic scatters, trails, rock art localities, and milling stations. Isolated artifacts not associated with the larger sites have also been identified in Imperial County. In addition, cultural landscapes and ethnographic resources are elements of the natural resource types that are assigned cultural significance by traditional users or groups, such as geographic features. Previously identified prehistoric resources can be used as a general guideline to understanding the nature of localized prehistoric inhabitation and provide assistance in determining areas of known sensitivity for prehistoric resources.

The most important feature in the study of the prehistory and history of Imperial County is Lake Cahuilla, the modern iteration of which is the Salton Sea. This enormous lake periodically formed when flooding in the Colorado River broke through low-lying areas and flooded the Salton Trough, inundating up to an average elevation of about 40 feet above mean sea level. Because Lake Cahuilla was a rare source of fresh water in the desert, human populations would have been attracted to live and gather plant and animal resources near the lake. Human occupation sites mark the ancient shorelines both above the high stand mark and along the lower, retreating shorelines.

To date, 14,860 prehistoric and historic period resources have been recorded in Imperial County. Of those, 12,398 are archaeological sites and the rest are either isolates or historic structures. As the entire County has not been surveyed, additional sensitive prehistoric and historic period cultural resource are likely to exist throughout Imperial County.

A prehistoric predictive model was developed in order to provide a general idea of potential locations of cultural resources present in the County. This model focused on proximity to water sources, access to food, access to tool-making sources (obsidian), and geographic slope. Using this criteria, regions most sensitive for prehistoric resources were determined to be those areas within 1,000 meters of a water source (in this case, named streams, waterbodies, wetlands, and playas/dry lakes), within 200 meters of an ecotone boundary (access to food), near obsidian stone tool sources, and less than 16.1 percent slope. These sensitive areas are depicted on **Figure 4**.

2. Historic Resources

The historic period in California is generally broken into three parts: the Spanish period (1769 to 1821), the Mexican period (1821 to 1848), and the American period (1848 to present).

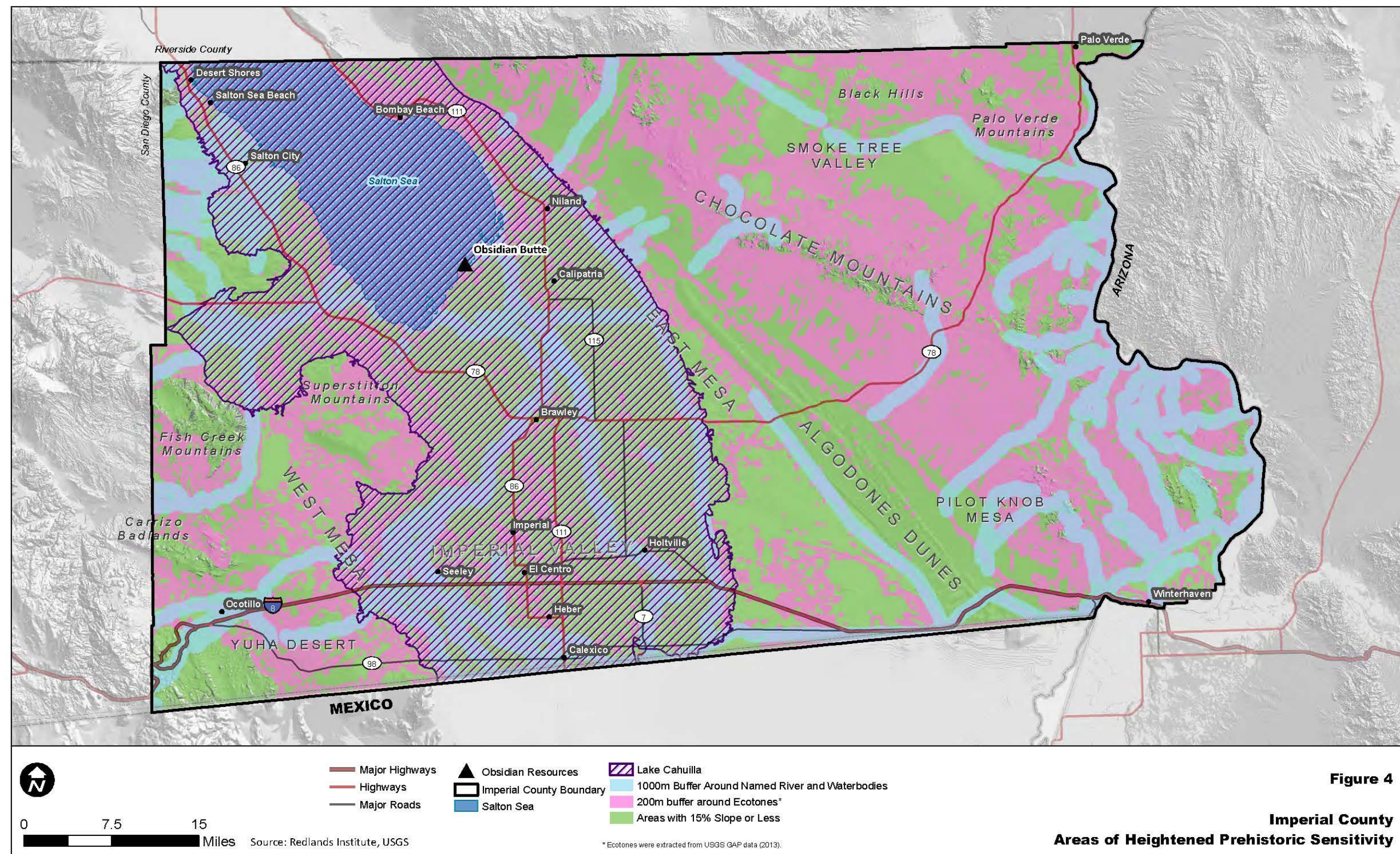
Although the first Europeans arrived in Imperial County with the Hernando de Alcarón expedition of 1540, the Spanish did not begin to colonize what was then known as Alta California until 1769. Spanish settlements were largely restricted to the West Mesa, now known as the Yuha Desert, in the southwestern portion of the County. Inhospitable terrain of the Algodones Dunes discouraged early exploration and colonization of the eastern portions of the County. Included in the early settlement sites of the Spanish period are the Mission Puerto de Purísima Concepción (1780) and Mission San Pedro y San Pablo de Bicuñer (1781) along the de Anza Trail, along the Colorado River in the southeast portion of the County. As described above, both missions were destroyed in 1781 in conflicts between the Spanish and the Quechan.

The Mexican Period in Imperial County was characterized by efforts to reestablish an overland route from Sonora to the California coast in order to encourage trade and settlement. Following several expeditions, the Sonora Road was established in 1825, following portions of the Juan Bautista de Anza Trail through the County before turning westward through the Carrizo Corridor and branching toward both San Diego and Temecula (**see Figure 5**).

The American Period in Imperial County is marked by further exploration and by development of the agricultural potential of the Imperial Valley. The signing of the Treaty of Guadalupe Hidalgo in 1848 and the U.S. acquisition of California was immediately followed by the establishment of the Southern Emigrant Trail, which largely followed the old Sonora Road. This route was extensively used by settlers, miners, and the military on their way to California. Until the twentieth century, few people permanently settled in Imperial County. Irrigation measures, vital to the County's development during this period, were first made by the California Development Corporation using water from the Colorado River, which was then diverted to the Alamo River via the Alamo Canal. Irrigation from the Alamo Canal Project soon prompted a large population boom in the area; the town sites of Imperial, Brawley, Calexico, Heber, and Silsbee were constructed as part of irrigation projects to entice settlers to become permanent residents. In 1904, heavy silting greatly reduced the amount of water reaching the Imperial Valley farmers. Under stress, the California Development Company attempted to create a breach at the banks of the Colorado River; however, this action caused uncontrolled flooding of the Salton Sink through 1905 and resulted in the Salton Sea. Flooding to the region was not completely halted until 1907. Railroad lines, including a branch of the Southern Pacific Railroad extending through the Imperial Valley to Calexico (1903), were constructed throughout portions of the County. The introduction of automobiles also prompted the development of new and better roads.

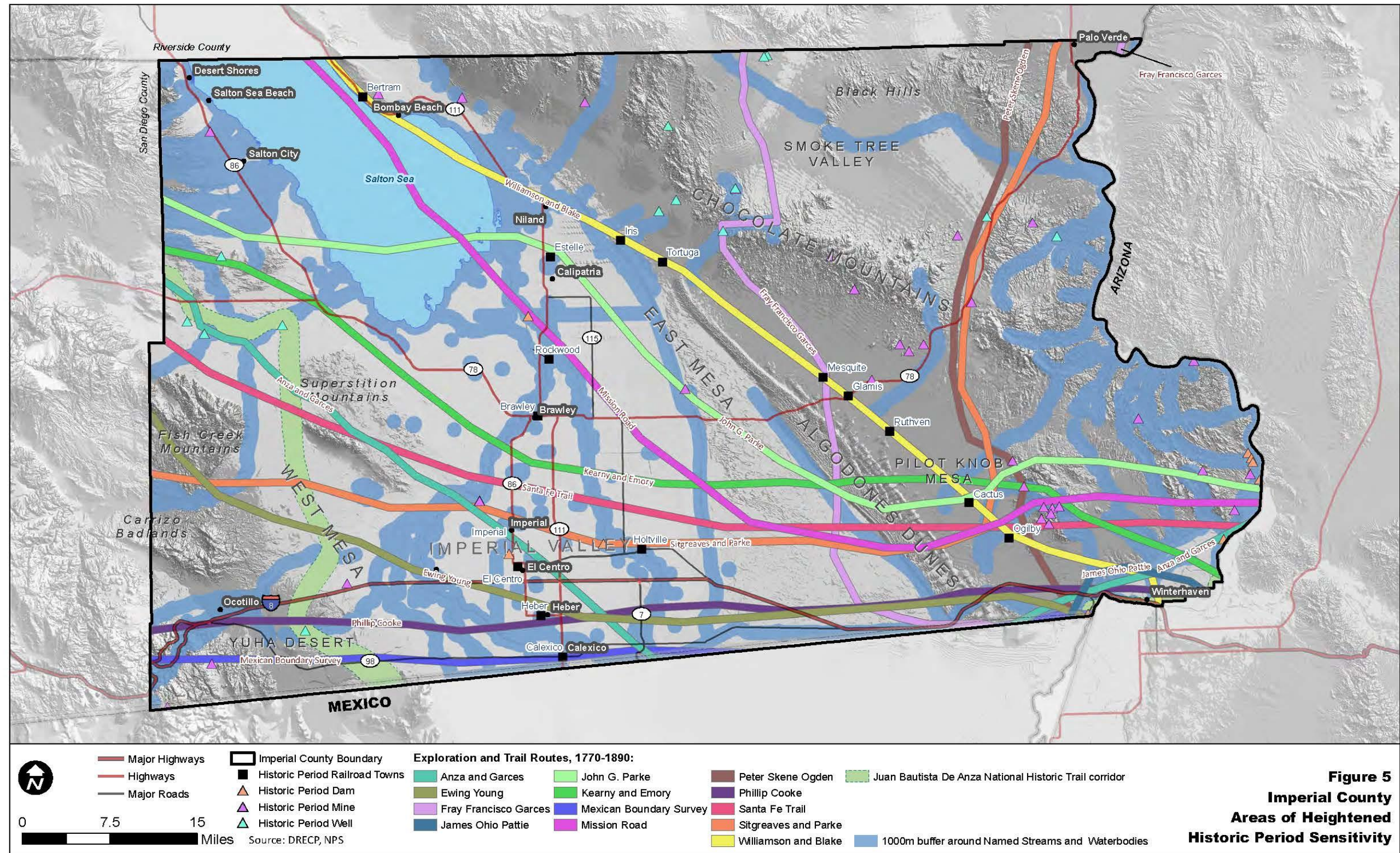
Identified historic period built-environment and archaeological resources represent a range of activities including, but not limited to, mining, transportation, and ranching/homesteading and are represented throughout the County. The number of previously identified historic period resources is smaller than prehistoric resources, making determination of areas of known or established sensitivity difficult. It is possible, however, to make informed deductions about the types of resources likely to be encountered based on the previously identified sites in combination with the documented history of the area.

Similar to the prehistoric model, a historic period predictive model was developed based on criteria that includes proximity to water sources, proximity to exploration routes/surveys/trails, locations of historic period railroad towns, and the locations of dams/mines/wells over 50 years



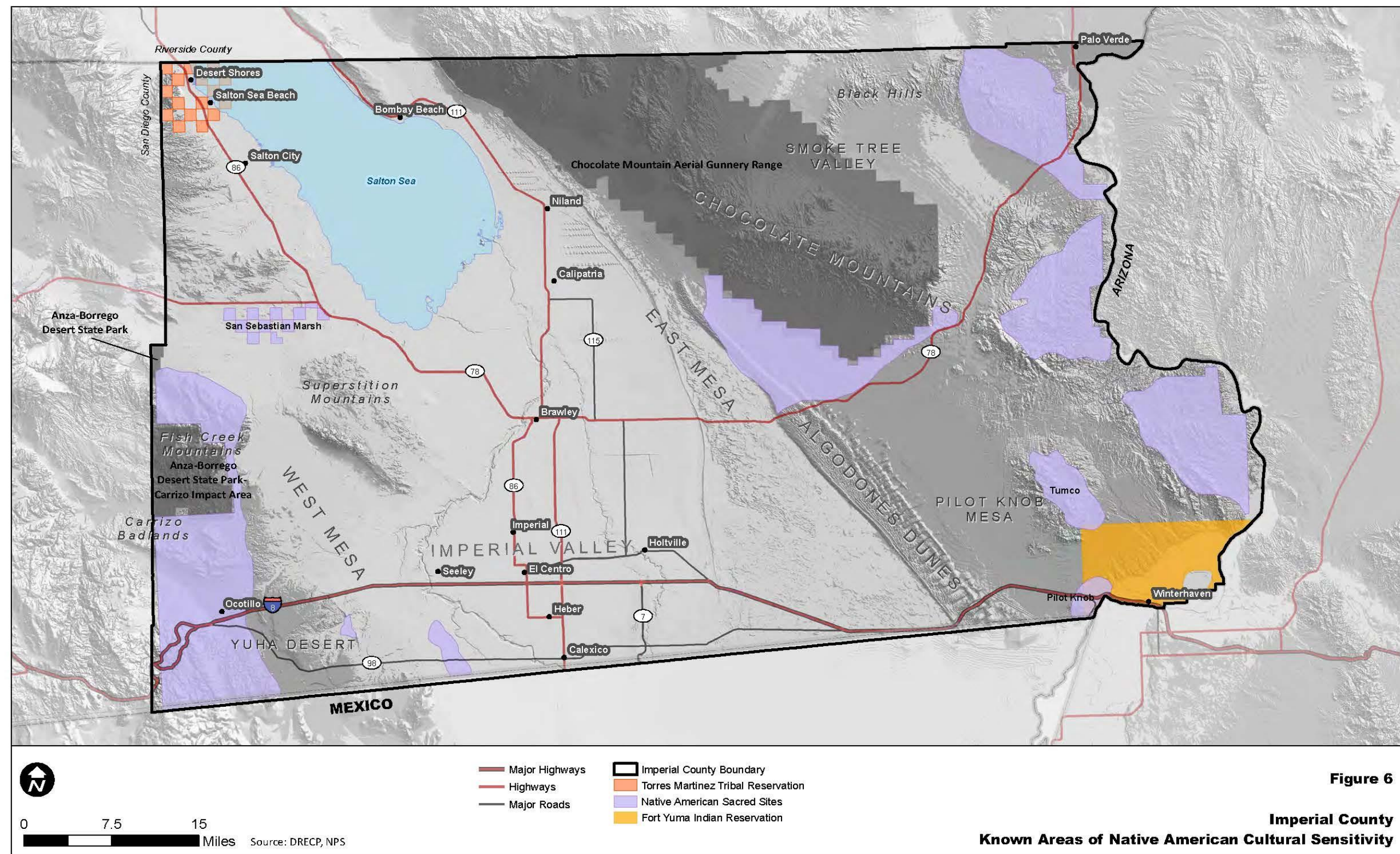
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C. GEOLOGY AND SOILS

Imperial County is underlain by three natural geomorphic provinces: the Peninsular Ranges, the Colorado Desert, and the Mojave Desert. Each of these provinces is a naturally defined geologic region that displays a distinct landscape or landform with defining features based on geology, faults, topographic relief, and climate.

Soils in Imperial County are formed by stratified alluvial deposits. A large portion of the County includes fine-textured lakebed sediments. Approximately 28 known soil types occur in Imperial County: Aco, Antho, Carrizo, Carsitas, Chuckwalla, Cibola, Coachella, Fluvaquents, Gadsden, Gilman, Glenbar, Holtville, Imperial, Indio, Kofa, Lagunita, Laposa, Laveen, Mecca, Meloland, Niland, Orita, Ripley, Rositas, Salorthids, Superstition, Torriorthents, and Vint. Parent material includes Glenbar, Holtville, and Imperial soils. Indio, Vint, Meloland, and Rositas soils are derived from windblown and channel silts. Rositas and Carsitas soils were formed in beach deposits. Sand and gravelly fan materials are the parent materials of Carsitas and Rositas soils.

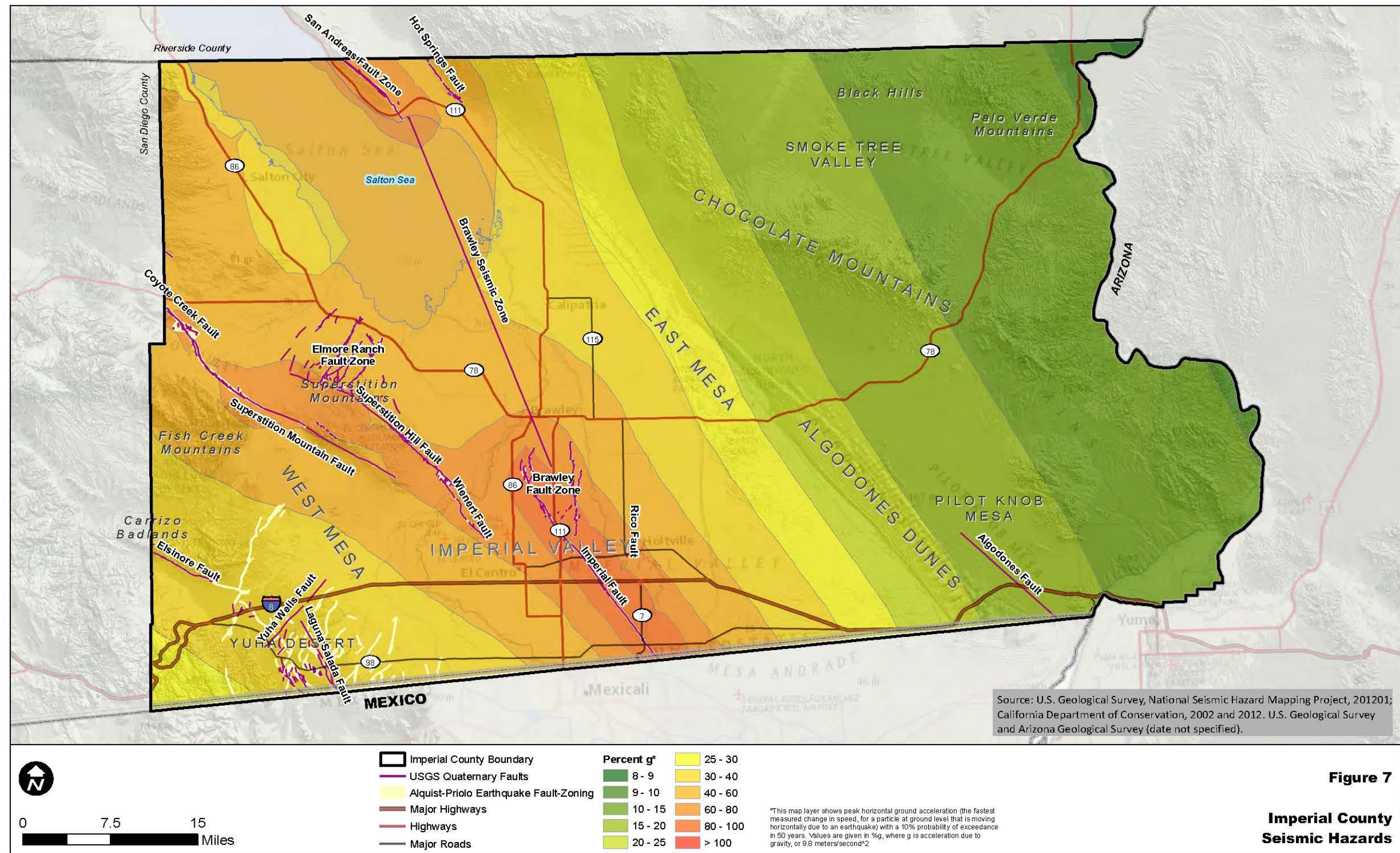
The clay material deposited in riverine environments during the formation of the Colorado River delta terrace is the source of the Holtville and Imperial soils. Niland soils occur in clayey lakebed. Several large gullies have formed from runoff water leading into the Salton Sea. The Antho, Laveen, Niland, and Superstition soils were formed from fan sediment. Fine-textured basin deposits provide the source material for Glenbar, Holtville, and Imperial soils.

The Imperial Formation is a geologic area that occurs in Imperial County and is exposed in the southeast Coyote Mountains on three major facies. Facies A includes shoreline deposits associated with alluvial fans. Facies B includes supratidal gypsum to low-tide terraces. Facies C includes siltstones and clays, indicating a filling of the Salton Trough by fine clastic material from the Colorado River. Rock units in Imperial County can be described as Precambrian and placed into two groups, the Chuckwalla complex and the Orocopia Schist. The rocks in the Chuckwalla complex include quartz biotite gneiss and various foliated hybrid granitic rocks and granophyres that range in composition from gabbro to granite. Rocks in the Orocopia Schist include weatherized mica-covered surfaces. The rock units are sericite-albite schist, quartz sericite schist, phyllite, and quartzite. Marble occurs in the schist in the Orocopia Mountains. Rock types or geological material known to occur in Imperial County include alluvium, andesite, basalt, conglomerate, dune sand, gneiss, granodiorite, limestone, mica schist, plutonic rock, rhyolite, sandstone, schist, and tonalite.

Existing conditions for geologic activity in Imperial County include earthquakes, the principal geologic activity affecting public safety in the County. Imperial County contains several major active faults, including the Brawley Fault Zone, the Coyote Creek Fault and the Elmore Ranch Fault (in the San Jacinto Fault Zone), the Elsinore Fault, the Imperial Fault, the Laguna Salada Fault (in the Elsinore Fault Zone), the San Andreas Fault, the Superstition Hills Fault, and the Wienert Fault (in the San Jacinto Fault Zone).

Figure 7 shows the major faults and seismic hazard ratings in Imperial County.

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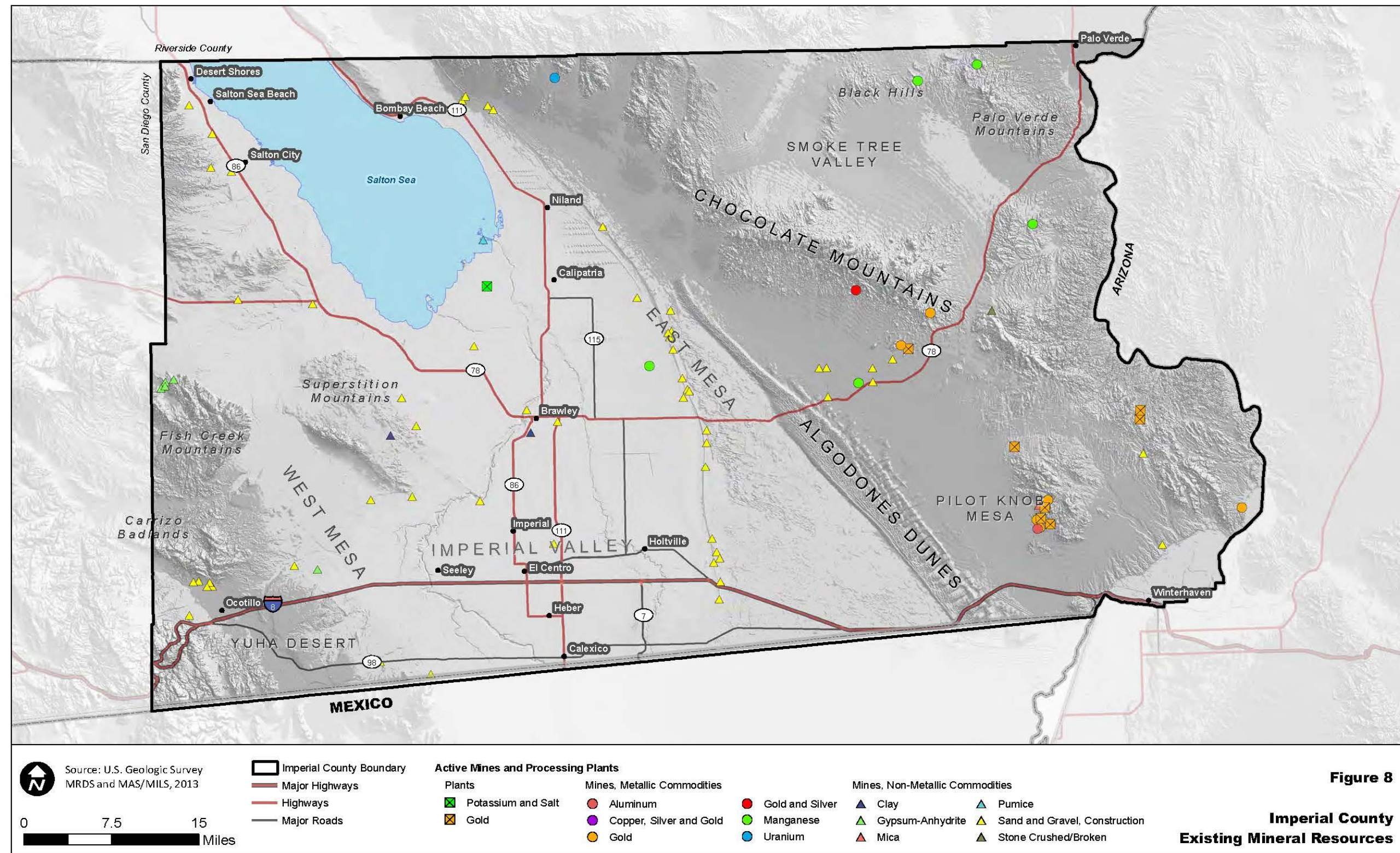
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D. MINERAL RESOURCES

A number of mineral resources in Imperial County are currently being extracted. These mineral resources include gold, gypsum, sand, gravel, lime, clay, stone, kyanite, limestone, sericite, mica, tuff, salt, potash, [lithium](#), and manganese. Several issues influence the extraction of mineral deposits in Imperial County, including the location of geologic deposition, the potential for impacts to the environment, and land use conflicts. As a result, the extraction of mineral resources is limited to a relatively small number of sites throughout the County. **Figure 8** depicts the distribution and location of mineral resources and mining sites in Imperial County.

Mineral deposits are an important natural resource that contribute to the economic development of the State and the County and provide essential raw materials for construction projects throughout the region. However, mineral extraction can result in numerous environmental impacts, including air pollution and degradation of air quality, noise pollution, accentuation of geologic hazards, surface and groundwater pollution, risks to public safety, destruction of cultural resources, and impacts to wildlife and plant species.

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E. REGIONAL AESTHETICS

1. Scenic Visual Resources

Imperial County extends over 4,597 square miles between Riverside County to the north, Mexico to the south, San Diego County to the west, and Arizona to the east. The County's visual character varies greatly. It includes natural scenic visual resources such as deserts, sand dunes, mountains, and the Salton Sea. Many of the natural scenic resources are located on land under Bureau of Land Management (BLM) jurisdiction. County areas for BLM-managed lands are shown on **Figure 9**, and depict the values of the County's visual resources based on their Visual Resource Inventory (VRI) process. Areas with a moderate to high value for maintenance of visual quality could represent opportunities for conservation and open space areas. Although these areas are within BLM lands, private inholdings under the County's jurisdiction may be available for conservation or open space designations. The County also includes agricultural areas and built environments such as urban areas and solar, wind, and geothermal energy development.

The desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. The Yuha Desert contains unique geologic features including sand chimneys and painted gorge formations that add scenic value to the natural landscape. Cultural features in the Yuha Desert include large earth sculptures, or geoglyphs, constructed by prehistoric Native Americans. The West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa consist of desert vegetation from the creosote scrub community. Other plants include ocotillo, mesquite, palo verde, saltbush, and encelia.

Also contributing to the scenic quality of the desert areas are the springtime blooms of desert wildflowers. In springtime, up to 60 species of annuals may be viewed. A typical scene would include large, white evening primroses gleaming over variegated carpets of sand verbena, sunny desert dandelion, and desert sunflower, which are often joined by desert marigold, coreopsis, and other daisy family species.

Mountains are a significant visual resource in Imperial County. The eastern foothills of the Peninsular Range run along the County's southwest side. These foothills include the In-Ko-Pah or Jacumba Mountains, Coyote Mountains, and Fish Creek Mountains. East of these mountain/wilderness areas is Mount Signal, located along the international border on the eastern edge of the Yuha Desert, west of Calexico, which is visible from most of the Imperial Valley.

The southeast foothills of the Santa Rosa-San Jacinto Mountains are a prominent feature from State Route (SR) 86. The Superstition Mountains and Superstition Hills, located in West Mesa southeast of the lower Borrego Valley and west of Westmorland and Brawley, are visible looking north from I-8 west of El Centro and from SR 86 between El Centro and the Salton Sea. In the northeastern part of the County, the Chocolate Mountains, named because of their color, stretch northwest by southeast between Riverside County and the Colorado River. They are bisected by SR 78 between Glamis and the Palo Verde area. Portions of these mountain areas are designated by the BLM as Wilderness Areas, part of the National Wilderness Preservation System. The intention of this designation is to secure natural areas for the public purposes of recreation, scenic, scientific, educational, conservation, and historical use.

The Algodones Dunes are the largest sand dunes in California. This dune system covers approximately 160 square miles, extending for 45 miles along the eastern edge of the Imperial Valley agricultural region in a band averaging 6 miles in width. They extend lengthwise in a northwest-southeast direction and are situated between the East Mesa and Pilot Knob Mesa

areas. The dunes consist of shifting sands and attain a thickness of at least 200 feet in some parts. Rising to heights of over 300 feet above the surrounding desert floor, the dunes are a well-known landmark to County residents, and thousands of highway travelers pass them annually. The Imperial Sand Dunes are considered a significant visual resource in the County due to their unique scenic qualities, historic features, and prominent visibility to a large number of people.

The Salton Sea is located in the northwestern portion of the County and extends into Riverside County, measuring 35 miles in length and a surface area of approximately 376 square miles. The Salton Sea has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali valleys; rainfall; storm runoff from the surrounding mountains; and groundwater inflow. The area represents an important wildlife habitat area and provides migrating and wintering habitat for thousands of waterfowl and other birds. Masses of these birds are visible from the shores of the Salton Sea. This waterbody represents a unique visual resource because of its size, its location in a desert area, and its value to wildlife.

Anza-Borrego Desert State Park is located on the eastern side of San Diego County, with portions extending east into Imperial County and north into Riverside County. The park features washes, wildflowers, palm groves, cacti, sweeping vistas, and many miles of hiking trails.

The Osborne Overlook offers scenic views of the Imperial Sand Dunes Recreation Area, North Algodones Dunes Wilderness, and surrounding area. The overlook is located among the largest and tallest dunes. The Juan Bautista de Anza Overlook provides a view of the Yuha Basin and surrounding landscape.

2. Scenic Highways

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor. No State scenic highways have been designated in Imperial County; however, the following four routes in Imperial County are considered eligible for a State scenic highway designation:

- Interstate 8: The initial segment for future scenic highway designation status lies between the San Diego County line and its junction with SR 98 near Coyote Wells. This segment, known as Mountain Springs Grade, has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.
- SR 78: The portion of SR 78 from the junction with SR 86 near Julian to the San Diego County line is eligible for a future scenic highway designation. That area is considered scenic because of its desert characteristics and view of Salton Sea.
- SR 111: SR 111 travels along the northeast shore of the Salton Sea and is eligible for a future scenic highway designation from Bombay Beach to the County line. The drive contrasts the flat, wide portions of the Salton Sea with the rugged variations of the Chocolate Mountains.
- Borrego-Salton Seaway: County Highway S-22 is also known as Borrego-Salton Seaway; it begins in Salton City and ends at the community of Borrego Springs in San Diego County. This route includes views of Clay Point, the Anza Verde Wash, and scenic viewpoints.

**FIGURE 9 VISUAL RESOURCE INVENTORY LEVEL RATINGS FOR BLM-MANAGED LANDS MAP
(BASELINE REPORT FIGURE 2.1-2)**

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3. Other Visual Characteristics

Agricultural areas dominate the visual scenes in Imperial Valley 115 and are characterized by square or rectangular fields, typically 40 to 80 acres in area, that are sometimes interspersed with scattered farmhouses and related agricultural structures. These agricultural regions are crossed by irrigation canals and drainages that parallel dirt farm roads. Several cattle feed yards, other animal ranches, and aquaculture farms are located throughout the Imperial Valley, as are a few agricultural processing/packaging plants including Spreckels Sugar, fertilizer/chemical plants, and other agricultural-related operations.

Imperial County's urban areas include the areas surrounding seven incorporated cities (Brawley, El Centro, Imperial, Westmorland, Holtville, Calipatria, and Calexico) and five unincorporated communities (Heber, Niland, Seeley, West Shores/Salton City, and Winterhaven). These areas are characterized by low-rise, mixed-use development and contain or propose a broad range of residential, commercial, and industrial uses.

Military activities are centered at the Naval Air Facility El Centro, located north of Seeley, with military field and aerial operations conducted on approximately 350,000 acres in the Chocolate Mountains, 76,800 acres in the Superstition Mountains, and at other smaller sites throughout the County.

Certain areas previously used as farmland are being converted to solar power facilities. If all solar projects currently proposed and under review are approved, Imperial County would have over 23,000 acres of solar development.

4. Sources of Light and Glare

Light and glare may be created day or night from various residential, commercial, and industrial uses throughout the County. Potential sources of glare during the day may include surface water, motor vehicles either parked or traveling on surrounding roadways, paved surfaces, building windows, and solar facilities. At night, light sources include street lamps, accent and security lighting on buildings, parking lot lighting, vehicle headlights, existing transmission lines, and some park facilities. The Ocotillo Wind Energy Facility is located along I-8 near the western border between Imperial and San Diego counties. This project has red and white flashing lights on the towers that dominate nighttime views for Ocotillo residents and travelers along Interstate 8.

F. AIR QUALITY AND CLIMATE CHANGE

Air quality is defined by the concentration of pollutants related to human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources and the atmosphere's ability to transport and dilute such emissions. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources and the atmosphere's ability to transport and dilute such emissions.

Imperial County is located in the southeastern corner of California in a relatively flat desert valley surrounded by mountain ranges to the east and west. The State and Federal air quality regulations designated this region as the Salton Sea Air Basin (SSAB), which is under the jurisdiction of the Imperial County Air Pollution Control District (ICAPCD). The SSAB encompasses the entirety of Imperial County and the southeast portion of Riverside County and is generally an arid desert region, with a significant portion located below sea level. A semi-permanent high-pressure cell blocks mid-latitude storms and causes sunny skies most of the time. The SSAB contains relatively

few major emissions sources, but may experience emissions from significant vehicular traffic, particularly near the two international port of entries. Emissions sources consist of geothermal power generation, food processing, plaster manufacturing, and other light industrial facilities. Additionally, the continued decrease in surface elevation of the Salton Sea is expected to generate dust containing decades' worth of agricultural runoff from exposure of land currently underwater.

Air quality in the County is measured at air quality monitoring stations located in Calexico, El Centro, Niland, Westmorland, and Brawley.

1. State and Federal Air Quality Standards

The Federal Clean Air Act (CAA) of 1971 and the CCA Amendments (1977) established the national ambient air quality standards (NAAQS), which are promulgated by the EPA. The State of California has also adopted its own California ambient air quality standards (CAAQS), which are promulgated by the California Air Resources Board (CARB). Both the State of California and the Federal government have established health-based ambient air quality standards for six air pollutants. These pollutants include O₃, CO, NO₂, SO₂, PM₁₀ and subset PM_{2.5}, and lead. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Specific geographic areas are classified as attainment, nonattainment, or unclassified areas for each pollutant, based on the comparison of measured data with Federal and State standards. The unclassified designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. The Imperial County portion of the SSAB is currently designated as a nonattainment area for the 8-hour O₃ NAAQS and CAAQS. The entire County is designated as a nonattainment area for the PM₁₀ NAAQS and CAAQS. The central portion of Imperial County is designated as a nonattainment area for the PM_{2.5} NAAQS. The Imperial County portion of the SSAB is in attainment or unclassified with the NAAQS and CAAQS for the other applicable criteria pollutants. **Table 1** shows the Federal and State attainment status for the Imperial County portion of the SSAB.

TABLE 1
FEDERAL AND STATE AMBIENT AIR QUALITY ATTAINMENT STATUS FOR IMPERIAL COUNTY

Pollutant	Federal	State
8-Hour Ozone (O ₃)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM ₁₀)	Nonattainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	Nonattainment (central portion) Unclassified (remainder)	Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	—	Attainment
Hydrogen Sulfide	—	Unclassified

Visibility Reducing Particles	—	Unclassified
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The Environmental Protection Agency (EPA), under the provisions of the CAA, requires each State with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each State and the Federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

For 8-Hour Ozone (O₃), the ICAPCD adopted the Final 2009 8-hour Ozone Modified Air Quality Management Plan in July 2010. The plan includes control measures which are an integral part of how the ICAPCD currently controls the ROG and NO_X emissions within the O₃ nonattainment areas. The overall strategy includes programs and control measures which represent the implementation of Reasonable Available Control Technology (40 CFR 51.912) and the assurance that stationary sources maintain a net decrease in emissions.

For Coarse Particulate Matter (PM₁₀), the ICAPCD adopted the PM₁₀ SIP in August 2009 that developed fugitive dust control measures (Regulation VIII). On April 23, 2013, the EPA approved Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP.

For Fine Particulate Matter (PM_{2.5}), the ICAPCD adopted the PM_{2.5} SIP in December 2014. This SIP concluded that the majority of the PM_{2.5} emissions resulted from transport in nearby Mexico. Specifically, the SIP demonstrates attainment of the 2006 PM_{2.5} NAAQS “but for” transport of international emissions from Mexicali, Mexico. In accordance with the CAA, the PM_{2.5} SIP satisfies the attainment demonstration requirement satisfying the provisions of the CAA.

The ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, County governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force (AQTF) has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The AQTF membership includes representatives from Federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

2. Climate Change

According to the State of California Climate Change Center, temperatures in California will rise significantly during this century as a result of the greenhouse gas (GHG) emissions humans release into the atmosphere. Generally, research indicates that California should expect overall hotter and drier conditions, with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea-level rise.

In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing. Mean annual minimum temperatures are projected to substantially increase in Imperial County, as temperature change projections indicate mean annual, monthly median, and minimum and maximum temperature increases over

2°C. Projections also show a change in the distribution of precipitation and vegetation shift due to climate change, based on the capacity of species to migrate and keep up with geographic change.

Further State studies and assessments are expected to better understand the scope, timing, cost, and feasibility of various management options to address climate risks. Understanding these risks will allow the State to prioritize actions and investments to safeguard the people, economy, and natural resources from climate change impacts. In addition, these further studies will assist in determining how future climate change is expected to impact the air quality of Imperial County and how the ICAPCD can address those impacts.

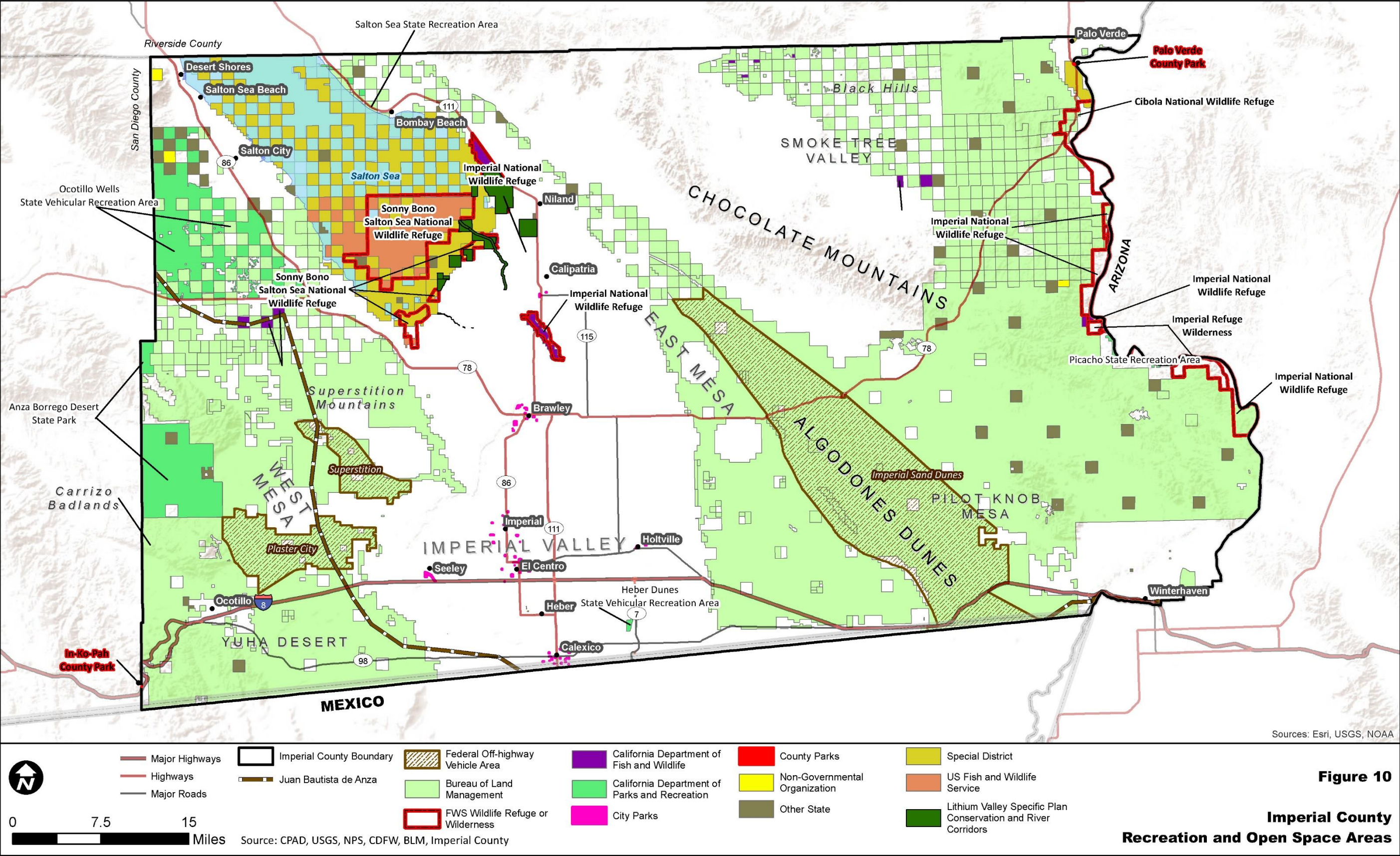
G. OPEN SPACE AND RECREATION

Parks and recreation in Imperial County are enhanced by the natural resources of the Sonoran Desert, including the mountains, sandy hills, Colorado River, and Salton Sea. Because of the varied terrain throughout the County, abundant opportunities for recreation exist, such as hiking, boating, fishing, hunting, and off-highway activities. Many of these opportunities are located on land under Federal or State jurisdiction, but multiple smaller parks are located in the urban areas of the County.

Much of Imperial County is open space. Open space is considered any parcel or area of land or water that is essentially unimproved and devoted to conservation of natural resources, outdoor recreation, and protection of the public health and safety. The State and Federal governments manage large amounts of open space in Imperial County, the largest being the California Desert Conservation Area under Bureau of Land Management (BLM) jurisdiction. State and Federal protected areas, including a number of wilderness areas, are shown on **Figure 10**.

The Imperial County Planning and Development Services Department (ICPDS) operates five parks: Sunbeam Lake Park, Wiest Lake Park, Red Hill Marina Park, Ocotillo Community Park, and Palo Verde Park. These County parks offer a variety of passive and active recreation opportunities, including playground equipment, basketball courts, picnic tables, barbecue grills, campsites, walking trails, boating and fishing opportunities, and open space for passive recreation.

Imperial County hosts the El Centro Naval Air Facility, Imperial County Airport and other airports adjacent to open space areas. Countywide aircraft facilities are identified in the Airport Land Use Compatibility Plan and include land use compatibility and open space designations that protect people and property from potential aircraft accidents in the flight path.



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III. GOALS AND OBJECTIVES

A. PREFACE

The Conservation and Open Space Element of the General Plan serves as the primary policy statement by the Board of Supervisors for implementing policies to conserve the natural environment of Imperial County. The County recognizes that the degradation of one natural resource will have a cumulative effect upon the total resource base, including water, vegetation, air, wildlife, soil, minerals, and cultural landscapes. This section of the Element presents Imperial County's Goals and Objectives relative to planning for the natural environment of the unincorporated areas of the County.

The Goals and Objectives, together with the Implementation Programs and Policies in Chapter IV, are the statement that shall provide direction for private development and industry as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the citizens as being desirable and deserving of community time and resources to achieve. These Goals and Objectives, therefore, are important guidelines for decision making relative to proposed projects and land use planning. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these Goals and Objectives, and those of the other General Plan Elements, should be used as guidelines but not doctrines.

B. GOALS AND OBJECTIVES

Conservation of Environmental Resources for Future Generations

Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.

Objective 1.1: Encourage uses and activities that are compatible with the fragile desert environment and foster conservation.

Objective 1.2: Coordinate the acquisition, designation, and management of important natural and cultural resource areas in Imperial County with other governmental agencies as appropriate.

Objective 1.3: Develop standards to protect significant natural and cultural resource areas for the purpose of enhancing both the planning and decision-making process.

Objective 1.4: Ensure the conservation and management of the County's natural and cultural resources.

Objective 1.5: Provide opportunities for enjoyment of a quality natural experience to present and future generations.

Objective 1.6: Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.

Conservation of Biological Resources

Goal 2: The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.

Objective 2.1: Designate critical habitats for Federally and State-listed species.

Objective 2.2: Develop management programs, including preservation of habitat for flat-tailed horned lizard, desert pupfish, and burrowing owl.

Objective 2.3: Support investigation of long-term climate change effects on biological resources.

Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.

Objective 2.5: Give conservation of sensitive species and habitat a high priority in County park acquisition and development programs.

Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.

Preservation of Cultural Resources

Goal 3: Preserve the spiritual and cultural heritage of the diverse communities of Imperial County.

Objective 3.1: Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.

Objective 3.2: Develop management strategies to preserve the memory of important historic periods, including Spanish, Mexican, and early American settlements of Imperial County.

Objective 3.3: Engage all local Native American Tribes in the protection of tribal cultural resources, including prehistoric trails and burial sites.

Conservation of Geological Resources

Goal 4: The County will identify and protect geologic, soil, aggregate, and mineral resources for extraction while minimizing the effect of mining on surrounding land uses and other environmental resources.

Objective 4.1: Require use of latest technologies for extraction of mineral and quarry/aggregate resources that protect the natural desert environment.

Objective 4.2: Require that mineral extraction and reclamation operations be performed in a way that is compatible with surrounding land uses and minimize adverse effects on the environment.

Objective 4.3: Safeguard the use and full development of all mineral deposits.

Objective 4.4: Regulate the development adjacent to or near all mineral deposits and geothermal operations due to the potential for land subsidence.

Objective 4.5: Preserve significant geological features such as rock outcroppings, the Algodones Dunes, Imperial Sand Dunes, Salton Buttes, and Shell Beds in Yuha Basin.

Conservation of Visual Resources

Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.

Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

Objective 5.2: Utilize the Code Enforcement process to eliminate visually dilapidated buildings that impact the visual character of rural communities.

Conservation of Water Resources

Goals 6: The County will conserve, protect, and enhance water resources in the County.

Objective 6.1: Ensure the use and protection of all the rivers, waterways, and groundwater sources in the County for use by future generations.

Objective 6.2: Ensure proper drainage and provide accommodation for storm runoff from urban and other developed areas in manners compatible with requirements to provide necessary agricultural drainage.

Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.

Objective 6.4: Eliminate potential surface and groundwater pollution through regulations as well as educational programs.

Objective 6.5: Reclaim polluted water bodies, such as the New and Alamo Rivers.

Objective 6.6: Ensure protection of water bodies that are important for recreational fishing.

Objective 6.7: Prohibit the inappropriate siting of solid or hazardous waste facilities next to water bodies or over sources of potable groundwater or recharge basins. In association with the cleanup of the New River, all existing landfills in or near the river should eventually be closed.

Objective 6.8: Discourage the use of hazardous materials in areas of the County where significant water pollution could pose hazards to humans or biological resources.

Objective 6.9: Identify and protect watersheds and key recharge areas for the protection of water quality and groundwater.

Objective 6.10: Encourage water conservation and efficient water use among municipal and industrial water users, as well as reclamation and reuse of wastewater.

Objective 6.11: Coordinate with the appropriate agencies for the availability of water to meet future domestic, industrial/commercial and agricultural needs.

Protection of Air Quality and Addressing Climate Change

Goal 7: The County shall actively seek to improve the quality of air in the region.

Objective 7.1: Ensure that all project and facilities comply with current Federal, State, and local requirements for attainment of air quality objectives.

Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all Federal, State and local agencies in the effort to attain air quality objectives.

Objective 7.3: Work cooperatively with the EPA and CARB in evaluating air quality monitoring in Imperial County.

Objective 7.4: Enforce and monitor environmental mitigation measures relating to air quality.

Objective 7.5: Coordinate efforts with Imperial County Transportation Commission (ICTC) and other appropriate agencies to reduce fugitive dust from unpaved streets.

Objective 7.6: Explore and assess strategies to reduce greenhouse gas emissions in the County.

Protection of Open Space and Recreational Opportunities

Goal 8: Open space shall be maintained to protect the aesthetic character of the region, protect natural resources, provide recreational opportunities, and minimize hazards to human activity.

Objective 8.1: Confine future urbanization within adopted Urban and Community areas.

Objective 8.2: Focus all new renewable energy development within adopted Renewable Energy Overlay Zones.

Objective 8.3: Recognize the regional significance of the development and conservation of recreational opportunities in Imperial County.

Objective 8.4: Provide a broad range of recreational facilities for all ages and economic groups emphasizing family-oriented opportunities.

Objective 8.5: Encourage the acquisition and development of additional County recreational facilities.

Objective 8.6: Recreational activities should be developed in such a manner as to minimize any significant environmental impact on humans and existing natural resources.

Objective 8.7: Encourage the development and improvement of recreational facilities in Imperial County.

Objective 8.8: Coordinate Federal, State, and County agencies for trail-oriented recreational uses.

Objective 8.9: Conserve desert lands, within the County's jurisdiction for wildlife protection, recreation, and aesthetic purposes.

Conservation and Restoration of Salton Sea

Goal 9: The County shall work towards comprehensive restoration of the Salton Sea in order to provide recreation, healthy habitat for wildlife, and economic revitalization in the region.

Objective 9.1: Develop programs in association with County, State, and Federal agencies and the Salton Sea Joint Powers Authority (JPA) to restore the Salton Sea.

Objective 9.2: Encourage renewable energy developments that include Salton Sea restoration components.

Objective 9.3: Coordinate with US Fish and Wildlife Service, California Department of Fish and Wildlife, and the Salton Sea JPA in developing programs to protect and restore migratory bird habitat, desert pup fish, and other sensitive or endangered species associated with the Salton Sea.

Objective 9.4: Develop educational programs to promote a greater understanding of the value and importance of the Salton Sea habitat management areas among County residents.

C. RELATIONSHIP TO OTHER ELEMENTS

Table 2 identifies the relationship between the Conservation and Open Space Element Goals and Objectives to other Elements of the Imperial County General Plan. The Issue Area identifies the broader goals of the Element and the "Xs" identify that related objectives are contained in the corresponding Elements.

TABLE 2
CONSERVATION AND OPEN SPACE ELEMENT POLICY MATRIX

Conservation and Open Space Issue Areas	General Plan Elements								
	Agricultural	Circulation/ Scenic Highways	Housing	Land Use	Noise	Parks/ Recreation	Renewable Energy/ Transmission	Seismic/ Public Safety	Water
Biological Resources				X			X		X
Cultural Resources				X			X		
Geologic Resources				X			X		
Mineral Resources				X			X		
Salton Sea Restoration	X			X			X		X
Visual Resources		X		X			X		
Water Resources	X			X		X	X	X	X
Air Quality and Climate Change		X		X			X		
Open Space and Recreation			X	X		X	X		

IV. IMPLEMENTATION PROGRAMS AND POLICIES

A. PREFACE

The primary mechanism to implement the Goals and Objectives of the Conservation and Open Space Element is to incorporate environmental concerns into land use planning. This occurs primarily through the discretionary permit process of subdivision map review, rezones, conditional use permits, specific plans, and general plan amendments. Accompanying all of these applications is an environmental review process to identify significant site resources and evaluate project impacts.

In addition, the process of updating the County's resource data base needs to be a continual process of information exchange with County, State, and Federal resource agencies. This includes the Bureau of Land Management, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Imperial Irrigation District, Soil Conservation Service, State Department of Conservation, Regional Water Quality Control Board, Air Pollution Control District, and others.

B. POLICIES AND PROGRAMS

The following policies and programs describe activities which are intended to implement the Goals and Objectives that have been described in the previous section.

1. Biological Resource Conservation

Policy

Provide a framework for the conservation and enhancement of natural and created open space which provides wildlife habitat values.

Programs

- Identify Resource Areas (see Figures 1 through 3) to conserve and enhance native vegetation and wildlife. These areas include agency designated sensitive habitats with the US Fish & Wildlife, BLM Areas of Critical Environmental Concern (ACECs), and California Department of Fish & Wildlife. These designated lands are designed for the protection and perpetuation of rare, endangered, and threatened species and areas important for scientific study.
- Projects within or in the vicinity of a Resource Area should be designed to minimize adverse impacts on the biological resources it was created to protect.
- Accept donations of land which have high wildlife value. Where appropriate, Imperial County shall attempt to exchange donated lands of high wildlife value with other State, Federal, or other resource agencies equipped to protect and manage such lands for other lands more appropriate to County needs.
- Develop an environmental mitigation program that protects, and restores Salton Sea wildlife habitats as offsets to biological disturbances identified through the CEQA review process for development projects. The program would allow the County and/or Salton Sea JPA to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts.
- Conserve the native habitat of sensitive plants and animals through the dedication of open space easements, or other means that will ensure their long-term protection and survival. Such easements may preclude the erecting of any structures (temporary or permanent), vegetation removal, or any other activities. These dedicated open space easements would also serve to reduce potential indirect impacts to sensitive biological resources that may result from human activities associated with future developments.
- Areas designated for biological open space conservation shall include buffers, which provide important breeding and foraging habitats for native and migratory birds and animals. Such buffers shall serve to separate future development from adjacent native habitat areas to ensure the perpetual regeneration of these habitats.
- Protect riparian habitat and other types of wetlands from loss or modification by dedicating open space easements with adequate buffer zones, and by other means to avoid impacts from adjacent land uses. Road crossings or other disturbances of riparian

habitat should be minimized and only allowed when alternatives have been considered and determined infeasible.

- Rock outcrops which serve as significant boulder habitat for sensitive biological resources should be considered within open space easements.
- Preserve existing California fan palms in natural settings and other individual specimen trees which contribute to the community character and provide wildlife habitat.
- Preserve and encourage the open space designation of wildlife corridors which are essential to the long-term viability of wildlife populations.
- Integrate open space dedications in private developments with surrounding uses to maximize a functional open space/recreation and wildlife management system.

Policy

Landscaping should be required in all developments to prevent erosion on graded sites and, if the area is contiguous with undisturbed wildlife habitat, the plan should include revegetation with native plant species.

Programs

- Revegetation plans shall be submitted and approved by the Imperial County Planning and Development Services Department and relevant resource agencies for the mitigation of sensitive habitat lost, and for disturbed areas created by roads or installation of facilities adjacent to native habitat. Such plans shall mitigate for the loss of sensitive habitat and habitat value based on a ratio consistent with accepted policy, as recommended by the State and Federal resource agencies. These specifications shall include, at a minimum, the following:
 - Locations of ecologically appropriate planting areas.
 - Site preparation/remedial grading.
 - Amounts, sizes, and locations of appropriate over-story tree species to be planted.
 - Hydroseed/container stock planting mixes and locations for appropriate understory shrub species and groundcovers.
 - Timing of planting (for example, most plantings should be conducted during the rainy season).
 - Protective measures during and after plant installation, such as temporary chain-link fencing to keep out construction equipment/personnel; caging to avoid potential herbivory (animal browsing); and permanent wood-rail fencing or signage to deter human intrusions. This would also reduce potential impacts caused by future active uses, or "edge effects", from adjacent residential areas.
 - Irrigation schedule which specifies timing, frequency, length, and method of watering to ensure successful plant establishment. For example, temporary irrigation through the use of drip emitters should be installed around each tree to

encourage deep tap rooting. Irrigation may only be necessary for the first one or two years, but could be extended throughout the monitoring period as determined necessary by the consulting biologist.

- The proposed habitat restoration sites shall be monitored for an appropriate period of time to ensure long-term plant survivorship. Monitoring shall be conducted by a qualified biologist proficient at horticultural and botanical sampling methods. The biological monitor shall be present at the time of plant installation to ensure correct implementation. The monitoring program shall clearly specify success criteria (e.g., percent vegetative cover for shrub species, percent canopy cover for tree species, etc.) to be evaluated by the biological monitor on a quarterly basis. Annual reports detailing the progress of the revegetation effort in attaining these goals shall be submitted to the Imperial County Planning and Development Services Department and relevant resource agencies.
- A maintenance program shall be implemented for the length of the monitoring period. Primary goals of the maintenance program shall include staking, weed control and replacement of planted material that is diseased or has died. If the proposed restoration sites are not meeting stated goals of the Plan, supplemental remedial measures, such as additional weed control or replacement plantings, shall be recommended during the monitoring and maintenance period.
- When appropriate, a bond or other security shall be provided for all required revegetation plans, which would be released by the County only after: 1) the consulting biologist has concluded that all specified success criteria have been met; and, 2) the County and other relevant permitting agencies have approved the successful completion of the plan.
- Clearing of shrubs, vines, and other native vegetation for purposes of fire control shall be coordinated with the local fire district, particularly in fire-prone areas. Where clearing is necessary, high-fuel plants shall be replaced with native, low-fuel plants. Where feasible or necessary for habitat protection, fire buffer clearing shall be done by hand so as to minimize disturbance to understory species. A list of important understory groundcover, shrubs, vines, ferns, and other vegetation shall be compiled by a qualified biologist, and included in all required landscape plans prior to final approval of individual projects.

2. Cultural Resources Conservation

Policy

Identify and document significant historic and prehistoric resources, and provide for the preservation of representative and worthy examples; and recognize the value of historic and prehistoric resources, and assess current and proposed land uses for impacts upon these resources.

Programs

- The County will use the CEQA process to conserve cultural resources and conform to Senate Bill 18 "Consultation with Tribal Governments" and Assembly Bill 52 "Consultation with Tribal Governments". Public awareness of cultural heritage will be stressed. All

information and artifacts recovered in this process will be stored in an appropriate institution and made available for public exhibit and scientific review.

- Encourage the use of open space easements in the conservation of high value cultural resources.
- Consider measures which would provide incentives to report archeological discoveries immediately to the Imperial Valley Desert Museum.
- Coordinate with appropriate Federal, State, local and tribal agencies to provide regular updates to the "Sensitivity Map for Cultural Resources" (Figure 6).
- Discourage vandalism of cultural resources and excavation by persons other than qualified archaeologists. The County shall study the feasibility of implementing policies and enacting ordinances toward the protection of cultural resources such as can be found in California Penal Code, Title 14, Point 1, Section 622-1/2. The County should maintain confidentiality of specific resource locations to prevent vandalism and desecration of sensitive cultural resources.

3. Mineral Resources Conservation

Policy

Control the extraction of mineral resources in order to assure minimal disturbance to the environment, conservation of significant mineral deposits, and to protect mining operations from encroachment by incompatible land use.

Programs

- The County shall require all surface mine operators to submit surface mining and reclamation plans prior to beginning mining operations. Surface mining includes surface work incident to an underground mine. Such plans shall be processed by the Planning and Development Services Department and shall require the approval of the Planning Commission. Following the approval of those plans, the issuance of all other required regulatory permits, and the commencement of surface mining operations, the Planning and Development Services Department shall inspect each surface mining operation at least once a year, for the life of the operation to assure compliance with the mining plans. The County should coordinate with the Department of Conservation's Office of Mine Reclamation (OMR) and the State Mining and Geology Board (SMGB) to ensure proper administration of the Surface Mining and Reclamation Act of 1975 (SMARA).
- The County shall protect known mineral deposits and mining operations from the encroachment of incompatible urban land uses. All protected areas shall be reevaluated in light of future State reports identifying areas of regional and statewide mineral significance. The Existing Mineral Resources Map (Figure 8) for Imperial County provides the details and locations of mining activities.

4. Visual Resources Conservation

Policy

Develop planning programs to conserve and protect visual resources and scenic views from incompatible development and land uses.

Programs

- Through the development review and CEQA process, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.
- Through the development review and CEQA process, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native landscaping that screens buildings and parking lots and blends development with the natural landscape.
- Amend the Land Use Ordinance, and/or Community Area Plans, as applicable, to enact or revise ordinance standards to protect scenic resources. Adoption and implementation of scenic protection standards shall not interfere with agricultural uses on private lands. Standards for land use permits, including industrial and processing uses, and subdivisions should include visual assessments by qualified experts; visually effective setbacks near highways and roadways; siting in unobtrusive locations; and standards for height, architectural design, landscaping, lighting, and signs. The standards should emphasize avoiding visual impacts through alternative locations and designs where feasible. Establish consistent Countywide Viewshed Protection Standards.

Policy

Develop a Scenic Highway program that identifies scenic highways for future state-designation and visual resource preservation.

Program

- Coordinate with Caltrans and the County to develop a scenic corridor program that establishes specific guidelines for identifying scenic corridors and analysis for new projects in the vicinity. At a minimum, the guidelines should:
 - a) specify the features that need to be protected through a site-specific analysis of each Viewshed
 - b) state why it is important to protect those features
 - c) where applicable, establish specific mapped boundaries that define the minimum area necessary to protect the identified features
 - d) identify the type of inappropriate development that should be regulated
 - e) involve area property owners
 - f) be accompanied by an economic assessment

- Coordinate with Caltrans to identify the candidate roads and highways for future scenic highway designation. The potential candidates considered eligible for designation include:
 - Interstate 8
 - State Route 78
 - State Route 111
 - County Highway S-22
- Work with property owners to preserve prominent ridgelines and scenic backdrops through open space agreements, contracts, or other appropriate instruments along designated scenic corridors.

5. Protection of Air Quality and Addressing Climate Change

Policy

Reduce PM10 and PM2.5 emissions from unpaved roads, agricultural fields, and exposed Salton Sea lakebed.

Programs

- Implement all ICAPCD particulate matter (PM) emission controls including the Final PM10 2009 State Implementation Plan and the 2013 State Implementation Plan for the 2006 24-Hour PM2.5 Moderate Nonattainment Area.
- Support programs, policies, and efforts to restore the Salton Sea and reduce fugitive dust emissions from exposed playa.

Policy

Work cooperatively with ICTC and other appropriate agencies to reduce vehicle miles traveled countywide in order to improve air quality and reduce greenhouse gas emissions.

Programs

- Direct most new residential development away from rural and agricultural areas and concentrate it in higher density residential areas located near major transportation corridors, transit routes, community centers, and town/urban centers where resources and services are available.
- Cooperate in a countywide VMT Reduction Program in partnership with the ICAPCD, SCAG, ICTC, and Imperial Valley Transit (IVT).

Policy

Promote alternative transportation programs, policies, and development in order to reduce vehicle miles traveled and address air quality and greenhouse gas emissions.

Programs

- Review development applications to identify opportunities for connecting land uses to non-motorized routes, incorporating safe road crossings at major intersections, and including secure, weatherproof bicycle parking and storage facilities. Ensure long-term maintenance of all such facilities.
- Coordinate with SCAG, ICTC, IVT, and local cities to identify and map existing and future bus lines (routes) and transit corridors for inclusion in the Land Use and Circulation Element.
- Adopt a "Complete Streets" Ordinance to ensure that the County's streets and roads are designed and operated as a balanced, multimodal transportation network that enables safe access for all users. "All users" includes pedestrians, bicyclists, persons with disabilities, movers of commercial goods, transit vehicles, and users, and motorists of all ages and abilities.

6. Open Space and Recreation Conservation

Policy

Identification of lands appropriate for open space conservation shall be included in the development review process. The application of regulatory controls must be non-confiscatory, non-arbitrary, and reasonable. It is not the intent of any of these measures to deny any landowners the reasonable use of his land, or be considered a "taking" under the law. The following are examples of various regulatory techniques:

Programs

- Ensure consistency with the Parks and Recreation Element and pertinent factors such as existing park conditions, funding sources, and anticipated recreational needs.
- Ensure consistency and compliance with the Quimby Act which allows the County to impose fees in order to ensure provision of 3 acres of park area per 1,000 residents. Assembly Bill 1359 allows fees collected from new housing development to be used on parks outside of the housing development's neighborhood.
- Ensure compliance with Imperial County Land Use Ordinance (Title 9) Division 29: Parks and Recreation Regulations to ensure the provision of specific rules and regulations for County parks and recreational areas in order to promote public health, safety, and general public welfare.
- Agricultural lands shall require a minimum parcel size of 40 acres for the conservation and protection of productive agricultural lands.
- Continue use of the "S" Open Space Zone for all unincorporated areas of the County not included in a precise zoning map.
- There are some lands in public ownership at the present time. The value and potential uses of these lands should be evaluated, and the possibility of exchanges for desirable open space or recreation lands explored.

- The acquisition of development rights can also be used to permit the retention of the open character of certain land uses, notably agriculture. Incentive for owners to sell these rights would result from a considerably lower tax assessment in view of the absence of development potential.

Policy

The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County.

Programs

- Encourage State and Federal acquisition or management of areas or sites determined by the County and other agencies to possess important natural resource values, including small but significant landscape features and scientific sites.
- Participate in the process of site and area evaluation and analysis after an area is determined to possess natural resource value.
- Encourage acquisition of unique archaeological or scientific sites by State and Federal Agencies or non-profit organizations interested in preserving our cultural heritage.
- Allow only compatible land uses and consistent zoning adjacent to protected areas.
- Zone areas of natural resource value to conserve and protect their intrinsic values when applicable.
- Preserve unique sites and areas by controlling direct public access.
- Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.

Policy

The County shall discourage urban development on State-designated important agricultural lands including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

Programs

- Recognize the incompatibility of small parcels to agricultural uses by adopting and enforcing large minimum acreage requirements in agricultural zones (excluding the A-1 Zone).
- Relate minimum acreage requirements in each zone to soil characteristics, climate, water availability, crop types, existing land use ownership patterns, and proximity to urban development.
- Encourage development of agriculturally related industries, such as packing and processing, on marginally productive lands.

- Continue a fee or assessment on new development which converts land presently in agricultural use. The revenue could be used to purchase development rights or fee title to other land still in production or open space, as deemed necessary.

Policy

The County shall take a pro-active role in working with local, State, and Federal agencies to maintain and develop lands for outdoor recreation.

Programs

- Encourage State and Federal Agencies to develop and operate recreational facilities which are determined by the County to possess more than local significance.
- Provide County input into State and Federal recreation and wilderness areas so that the natural values of the area are conserved.
- Support controlled development of recreation facilities in primitive or wilderness areas so that the natural values of the area are conserved.
- Off-road vehicle (ORV) use is recognized as a popular recreational pursuit in the Imperial Valley. Areas which are not environmentally sensitive should be identified for this purpose.
- Encourage the recreational use of lands located in hazardous areas such as flood plains.
- Establish adequate development standards for private recreation facilities to assure the conservation of natural and scenic values.
- Encourage the identification and designation of historic buildings, landmarks, and sites within the County.
- Encourage the acquisition of historic and cultural sites by public agencies or nonprofit organizations interested in their preservation.
- With the Imperial Irrigation District, explore the possibility of utilizing and improving certain portions of the canal system for picnic and fishing sites.
- Encourage the use of unobtrusive materials, structures, and color in power line transmission corridors. Vegetative screening is encouraged wherever possible.

Policy

The County shall establish a program to identify open space necessary for the protection of public health and safety, such as floodplains, geologic risk areas, and airport flight zones, and maintain these areas in open space, agriculture, or other appropriate low intensity uses.

Programs

- Floodway and floodplain boundaries shall be identified on County zoning maps when required studies have been completed.

- Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards (Flood Drainage Prevention Regulation, Division 6) should be permitted in the floodplain.
- Limit use of floodplains to natural wildlife habitat, non-structural recreational use, and agricultural production.
- Some encroachment into floodplain areas may be permitted with proper hydrologic design, review by the Department of Public Works and the floodplain administrator to assure that no public safety hazard is created, and a determination made that no significant impact to wildlife is created.
- Identify areas of known seismic activity and delineate on County zoning maps general areas in which development should be restricted.
- Control structural development upon or in the vicinity of an active fault.
- Require detailed engineering or soil studies on a case-by-case basis for development proposals located in an area characterized by soils of limited structural capabilities.
- Control development in areas of soil with properties which exhibit problems of erosion, limited bearing capacity, subsidence, shrink-swell, or slippage.
- Adopt General Plan designations and appropriate zoning to control residential uses in the aircraft flight zones and in areas which may be subjected to severe noise levels.
- Coordinate the review and consistency of projects near airports with the Airport Land Use Commission.

Policy

The County will establish a policy to clean up the Salton Sea and the rivers of Imperial County, specifically the New River and the Alamo River, in order to promote water recreation activities, habitat conservation, water quality, and other beneficial uses.

Programs

- The County of Imperial will work with Mexico to establish clean up procedures for the New and Alamo Rivers.
- Landfills located in or near the New River should eventually be closed as part of the New River cleanup program.
- The County will coordinate with local, State and Federal agencies to implement Salton Sea restoration efforts that include the Salton Sea Ecosystem Restoration Program and Salton Sea Restoration and Renewable Energy Initiative.
- Develop an environmental mitigation program that protects and restores Salton Sea wildlife habitats as offsets to water quality and biological disturbances identified through the CEQA preview process for development projects. The program would allow the County and/or Salton Sea JPA to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts.

LAND USE ELEMENT
of the Imperial County
GENERAL PLAN

Prepared by:

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Planning & Development Services Director

Approved By:

Board of Supervisors
October 6, 2015

TRACKING SHEET

<u>ACTION</u>	<u>DATE</u>	<u>MO</u>
Adopted by Board of Supervisors	Nov. 9, 1993	MO #18
Revisions adopted by Board of Supervisors	Nov. 19, 1996	MO #11A1
Revisions adopted by Board of Supervisors	Dec. 16, 2003	MO #25
Revisions adopted by Board of Supervisors	Oct. 17, 2006	MO #24
Revisions adopted by Board of Supervisors	Jan. 29, 2008	MO #18
Revisions adopted by Board of Supervisors	October 6, 2015	MO #18b

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IMPERIAL COUNTY GENERAL PLAN LAND USE ELEMENT

I. INTRODUCTION

A. Preface

As required under California Government Code Section 65302(a) this document represents Imperial County's amended Land Use Plan. This Land Use Element **shall** serve as a guide to the decision makers, staff and the public to address the distribution, general location and extent of uses of land for housing, business, industry, open space, agriculture, and public facilities. This Land Use Element amends and updates the current Land Use Element adopted on November 24, 1998, and any amendments thereto.

The Land Use Element describes existing land uses within the County and the facilities and services which provide the public infrastructure to support these uses. Also stated are Goals and Objectives for future growth, expansion of public facilities, and environmental resource protection; and policies and programs to guide such future growth. A Land Use Plan delineates, at a scale of 1 inch = 2 miles, County areas designated within eight land use categories. A copy of the Land Use Plan is available at the County Planning & Development Services Department, at 801 Main St., El Centro, Ca. 92243 (760)-482-4236.

B. Purpose of the Land Use Element

The primary purpose of the Land Use Element is to identify the goals, policies and standards of the General Plan that will guide the physical growth of Imperial County, including the public facilities necessary to support such growth. It is prepared pursuant to Government Code Section 65302(a) which reads as follows:

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 (see Figure 1). 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 identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to those areas....

This Element, therefore, is to show in a very general way a range of uses for lands within the County, without projecting when or how a use will be developed. The General Plan and this Element is based in part on a statement of the purpose of Government and Government Plans and on five basic goals adopted by the Board of Supervisors on January 2, 1973. The purpose of Government and, therefore, Government Plans is to help every citizen to secure a better life than would be possible without the efforts of Government in their behalf.

The six basic concepts herewith adopted by the Board in support of the General Plan are:

- Quality of Life.
- Safety for people and property.
- Wide selection of social and economic opportunities.
- Efficient use of natural, human and financial resources.
- Clean air, water and land.
- Quiet, beautiful communities and rural areas.

The intent of the California legislature was and is to provide effective and efficient land uses in an orderly and well planned manner. In keeping with this intent, the County shall use this plan to guide all development in Imperial County and to plan for necessary improvements for public facilities and services.

The intent of the County of Imperial in preparing the Land Use Element is to maintain and promote the economic prominence of agricultural enterprises, determine appropriate urban development centers and encourage their economic development, protect the existing character of rural and recreational communities and areas, and preserve the unique natural and cultural resources of the Imperial Valley as a region.

C. Urban Areas and Community Areas

Urban Areas and Community Areas are General Plan designations which provide for a range of permitted land uses within specific geographic areas of the County.

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For urbanizing areas surrounding incorporated cities, the Previous (prior to 1993) Land Use Plans duplicated the land use planning efforts of the cities and, at times, conflicted with them. Implementation of this Update is intended to include zone reclassification studies for areas adjacent to cities which will be based on the adopted Land Use Plan of each city. County zoning would be changed to reflect residential densities and land use intensities which are at or below that which would be permitted by the city Land Use Plan. For the “urban” unincorporated areas of Heber, Niland, Salton City, Seeley, West Shores and Winterhaven new Land Use Plans were prepared. These may also need updates at various times. Zoning limitations may also be recommended which would limit development where public facilities are presently inadequate to provide an urban level of service; or where premature development would impact continued agricultural use of adjacent property or cause “leapfrog” or “checkerboard” land use patterns.

1. Urban Areas

The Urban Area designation on the Land Use Plan includes areas surrounding the seven incorporated cities; Brawley, El Centro, Westmorland, Holtville, Calipatria, Imperial and Calexico. Urban Areas also include the unincorporated communities of Niland, Heber, Seeley, Winterhaven and West Shores/Salton City (see also Figure 1). These areas are characterized by a full level of urban services, in particular public water and sewer systems, and contain or propose a broad range of residential, commercial, and industrial uses.

It is anticipated that these areas will eventually be annexed or incorporated and should be provided with the full range of public infrastructure normally associated with cities. Therefore, development in these areas, while allowed in the County, any new development shall provide for the extension or development of full urban services such as public sewer and water, drainage improvements, street lights, fire hydrants, and fully improved paved streets with curbs and, in many cases, sidewalks. If located within an urban area, such improvements shall be consistent with City standards as determined by the director. In cases where the Urban area is located in the unincorporated communities (i.e. Heber, Seeley, etc.) improvements shall be consistent with County standards as determined by the Director of Planning & Development Services. Development proposed outside of a designate Urban area shall either require an amendment to an existing Urban area or be designated as a new Specific Plan Area meeting full Urban area improvement standards.

Brawley Urban Area – This (approximately) 9,890 acre area surrounds the incorporated City of Brawley and is generally bounded on the west by the New River, Brandt Road, Kalin Road, Poe Subdivision and State Highway 86, on the north by Ward Road, on the east by Best Road, the Livesely Drain, and a line approximately one-half mile east of Best Road, and on the south by the Rockwood Canal, Mead Road, the Best Canal, Dogwood Road, and Shartz Road.

Calexico Urban Area – This (approximately) 8,302 acre area surrounds the incorporated City of Calexico, with the City of Mexicali, Republic of Mexico, located to the south. The Planning Area is generally bounded on the west by Dogwood Road, on the north by Willoughby Road and Jasper Road, and on the east by Bowker Road and the designated S.P.A.

Calipatria Urban Area – This (approximately) 4,285 acre area surrounds the incorporated City of Calipatria and is generally bounded on the west by Lyerly Road, Bowles Road, Coberly Road, and English Road, on the north by Young Road with an northerly extension to Wilkenson between Coberly and Carrick Roads, on the east by Blair Road and Carrick Road, and on the south by Yocum Road and Bowles Road.

El Centro Urban Area – This (approximately) 14,288 acre area surrounds the incorporated City of El Centro and is generally bounded on the west by Austin Road, on the north by the Central Drain, Dogwood Road, and Villa Road, on the east by State Highway 111, and on the south by Northrup Road (extension), McCabe Road, a line approximately 1,320 feet east of Dogwood Road, and Chick Road.

Heber Urban Area – This (approximately) 1,040 acre area surrounds the unincorporated community of Heber and is served by the Heber Public Utilities District. It is located south of Interstate 8 between the cities of El Centro and Calexico bounded by Farnsworth Lane on the west, Correll Road on the north, Pitzer Road on the east, and Fawcett Road on the south.

Holtville Urban Area – This (approximately) 4,080 acre area surrounds the incorporated City of Holtville. It is bounded on the west by State Highway 115, Zenos Road, and Country Club Road, on the north by Kamm Road, on the east by Towland Road, and on the south by Haven Road, the Ash Main Canal, and Edwards Road for a distance of approximately 3,300 feet east of Orchard Road, thence north to a line 1,320 feet south of Haven Road then east 3,660 feet then north to Haven Road and east to Towland Road.

Imperial Urban Area – This (approximately) 8,480 acre area surrounds the incorporated City of Imperial. It is bounded on the west by Austin Road, on the north by Ralph Road, on the east by Dogwood Road, and on the south by the Central Drain.

Niland Urban Area – This (approximately) 1,290 acre area surrounds the unincorporated community of Niland and is bounded on the west by Nieto Road, on the north by the railroad tracks, and the north line of which is approximately 1,000 feet north of Beal Road, on the east by the extensions of Cuff Road and Memphis Avenue, and on the south by the Noffsinger and Alcott Roads.

Seeley Urban Area – This (approximately) 1,520 acre area surrounds the unincorporated community of Seeley, located west of the City of El Centro and south of the Naval Air Facility. It is bounded on the west by the New River, on the north by El Centro Street, on the east by Bennett Road, and on the south by Interstate 8.

Westmorland Urban Area – This (approximately) 880 acre area surrounds the incorporated City of Westmorland. It is bounded on the west by Kingsley Road, State Highway 78/86, and Martin Road, on the north by Howenstein Road with a northerly extension between Martin Road and the railroad tracks for a distance of approximately 1,320 feet, on the east by Dean Road, and on the south by Baughman Road.

West Shores/Salton City Urban Area – This large unincorporated area encompasses approximately 31,840 acres and includes the developing community of Salton City, the beach resorts of Vista Del Mar, Salton Sea Beach, and Desert Shores, and the proposed Habitat 2000 Specific Plan Area. The Riverside County Line is the north boundary and Salton Sea is the east boundary. The Navy's Salton Sea Test Base generally forms the southern boundary; and State Highway 86 generally forms the west boundary, except for portions of Salton City which extend west of Highway 86. Portions of the Torres-Martinez Indian Reservation are located in the northern portion of the Urban Area.

Winterhaven Urban Area – This (approximately) 200 acre area consists of the Townsite of Winterhaven and surrounding areas, and is situated in the most southeastern section of Imperial County. The Indian Reservation surrounds the north, east and west boundaries. The north boundaries are Blocks 1 and 2 situated north of H Street and Block 13 situated north of D Street, the east boundary is First Avenue, the south boundary is the Colorado River, and the west boundaries are Third Avenue Townsite of Winterhaven and the east line of the west half of the Southwest Quarter of Section 27 Township 16 South – Range 22 East.

The actual boundaries of the Urban Areas are graphically depicted on the Land Use Plan enlargements referenced as LU-1X, LU-2X, and LU-3X which are adopted as an integral part of this General Plan, and which are on file in the Planning & Development Services Department.

2. Community Areas

The Community Areas are also shown on Figure 1 and include Palo Verde, Ocotillo/Nomirage Community Plan; and Hot Mineral Spa/Bombay Beach Community Area.

Community Areas differ from Urban Areas in that they are primarily second home, retirement, or recreation areas with limited commercial or employment opportunities. Urban services, including sewer and water, are limited. Ocotillo/Nomirage is provided water service by private water companies and

individual wells; Palo Verde by the Palo Verde County Water District; and Hot Mineral Spa/Bombay Beach by the Coachella Valley Water District. Only Bombay Beach has a public sewage system, also operated by the Coachella Valley Water District. The others rely on subsurface septic systems or facilities operated by mobile home and RV parks.

Future growth in Ocotillo/Nomirage and Palo Verde is expected to consist primarily of infill by single family residences on existing lots, rather than expansion of community boundaries, except at very low densities. A planned expansion of Bombay Beach was approved in 1985 but has not been constructed.

Ocotillo/Nomirage Community Area – This area encompasses the entire Ocotillo-Coyote Wells groundwater basin consisting of approximately 108,000 acres, of which approximately 15,000 acres are privately held. The Community Area Plan focuses primarily on the desert residential communities of Ocotillo, containing approximately 465 acres, and Nomirage, containing approximately 225 acres, and also includes the small residential community of Yuha Estates located on Highway 98 approximately 5 miles east of Nomirage. The Ocotillo town site is bounded on the west by Shell Canyon and the tract boundary west of Via De Anza, on the north by the tract boundary north of the Imperial Highway, on the east by Boundary Avenue, and on the south by Interstate 8 and an area extending south along both sides of the Imperial Highway approximately 1,320 feet. The Nomirage town site is bounded on the west by Sage Road, on the north by Cholla Road and follows the tract boundary north along Palo Verde, Tamarack, and Molitar Roads, on the east by Molitar, Yucca, and Palo Verde Roads, and on the south by Saguaro Road. Interstate 8, State Highway 98, the Evan Hewes Highway, and Imperial Highway (S2) are the major transportation routes through the area. A County Sheriff's substation and community center are located on Imperial Highway in Ocotillo.

Palo Verde Community Area Plan – This 640 acre area is located in the most northeastern corner of Imperial County, with Riverside County to the north, and is comprised of Section 2, Township 9 South, Range 1 East. Ben Hulse Highway (State Highway 78) runs north-south through the area. The town's role is primarily as a commercial center serving travelers on Highway 78, the surrounding agricultural and rural areas, Colorado River mobile home and RV parks, and a small local population. Though it has a water filtration plant operated by a County Water District, Palo Verde's potential for growth of new employment opportunities is limited due to its remote location and the lack of a community sewerage system. Community facilities include a fire station, post office, community hall, church, and a rod and gun club.

Hot Mineral Spa/Bombay Beach Community Area – This 4,500-acre community, located on the east shore of the Salton Sea, is bounded by Riverside County on the north, Salton Sea State Recreation Area on the

west, Coachella Canal on the east, and on the south by the Salton Sea State Recreation Area and the boundary between Townships 9 South and 10 South. Hot Mineral Spa is the area north of Highway 111 and is primarily occupied by mobile home and recreational vehicle spaces in four existing parks. These parks also include some self-contained camping spaces. The total permitted spaces for these parks in 1992 was 1,460. Other housing exists throughout Hot Mineral Spa on individual lots, typically 2-1/2 acres and larger in size.

The Bombay Beach community is located on the Salton Sea and contains approximately 500 dwelling units on 704 buildable residential lots. The rising water level of Salton Sea has inundated an additional 240 lots located south of 5th Street.

Because limited potable groundwater is available in this area, the Coachella Valley Water District (CVWD) provides water service to the Hot Mineral Spa trailer parks, to Bombay Beach, and to most of the single residences in the area. Some residences, however, depend on bottled water. Sewer service is provided to Bombay Beach by CVWD which operates a treatment plant on the north side of Highway 111 and the railroad line. Adequate area exists for expansion of the sewage treatment plant to eventually serve Hot Mineral Spa in the future. Presently, the mobile home and RV parks in Hot Mineral Spa rely on either oxidation ponds or common septic systems for park residents. Individual residences rely on septic systems. Bombay Beach also has community management and maintenance services provided by the Bombay Beach Community Services District.

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Figure 1 – Imperial County Land Use Plan
11x17

D. Specific Plans

1. Purpose and Content

Specific Plans are “planning tools” used to implement the general plan for large development projects such as a planned residential community, large scale commercial project, industrial park, etc., or to designate an area of the County where further studies are needed prior to development. Specific Plans should be utilized where existing conventional zoning regulations do not provide adequate controls over land use and development. Upon adoption, the Specific Plan serves as an amendment to the County General Plan for a very defined and detailed area. To be adequate, a Specific Plan must also be consistent with all aspects of the General Plan.

Specific Plans may be adopted by Resolution of the County Board of Supervisors. Following adoption of the Specific Plan, all subsequent use or development of the property shall be in conformance with the Specific Plan. The minimum required contents of Specific Plans are set forth in the California Government Code, Section 65451, as follows:

- (a) A text and/or diagrams which specify all of the following in detail:
 - (1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
 - (2) The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
 - (3) Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
 - (4) A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).
- (b) The Specific Plan shall include a statement of the relationship of the Specific Plan to the County General Plan.

The determination on whether a specific plan shall be prepared rests entirely with the Planning & Development Services Department.

2. Standards and Criteria for Approval

Specific Plans often represent significant investment of staff time to process the project, as well as County and local agency resources to support planned new growth. In order to justify this commitment of resources, proposed Specific Plans shall be required to clearly demonstrate fiscal, economic, social, public facility, or other local public benefit. The following Standards and Criteria shall be evaluated for each proposed Specific Plan during a "Specific Plan Pre-Application Assessment" with recommended findings presented to the Board of Supervisors by the Planning & Development Services Department and Planning Commission. In order to adopt a Specific Plan, the Board of Supervisors shall consider the findings of the following five criteria:

- (a) Will the Specific Plan have a positive fiscal and economic long term impact for the County of Imperial?

An acceptable project will be able to demonstrate through an independent fiscal impact analysis and public facility financing study that revenue from property tax, sales tax, hotel room tax, and required fees, exactions, and assessments, will fully offset the cost of providing public services and infrastructure, including County administrative facilities, libraries, parks, roads, drainage, schools, wastewater collection and treatment, water treatment and distribution, fire protection, and police services.

- (b) Will the Specific Plan create new and permanent jobs?

An acceptable project will be able to demonstrate through an independent market analysis that jobs to be created by the project will not be achieved to the detriment of existing jobs or businesses within the County. In other words, there will be a net increase in County-wide employment.

- (c) Will the Specific Plan minimize or mitigate adverse environmental impacts and be compatible with existing or planned land uses of nearby cities or communities?

An acceptable project will be able to demonstrate feasible mitigation for all potential environmental and land use impacts of the project.

- (d) Will the Specific Plan offer diverse or unique opportunities to the County and its citizens?

An acceptable project will be able to demonstrate benefits of the project which are not generally or adequately available in the County. Examples include, but are not limited to, increased cultural activities, convention or conference facilities, or unique recreational opportunities.

- (e) Will the Specific Plan result in the achievement or significant progress toward accomplishing an unmet goal of the County General Plan?

An acceptable project will be able to demonstrate that the achievement of a goal of the County General Plan or one of its Elements, which is not currently being adequately met, will be substantially advanced as a result of the proposed project.

In addition to the above findings, if the proposed Specific Plan is less than 640 acres in size, a finding shall also be made that the proposed project will provide a significant social or economic benefit to the County.

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Figure 2 – Specific Plan Areas

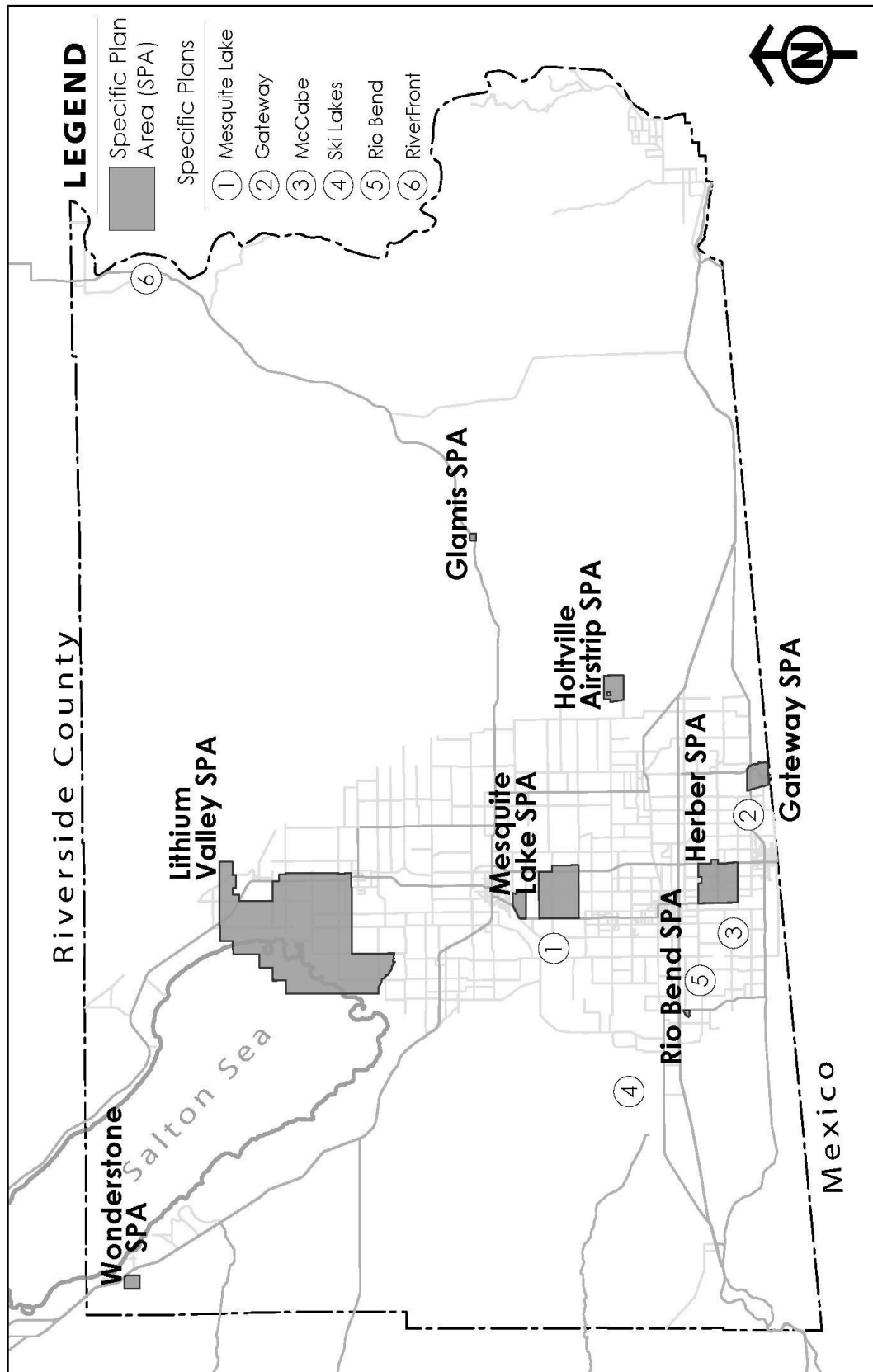


FIGURE
2

SPECIFIC PLAN AREAS
Imperial County General Plan

3. Designated Specific Plan Areas

The following Specific Plan Areas (SPAs) are shown on Figure 2 and designated on the Land Use Plan of the County General Plan. In these areas, except for the Mesquite Lake SPA, a Specific Plan, approved by the Imperial County Board of Supervisors, is required prior to any significant new use or development, except agricultural use.

This Land Use Element supersedes all prior Land Use Elements. Previously approved but never developed (as of September 30, 2006) or rescinded/deleted Specific Plan Areas no longer Identified in this Element shall be deemed null in void. Plan Areas removed and deemed null in void in this update include Habitat 2000, Bombay Beach "North", and Viva del Sol (Paden/Shealy).

Previously removed Specific Plan Areas include Felicity, Tamarack Canyon Ranch, and CM Ranch by Board of Supervisors M.O. 24 dated Dec. 16, 2004.

Gateway of the Americas (adopted August 26, 1997) Specific Plan Area

The Gateway Specific Plan Area is located adjacent to the International Boundary approximately 5 miles east of the City of Calexico. It encompasses approximately 1,700 acres bounded on the west by the Ash Canal, on the north by a line approximately 1,300 feet north of Highway 98, on the east by the Alamo River, and on the south by the Republic of Mexico.

The Specific Plan Area surrounds the new 87-acre port of entry (POE) on the U.S. side of the border which was developed by the U.S. General Services Administration (GSA). Construction of the POE has begun in 1993 and will result in the largest land crossing located along the 2,000-mile Mexico-U.S. border. The GSA expects that all commercial traffic currently using the Calexico crossing and much of the east-bound commercial traffic from the Tijuana area now using the Otay Mesa crossing in San Diego County, will be diverted to the new POE. The new State Route 7 (completed in 2005) connects the POE to Interstate 8 and State Route 98.

Objectives

The Gateway Specific Plan Area is intended to be developed primarily with industrial, office, and warehouse space for manufacturers, customs brokers, freight forwarders, and corporate or administrative offices. Secondary land uses would include retail, restaurant, and service commercial outlets, a truck service center, motel accommodations, housing, and recreation.

The Specific Plan shall be coordinated with the City of Calexico and all affected local, state, and federal agencies, and major property owners on both sides of the border.

Development of public services within the SPA shall be provided concurrent with need.

Extension of rail service to the SPA will provide additional economic benefits for the project and should be pursued.

Existing agricultural uses adjoining the SPA shall be protected from incompatible land uses and the “right to farm” shall be preserved.

Water quality, natural habitat, and visual benefits of the Alamo River shall not be adversely impacted by the proposed development.

Policies

The primary land uses of industrial, office, and warehouse space shall account for not less than 65 percent of the net developable area of the SPA. Net developable area excludes land for major roadways, other infrastructure improvements, and natural or recreational open space. The remaining 35 percent is limited to retail, restaurant, service commercial outlets, truck service center, motel accommodations, and housing.

An adequate, independent market analysis shall be required to support proposed land uses. The market analysis shall include an analysis of the need for housing, including employee housing affordable to low to moderate income households.

Development plans shall be coordinated with the U.S. General Services Administration, Border Patrol, and other appropriate federal agencies; landowners on the Mexican side of the border and appropriate agencies of the Mexicali city government and the Republic of Mexico; the City of Calexico; Imperial Irrigation District; and Caltrans and other appropriate State agencies.

The Specific Plan includes a public facilities financing plan outlining capital improvements needed for the project, feasible financing mechanisms, and timing for their construction. This includes sewer, domestic water, transportation, fire and police protection, and schools.

The Specific Plan was accompanied by an Environmental Impact Report which included an analysis of project impacts to include the following: Agriculture, air and water quality, biology, cultural resources, growth inducement, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

Zoning

The Gateway of Americas Specific Plan land use zones include “GC” Gateway Commercial, “GI” Gateway Industrial, and “GSP”

Government/Special Public. There is also an overlay area identified as "GCC" Gateway Central Commercial, which is characterized as areas limited to commercial/retail uses only. Uses and development standards are listed with the Gateway of Americas Specific Plan. The implementing ordinance shall be the Imperial County Codified Ordinance, Title 9 (Land Use Ordinance), Division, 5, Chapter 1, Section 90501.17, with the Specific Plan identified as an "Exhibit".

NOTICE: This plan was adopted by the Board on August 26, 1997 and is herewith incorporated into the County's General Plan as Appendix A. The above statement of intent reflects the original objectives.

Glamis Specific Plan Area

The Glamis Specific Plan Area encompasses approximately 160 acres bisected by State Highway 78 approximately 27 miles east of the City of Brawley. The Southern Pacific Railroad crosses the site on the east. Life at Glamis is centered around off-road vehicle activity at the Algodones Sand Dunes and Osborne Scenic Overlook.

Objectives

The Glamis Specific Plan Area is intended to accommodate recreation-supporting land uses including retail and service commercial, motel accommodations, recreational vehicle and mobile home parks, and community facilities.

The Specific Plan shall be coordinated with the Bureau of Land Management (BLM) and affected local agencies.

Public services to the SPA shall be provided concurrent with need.

Policies

The Specific Plan shall focus on visitor-serving facilities and accommodations. Residential uses shall not be intended for permanent occupancy except as needed for on-site employees.

The Specific Plan shall include design guidelines for the physical arrangement of land uses and open space/recreation areas. Adequate open space shall be provided within the developed areas to complement the open space character of the area. Buildings should be sited to allow through views from Highway 78 to open space beyond.

The Specific Plan shall include a public facilities financing plan outlining capital improvements needed for the project, feasible financing mechanisms, and timing for their construction. This includes, sewer, water, and fire and police protection.

The Specific Plan shall be accompanied by an Environmental Impact Report which includes an analysis of project impacts to include the following: Air and water quality, biology, noise, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

Holtville Air Strip Specific Plan Area

The Holtville Air Strip encompasses approximately 1,830 acres located 6 miles east of the City of Holtville. The East Highline Canal runs along the west boundary of the site. Road access is provided by Norrish Road and Worthington Road.

Constructed as the Auxiliary Air Station by the U.S. Navy in World War II, Holtville Airport is now owned and operated by the County of Imperial, though by deed from the federal government, it may be re-established as a military airfield in the future. It has the longest and widest runway, plus the greatest land area of any of the public use airports in the County and was selected as one of the preferred sites for a "wayport", a super-regional airport hub that would primarily serve as a place where passengers would transfer between local and long-haul flights. The airstrip is presently unattended, contains no facilities, and is seldom used; but represents an opportunity to develop job-producing land uses benefiting the City of Holtville and the region.

Objectives

The Holtville Air Strip Specific Plan Area is intended to allow development of a regional airport and support facilities; and also to accommodate light to medium industrial uses, primarily those conducted within enclosed buildings. Community facilities and agricultural packing and processing may also be appropriate. Residential uses shall not be permitted. It is further the intent of this plan to protect the land uses around the specific plan area.

The Specific Plan shall be coordinated with the City of Holtville, Bureau of Land Management (BLM), and other affected local agencies.

Public services to the SPA shall be provided concurrent with need.

Policies

The Specific Plan shall focus on job producing manufacturing and service uses. Establishment of an airport at or adjacent to the site is not a requisite for development, but should be evaluated for feasibility throughout the process. The land use plan should be designed to accommodate a potential future decision to site a regional airport.

The Specific Plan shall include a public facilities financing plan outlining capital improvements needed for the project, feasible financing

mechanisms, and timing for their construction. This includes, sewer, water, and fire and police protection.

The Specific Plan shall be accompanied by an Environmental Impact Report which includes an analysis of project impacts to include the following: Agriculture, air and water quality, biology, cultural resources, growth inducement, noise, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

No private projects are allowed absent a Specific Plan or a Conditional Use Permit under special conditions.

Mesquite Lake Specific (adopted March 14, 2006) Plan Area

Mesquite Lake is located between the Cities of Imperial and Brawley and is predominantly affected by soils that are high alkaline which reduces agriculture production. The proposed Specific Plan Area encompasses approximately 11.5 square miles bordered on the west by State Route 86, on the north by Carey Road, on the east by Highway 111 from Carey Road to Keystone Road and 2,500 feet east of State Route 111 from Keystone Road to Harris Road, and on the south by Harris Road. The Holly Sugar Plant, and manure cogeneration and biomass plants, exist on the site.

Objectives

The Mesquite Lake Specific Plan Area provides the opportunity to develop new light, medium, and heavy industrial land uses. Residential uses are not permitted because they are not compatible with planned industrial uses and surrounding agricultural uses.

The Specific Plan will be coordinated with the County of Imperial, City of Imperial, and other affected local agencies.

Public services to the SPA shall be provided concurrent with need.

Policies

The Specific Plan shall focus on job-producing industrial uses. Agriculture-related uses such as packing and processing, waste processing, equipment manufacturing and maintenance, and production and distribution of farm chemicals would be permitted.

The area also contains geothermal resources which should be developed if economically feasible. Direct geothermal heat uses as well as other appropriate renewable energy uses are also strongly encouraged in this area.

The Specific Plan shall include a public facilities financing plan outlining capital improvements needed for the project, feasible financing mechanisms, and timing for their construction. This includes, sewer, water, and fire and police protection.

The Specific Plan shall be accompanied by an Environmental Impact Report which includes an analysis of project impacts to include the following: Agriculture, air and water quality, biology, cultural resources, growth inducement, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

Zoning

The Mesquite Lake Specific Plan land use zones include “ML-I-1” Mesquite Lake Light Industrial, “ML-I-2” Mesquite Lake Medium Industrial “ML-I-3” Mesquite Lake Heavy Industrial, “ML-AA” Mesquite Lake Agriculture and Aquaculture, and “ML-GS” Mesquite Lake Government/Special Public. Uses and development standards are listed with the Mesquite Lake Specific Plan. The implementing ordinance shall be the Imperial County Codified Ordinance, Title 9 (Land Use Ordinance), Division, 5, Chapter 1, Section 90501.17, with the Specific Plan identified as an “Exhibit”.

NOTE: This plan was adopted by the Board on March 14, 2006 and is herewith incorporated into the County’s General Plan as Appendix B.

Heber Specific Plan Area

The Heber Specific Plan Area includes approximately 4,834 acres between the Jasper and Willoughby Roads on the south, the State Route 86 to the west, McCabe Road to the north, State Route 111 to the east, and a 1,320 foot strip of land east of State Route 111 running from Correll Road and Heber Road. The Heber Specific Plan Area is designed to allow for mixed use development within the Heber Public Utility District due to its ability to offer urban level services.

Objectives

The Heber Specific Plan Area is intended to allow commercial, residential, industrial, renewable energy and other employment oriented development in a mixed use orientation. It shall also include open space/recreation area with at least one 40 acre or larger regional park along McCabe Road.

The Specific Plan will be coordinated with the City of El Centro and the Heber Public Utility District.

Public services will be provided concurrent with need.

Policies

The Specific Plan shall allow for a wide range of development opportunities which can conform in a mixed use setting.

The Specific Plan shall include architectural and landscape design guidelines which assure sensitivity to the regional corridor of Highway 111.

The Specific Plan shall include a public facilities financing plan outlining capital improvement needed for the project, feasible financing mechanisms, and timing for their construction. This includes sewer, water, and fire and police protection.

The Specific Plan shall be accompanied by an Environmental Impact Report which includes the analysis of project impacts to include the following: Agriculture, air and water quality, biology, cultural resources, growth inducement, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

Wonderstone Aggregate Plan Area

The Wonderstone Aggregate Specific Plan Area encompasses approximately 721.33 acres located approximately 2 miles west of the community of Salton Sea Beach in the northwestern area of the County of Imperial. Identified as a portion of Section 16 and all of Section 21, Township 9 South, Range 9 East, S.B.B. & M. The proposed Wonderstone Aggregate Specific Plan Area is intended to provide an area for the mining and processing of aggregate; the production of aggregate products, hot mix asphalt and Portland cement concrete; and the importation, storage and processing of recycled asphalt and concrete to service ongoing local and regional development and growth.

Objectives

The Wonderstone Aggregate Specific Plan Area provides the opportunity to protect the current and future ability to mine and process the significant aggregate deposits within the Specific Plan Area through the prohibition within the Specific Plan Area of incompatible land uses.

Protect the environment by adopting uniform general planning standards which would apply to all aggregate surface mining operations, and planning and performance standards which would apply to processing and reclamation activities, the production of aggregate products, hot mix asphalt and Portland cement concrete; and the importation, storage and processing of recycled asphalt and concrete, within the Specific Plan Area and;

Create and maintain Imperial County jobs – directly in the aggregate mining and processing, trucking, construction, and building trades, and

indirectly in the general economy through the support of construction and building projects which require aggregate, hot mix asphalt and Portland cement concrete.

The Specific Plan will be coordinated with the County of Imperial, City of Imperial, and other affected local agencies.

Public services to the SPA shall be provided concurrent with need.

Policies

The Specific Plan shall focus on protecting and maintaining aggregate deposits by providing an area wide longer term development plan.

Maintain existing job-base and encourage future job growth, both direct and indirect of the aggregate operation.

The Specific Plan shall contain project specific land use zoning and development standards for the entire project site. The Specific Plan shall also include an area wide Reclamation Plan outlining remediation of the site after development.

The Specific Plan shall be accompanied by an Environmental Review which includes an analysis of project impacts to include the following: air and water quality, biology, cultural resources, growth inducement, traffic, visual/aesthetics, and such other issues as required by the County of Imperial and other Responsible Agencies.

Zoning

The Wonderstone Aggregate Specific Plan land use zone includes "WAMP" Wonderstone Aggregate Mining and Processing. Uses and development standards are listed within the Wonderstone Aggregate Specific Plan. The implementing ordinance shall be the Imperial County Codified Ordinance, Title 9 (Land Use Ordinance), Division, 5, Chapter 1, Section 90501.17, with the Specific Plan identified as an "Exhibit".

Note: the Wonderstone Aggregate Specific Plan is currently going through the discretionary permitting process.

Lithium Valley Specific Plan

The Lithium Valley Specific Plan is located on approximately 51,622 acres along the southeast edge of the Salton Sea, spanning from the Salton Sea to the communities of Niland and Calipatria. The Lithium Valley Specific Plan Area is intended to establish a regulatory path forward towards an environmentally-conscious employment hub, which will assist in meeting the nation's increasing demands for lithium and other minerals present in the Salton Sea Known Geothermal Resource Area (KGRA).

Objectives

The Lithium Valley Specific Plan Area provides a streamlined permitting and approval process for geothermal energy production and lithium extraction, processing, production, and manufacturing within Imperial County that will assist in the Country's need to quickly transition to renewable energy and improve domestic supply of critical materials and create new economic opportunities for historically underinvested and disadvantaged communities. To further this fundamental purpose, the following project objectives have been identified:

1. Develop geothermal energy facilities and lithium extraction facilities to support the country's transition to renewable energy and minimize national security threats.
2. Support local manufacturing of clean energy products by allowing the development of industrial, office, and warehouse space in proximity to sources of extracted raw materials.
3. Facilitate the efficient movement of goods by accommodating warehousing, management, and distribution activities.
4. Expand critical infrastructure and public services such as roads, bridges, drains, transmission lines, and fiber optics to support development planned in Lithium Valley.
5. Create a streamlined permitting and approval process which allows for the expeditious development of renewable energy, mineral recovery and other supporting uses/infrastructure, that is flexible enough to allow for implementation of new technologies (e.g. new Direct Lithium Extraction (DLE) extraction processes).
6. Create local economic benefits from abundant natural resources, particularly lithium, that levy excise and property taxes that support community benefits and business development. Community benefits include career training, local employment, opportunities for disadvantaged communities, Native Americans, and restoration activities, while minimizing impacts to the environment, disadvantaged communities and California Indian Tribes in Imperial County.
8. Allow for conservation and restoration activities, minimizing environmental impacts to disadvantaged communities and California Indian Tribes in Imperial County from renewable energy, lithium, and supporting uses/infrastructure developments.

Policies

The Lithium Valley Specific Plan offers a variety of goals, standards, policies, and programs within the chapters.

The Specific Plan will be coordinated with the City of Calipatria, United State Fish and Wildlife, IID, Caltrans, and other affected local agencies.

The Specific Plan shall be accompanied by an Environmental Impact Report which includes the analysis of project impacts to include the

following: aesthetics, agricultural resources, air quality, biological resources, geology and soils, greenhouse gases, hazards and hazardous materials, hydrology, land use, mineral resources, noise, population and housing, public services, transportation, tribal cultural resources, utilities, and wildlife.

Zoning

The Lithium Valley Specific Plan land use zones include “LV-GI” Lithium Valley Green Industrial, “LV-M” Lithium Valley Manufacturing, “LV-L” Lithium Valley Logistics, “LV-PRN” Lithium Valley Playas Renewables, “LV-COA” Lithium Valley Community Opportunity Area, “LV-IA” Lithium Valley Interim Agriculture, “LV-S” Lithium Valley Solar, “LV-PRS” Lithium Valley Playas Restoration, “LV-RC” Lithium Valley River Corridor, and “LV-C” Lithium Valley Conservation. Uses and development standards are listed with the L

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hium Valley Specific Plan. The implementing ordinance shall be the Imperial County Codified Ordinance, Title 9 (Land Use Ordinance), Division, 5, Chapter 1, Section 90501.17, with the Specific Plan identified as an “Exhibit”.

Small Scale Adopted and Developed Specific Plans

Rio Bend

The Rio Bend Specific Plan is located at 1601 Drew Road, approximately 1,000 feet south of Interstate 8, approximately 1.5 miles southwest of the Community of Seeley. The existing development 1984 Rio Bend RV Resort Ranch, which had permitted the development of the Lakeview Golf Course and RV Park. The 1992 plan called for a more balanced community, which along with additional RV spaces included the development of commercial and single family residential areas. An amendment to the 1992 Specific Plan was done in 2001, The Development includes a 902 RV space park, 68 space mobile home park (971 total units), and a 9 hole golf course. Rio Bend Specific Plan was adopted on 07/07/1992.

NOTE: This plan is herewith incorporated into the County’s General Plan as Appendix C.

Imperial Lakes (Ski Lakes)

The Imperial Lakes Specific Plan also known as Ski Lakes is located at 2828 Evan Hewes Hwy, approximately 5 miles west of the Community of Seeley. The Specific Plan is a gated residential community consisting of a 21 unit mobile home park subdivision and two ski style artificial lakes. Imperial Lakes Specific Plan was adopted on 06/27/1995.

NOTE: This plan is herewith incorporated into the County's General Plan as Appendix D.

McCabe Ranch

The McCabe Ranch Specific Plan is located on approximately 79 acres, at the northwest corner of the intersection of Correll Road and Dogwood Road, in the community of Heber. McCabe Ranch is a mixed residential density development, planned for 304 single family homes, and 127 multifamily units. The development of the 304 single family homes is over 70 percent completed. The multifamily component has not yet been developed. McCabe Ranch Specific Plan was adopted on 10/08/2000.

NOTE: This plan is herewith incorporated into the County's General Plan as Appendix E.

River Front

The River Front Specific Plan is located on approximately 80 acres, in the northeastern corner of Imperial County, approximately 33 miles south of the City of Blythe and 60 miles northeast of the City of El Centro. The site is on the east side of Walters Camp Road, approximately eight (8) miles southeast of Highway 78 and 13 miles south of the community of Palo Verde. The River Front Specific Plan consists of 34 single-family residential development centered around the recreational opportunities created by the Colorado River. Presently the project is still in the parcel mapping phase. The River Front Specific Plan was adopted on 02/04/2003.

NOTE: This plan is herewith incorporated into the County's General Plan as Appendix F.

II. EXISTING CONDITIONS AND TRENDS

A. Preface

Knowledge, experience and reasoned expectations of future conditions determines the scope of the issues that the Land Use Element must address. This chapter includes a generalized description of existing physical, cultural, and land use features within the County, from both a historic and expected future perspective.

B. Land Use/Population

Imperial County is, and will continue for the foreseeable future to be, a predominantly agricultural area, **although in 2003 a significant increase in urbanization began to show.** Presently, approximately one-fifth (534,328) of the nearly 3 million acres of the County is irrigated for agricultural purposes. In addition, approximately 50 percent of County lands are largely undeveloped and

under federal ownership. The developed area where the County's incorporated cities, 'nincorporated communities, and supporting facilities are situated comprise less than one percent of the land (see Table 1).

Imperial County Planning & Development Services Department bases its population estimates on building permits and housing unit change. From this annual compilation, the Population Research Unit of the California Department of Finance (DOF) estimates the annual change in population. According to the Department of Finance's January 1, 2006, estimates, the population for the unincorporated area is 36,166 with the total population for Imperial County being 166,585. This compares to the 1990 census results of 27,339 for the unincorporated area with the total population for the County being 109,303 and the 2000 census results of 32,772 for the unincorporated area and 147,361 for the entire County (see Table 2). According to DOF 2006 figures, the average household size county-wide is approximately 3.32 persons per household, with the average in cities being 3.42 persons per household and the average in the unincorporated area being 2.96 persons per household.

Population in the unincorporated areas of the County tends to concentrate in agricultural areas and in recreation/retirement communities. Agricultural related communities include the townsites of Heber, Niland and Seeley in the Imperial Valley. Along the Colorado River, in the eastern portion of the County, small population clusters exist within the townsites of Palo Verde and Winterhaven. Recreation/retirement communities include Ocotillo/Nomirage located in the southwest portion of the County, and Hot Mineral Spa and Bombay Beach, on the northeastern shore of the Salton Sea. The West Shores communities of Salton City, Salton Sea Beach, and Desert Shores are also largely retirement and recreation communities, though increasingly their populations are becoming more diversified. These communities experience a noticeable increase in population during the winter months when visitors converge to the area to avoid cold/wet winters in other parts of the country.

The seven incorporated cities: Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland, account for 78.3 percent of the total population (Table 2). In the past, incorporated cities have grown at a faster pace than the rural areas. Recently, residential development has increased in agricultural areas away from cities and communities. This has created conflicts with agriculture, in spite of the County's "Right to Farm" ordin'nc" (see Agricul"ure Element). Also, treated water is generally not available in these areas and the U.S. Environmental Protection Agency has, by Administrative Order of December 22, 1992, prohibited Imperial Irrigation District from providing service to these residences from untreated canal water. Attempts to resolve this situation, including installation of in-home treatment systems, are on-going.

TABLE 1 IMPERIAL COUNTY LAND USE DISTRIBUTION (IN ACRES*)		
Irrigated (Agriculture)		
	Imperial Valley	512,163
	Bard Valley (Including Reservation)	14,737
	Palo Verde Valley	7,428
	Total	534,328 (18.2%)
Developed		
	Incorporated	9,274
	Unincorporated	8,754
	Total	18,028 (0.6%)
Salton Sea**		211,840 (7.2%)
Desert/Mountains		
	Federal	1,459,926
	State	37,760
	Indian	10,910
	Private	669,288
	Total	2,177,884 (74.0%)
IMPERIAL COUNTY TOTAL		2,942,080 Acres
<p>* All acreages are approximations and should, therefore, only be used for informational purposes.</p> <p>** Calculated at elevation of -230.</p> <p>Source: Imperial County General Plan, County Overview-September 1985.</p>		

TABLE 2 IMPERIAL COUNTY POPULATION AND HOUSING (2000 & 2006)				
Community	2006 Population	2000 Population	2006 Housing Units	2000 Housing Units
Brawley	25,488	22,052	8,237	7,038
Calexico	36,740	27,190	9,575	6,983
Calipatria	7,828	7,289	1,081	961
El Centro	42,002	37,735	13,789	12,263
Holtville	5,846	5,612	1,704	1,617

Imperial	10,140	7,560	3,237	2,385
Westmorland	2,375	2,131	751	667
City Subtotal	130,419	109,588	38,374	31,914
Unincorporated Area	36,166	32,773	13,418	11,977
Total	166,585	142,361	51,792	43,891
Source: 2000 U.S. Census and 2006 Department of Finance				

Increasingly, the local economy is becoming more diversified and less reliant on the economic cycles of agriculture. In addition to economic diversification, there are a number of other factors which may accelerate population growth in the future and alter the above forecasted figures. For example, the construction of two State prisons in the area; the growth of the renewable energy industry in the area; the expansion of the Naval Air Facility; an additional Mexico/USA border crossing; and approval of the North American Free Trade Agreement (NAFTA) between the U.S., Mexico, and Canada. For further detailed County demographics, refer to the Housing Element.

C. Water/Power Resources

Water

Since its inception, the history of Imperial County has been tied to the availability of water from the Colorado River for agriculture. Agriculture is the County's main economic activity and for the foreseeable future will remain its dominant activity, however significant efforts have and continue to be made to diversify. The availability of water will play an important role in determining the population and economic growth of Imperial County.

The need to conserve water and improve irrigation methods will undoubtedly become more important in the future. The County shall continue to support measures to conserve water and its beneficial uses, however it is necessary to ensure that the future growth and development of the area is not jeopardized by the redistribution of locally used water resources to other regions of the state. The loss or redistribution of this resource will have a significant detrimental effect on the area's economy. Safeguards must be included in any proposed or approved water transfer to assure that significant environmental and socio-economic impacts do not occur and continued local water availability is assured.

See the Water Element and Conservation and Open Space Element for further information on water issues.

Power

Electrical power is supplied to most parts of the County by the Imperial Irrigation District (IID), except for the northeastern section which is served by Southern

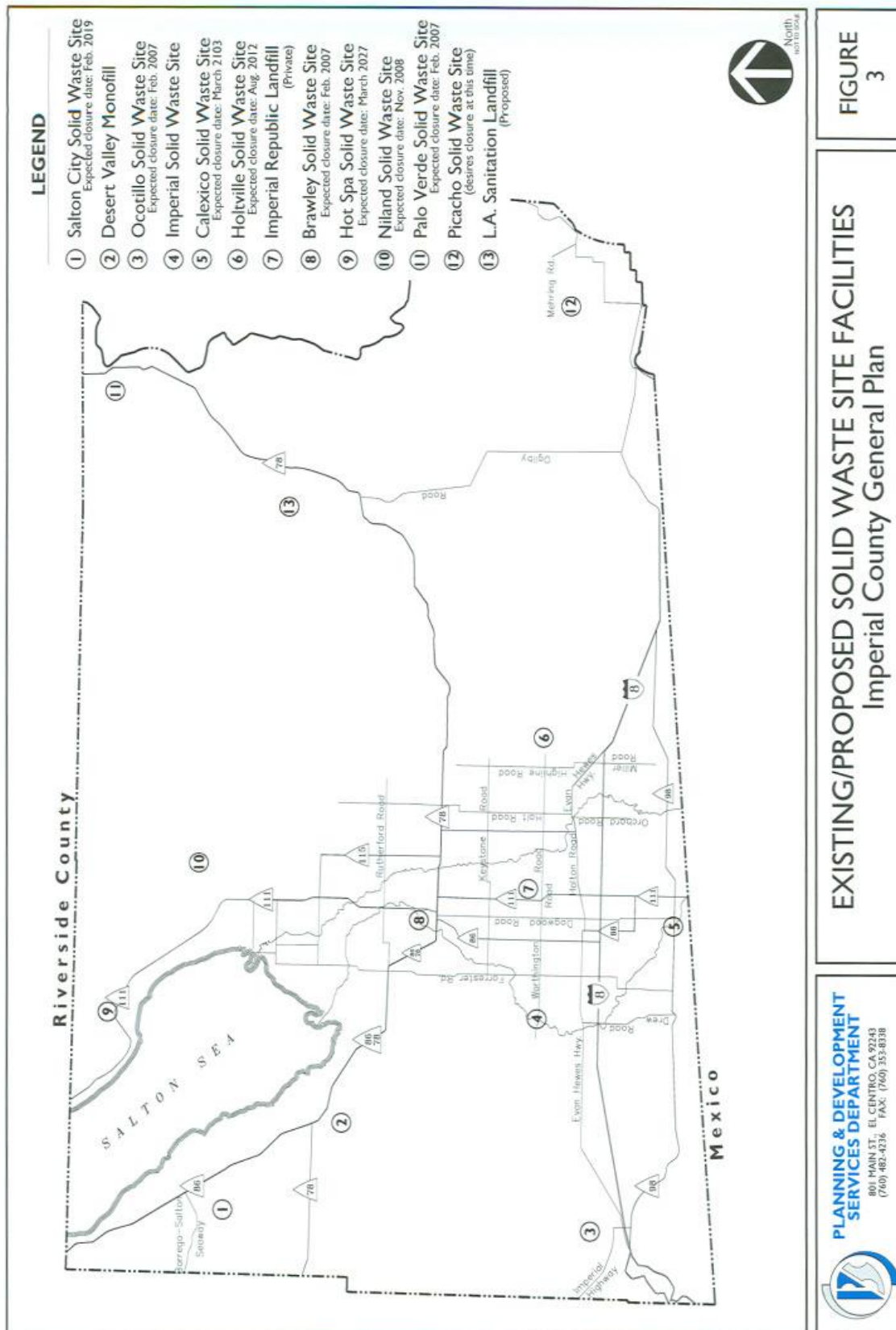
California Edison. In 1992, IID was serving approximately 75,000 electricity customers in Imperial Valley, and also to parts of Riverside and San Diego County. Currently the IID serves 130,000. Continual upgrading of the District's electrical supply and distribution system has enabled them to continue to provide efficient service for residential, commercial, and industrial growth for the County from conventional fuel sources, as well as from hydroelectric, steam, renewable energy, and nuclear sources. The IID controls more than 1,000 megawatts of energy. 30% of which is from its own local power generation facilities and 70% is imported via long and short term power purchases (*IID 2006*).

D. Solid Waste Disposal Facilities

Research to identify and reserve sites for use as landfills is currently handled by the County Department of Public Works and the County Integrated Waste Management Plan. Once a suitable site has been identified, reserving the potential future landfill site may help to prevent encroachments by incompatible surrounding land uses. The use of buffer zones around existing landfills and the preservation of areas suitable for expansion for these sites may avoid the more difficult and time consuming task of developing a new landfill location. As a consequence, protecting existing sites from incompatible encroachments is very important.

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Figure 3 – Existing/Proposed Solid Waste Disposal Facilities



Currently there are ten County-operated Class III disposal sites throughout Imperial County which accept non-hazardous wastes (Figure 3). The current disposal capacity of existing landfills is considered to be sufficient to meet the needs of the County to at least year 2005 (Armas, 1992).

Four of the County landfills, near Brawley, Hot Mineral Spa, Imperial, and Calexico, are under the ownership or control of the County; five, Holtville, Niland, Salton City, Ocotillo, and Palo Verde, are on Bureau of Land Management (BLM) property; and one, the Picacho landfill, serves the Winterhaven/Bard area and is located on land owned by the Quechan Indian Reservation. Since the Quechan Indians have the right to terminate the County's use of the site on short notice, a nearby alternate site, on Bureau of Land Management land, has been reserved on a contingency basis. Most likely, the County would have to acquire ownership of this alternate site from BLM in order for it to be used as a landfill.

In addition to the public sites, Imperial Republic Acquisitions operates a private Class III waste disposal facility in the unincorporated area northwest of the City of Imperial; Laidlaw Environmental Services operates a Class I facility west of the City of Westmorland; and Desert Valley Company operates a Class II solid waste disposal/storage site northwest of the City of Westmorland. Two Class III private landfills are also proposed, but have not been approved at this time, which would dispose of municipal waste imported by rail from the Los Angeles-Orange County region. These proposed landfill sites are located southwest of the Chocolate Mountains and east of Glamis.

For more detailed information on hazardous waste disposal sites, please refer to the Health Department, Imperial County Hazardous Waste Management Plan. The Imperial County Integrated Waste Management Plan is being prepared by the Department of Public Works, with a draft to be presented to the State Integrated Waste Management Board in January 1994.

E. Schools

Within the County, the educational system is made up of seventeen school districts consisting of thirty-two elementary schools, nine middle schools, eight high schools, seven adult schools, one community college (Imperial Valley College) and one university (San Diego State University-Imperial Valley Campus) with two campuses in Calexico and Brawley (see Figure 4). The Imperial County Office of Education serves as the intermediate unit between the school districts and the State Department of Education. Among the services provided are Special Education, Migrant Education, Youth Employment Services and the Regional Occupation Program (*ICOE 2006 Report*).

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F. County Buildings and Grounds

The majority of County facilities are located in generalized areas known as County Centers. These centers often include administrative, court, field operations, detention facilities, and park and recreation sites as shown on Figure 5. The Sheriff's Department maintains substations in various parts of the County with resident deputies in Ocotillo, Bombay Beach, Niland, and Palo Verde. The main facilities of the Imperial County Fire Department/Office of Emergency Services (OES) is located in Heber, with a Fire station within grounds of the Imperial County Airport (County Center III) in the City of Imperial. Road yards are maintained throughout the County by the Department of Public Works and contain equipment for maintenance of County roads. A County park adjoining the new Pioneer Museum has also recently been completed just south of the Imperial Valley College campus. The Imperial Valley College Museum is also planning to build a desert information center/museum adjacent to the town site of Ocotillo. Below describes all facilities and departments located throughout the County of Imperial.

County Center I, located in the City of El Centro, which is the County Seat, contains the Courthouse Building, Public Works, Property Services Shop Facility, County Property Services Administration, Ag. Commissioner, Records Storage, Probation Victim Witness Assistance Program, Purchasing, County Administration Facility, Health Department, Adolescence Family Life Program, Behavioral Health Central Services, Behavior Health Drug & Alcohol Administration, Behavior Health Clinic, Valley of Imperial Development Agency, District #2 Supervisor's Office, County Garage, Fairfield and Commercial Property, Ag. Center and the Planning & Development Services Department.

County Center II, located just south of the City of El Centro, contains the former County Hospital Building, Behavior Health Perinatal Infant Care, Behavior Health Perinatal Women's Program, CPS Maintenance Staff Residence, Water Storage, Former Geriatric Building, Public Administrator, Area on Aging Agency, CPS Warehouse & Equipment, CPS Maintenance Shop, Vector Control, CPS Maintenance Supervisor Residence, WomanHaven Shelter, Association for Retarded Children, Health Department Storage, Animal Shelter Facility, Herbert Hughes Correctional Center, Regional Adult Detention Facility, Sheriff Administration, Sheriff's Training Center, Juvenile-Probation/California Youth Authority, Betty Jo McNeece Receiving Home Dependent Children Facility, Imperial Valley Food Bank, Behavior Health Drug & Alcohol Residence, Health Department T.B., Fish & Game Pheasant Farm, the Kelly Youth Facility/V.O.A. and the Facilities for Abused, Abandoned or Neglected Children.

County Center III, located on the grounds of the Imperial Airport, contains the Airport Terminal Building, Airport Manager/Veteran Office, De Anza Rescue Unit, Office of Emergency Services, Former F.A.A. Tower, Airport Maintenance Shop/Storage, Airplane Hangers, Pioneer's Museum, and the Imperial Legion/Veteran Hall.

The Imperial County Recreational Areas are Osborne Park, Niland Marina, Niland Marina County Dump Site, Niland Miniature Golf Park, Palo Verde Park, Walker Park, Heber Dunes, Wiest Lake, Sunbeam Lake, Red Hill Marina, Pioneer's County Park, Ocotillo Park, and Seeley Park.

The Imperial County Road Yards are located in Heber, Bard, Imperial, Salton City, Brawley, Holtville and Palo Verde.

The outlying areas of the County include the Winterhaven Sheriff Sub-Station, Winterhaven Superior Court, Brawley Superior Court & Sheriff Sub-Station, Brawley North County Civic Center, Calexico Superior Court, Niland Sheriff Sub-Station, Holtville Legion, Holtville Veteran's Hall, Holtville Ag. Commissioner Inspector Sub-Station, Palo Verde Fire & Sheriff Sub-Station, Heber County Library & Community Center and the Ocotillo Library Trailer Building.

Other County Facilities include the Health Department Dentistry Program, Behavior Health Adolescence Drug & Alcohol Treatment Program, Behavior Health New Beginnings Drop-In Center, Behavior Health Day Treatment, Behavior Health Cal Works Program & Adult Outpatient Services/Drug Court, Department of Social Services, Office of Employment El Centro One Stop Facility, Social Services Adult/Family Services, Department of Social Services Brawley Cal-Works Immersion Program, Office of Employment Training Administration, Office of Employment Training Brawley One Stop Building, Calipatria Library, Niland Library, Holtville Library, Brawley Health Department Satellite Clinic, Health Department Satellite Clinic at Calexico Community Center, Heber Fire Sub-Station and the Seeley Fire Sub-Station.

In 2005, the County purchased 80 acres adjacent to County Center II, for expansion of the County Jail, relocation of the County Garage and other facilities.

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Figure 4 - School Facilities

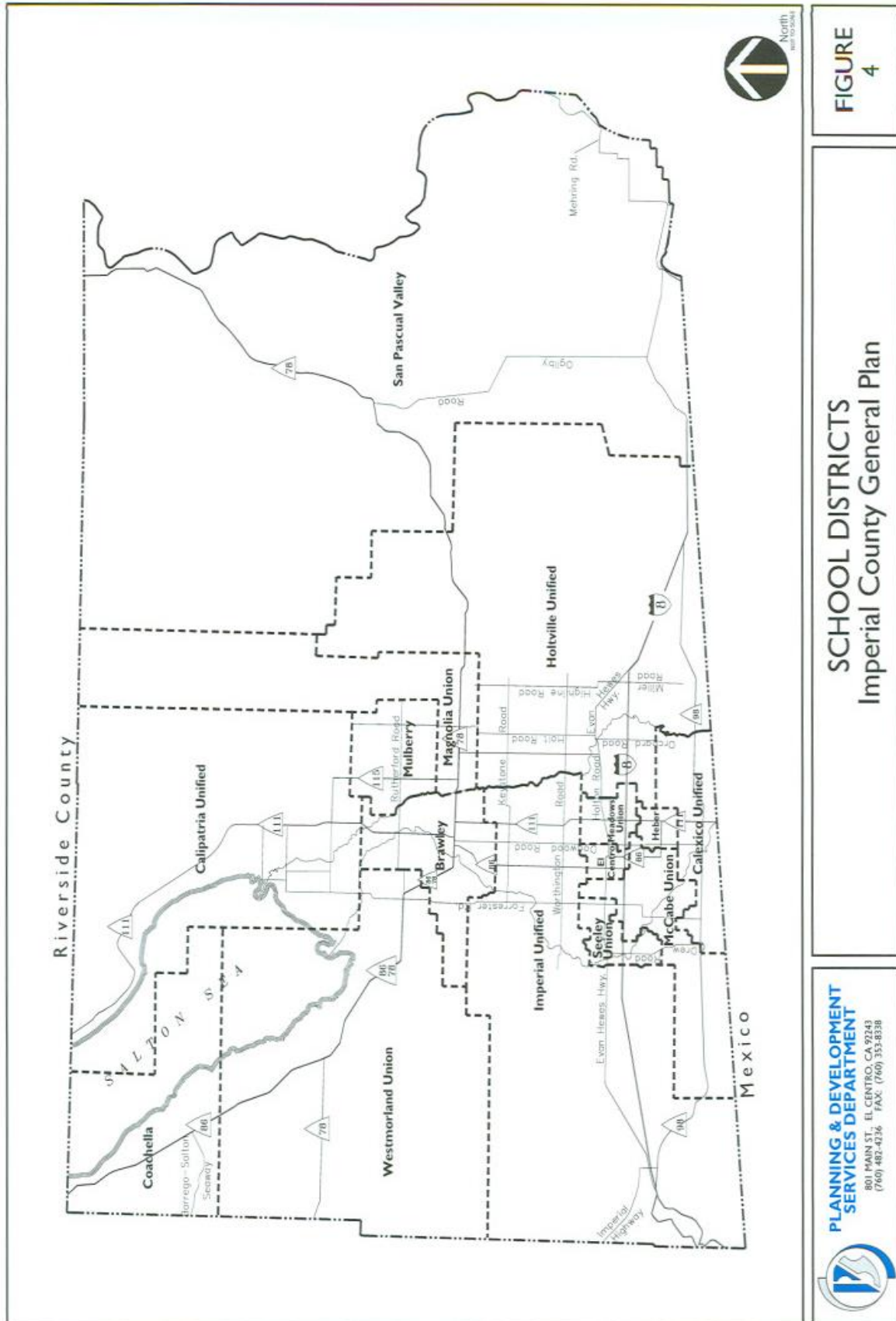


FIGURE 5

COUNTY FACILITIES
Imperial County General Plan

PLANNING & DEVELOPMENT SERVICES DEPARTMENT
801 MAIN ST., EL CENTRO, CA 92543
(760) 482-4236 FAX: (760) 353-8338

LEGEND

- X** County Parks
- ①** Salton City Satellite Maintenance Station
- ②** County Center I
- ③** County Center II
- ④** County Center III
- ⑤** Imperial Road Yard
- ⑥** Heber Road Yard
- ⑦** Brawley Road Yard
- ⑧** Holtville Road Yard
- ⑨** Palo Verde Satellite Maintenance Station
- ⑩** Bard Satellite Maintenance Station

G. Federal and State Facilities

With approximately 1,460,000 acres, the federal government owns approximately one-half of all land in the County, primarily the Department of the Interior's Bureau of Land Management (BLM) property and U.S. Military lands. BLM allows open recreational uses in several areas, including three sites in the Imperial (Algodones) Sand Dunes: Gloomiest/Gawky, Buttercup Valley, and Mammoth Wash. Hiking and ORV trails also exist on BLM lands throughout the County.

Military activities are centered at the Naval Air Facility El Centro, located north of Seeley, with military field and aerial operations conducted on approximately 350,000 acres in the Chocolate Mountains, 76,800 acres in the Superstition Mountains, 36,600 acres at the Salton Sea Test Base, and at other smaller sites throughout the County. The military's Yuma Proving Grounds, centered in Arizona, also includes lands in the southeast portion of the County.

Other federal sites include National Wildlife Refuges at the south end of the Salton Sea and two sites on the Colorado River -- Cibola near Palo Verde, and Imperial farther south. U.S. Border Patrol are located at the Mexicali/Calexico and Algodones/Andrade Ports of Entry, with Border Patrol inspection station also operated on Highway 86/78 south of Salton City, Highway 111 north of Bombay Beach, and Highway 78 south of Palo Verde.

State facilities consist of park lands of Anza-Borrego State Park and Ocotillo Wells State Recreation Area; the Salton Sea State Recreation Area on the east shore; and Picacho State Recreation Area on the Colorado River. The State Department of Fish and Game also manages two units of the Imperial Wildlife Area -- the Wister Unit on the east shore near Niland, and the Finney-Ramer Unit on the Alamo River near Calipatria.

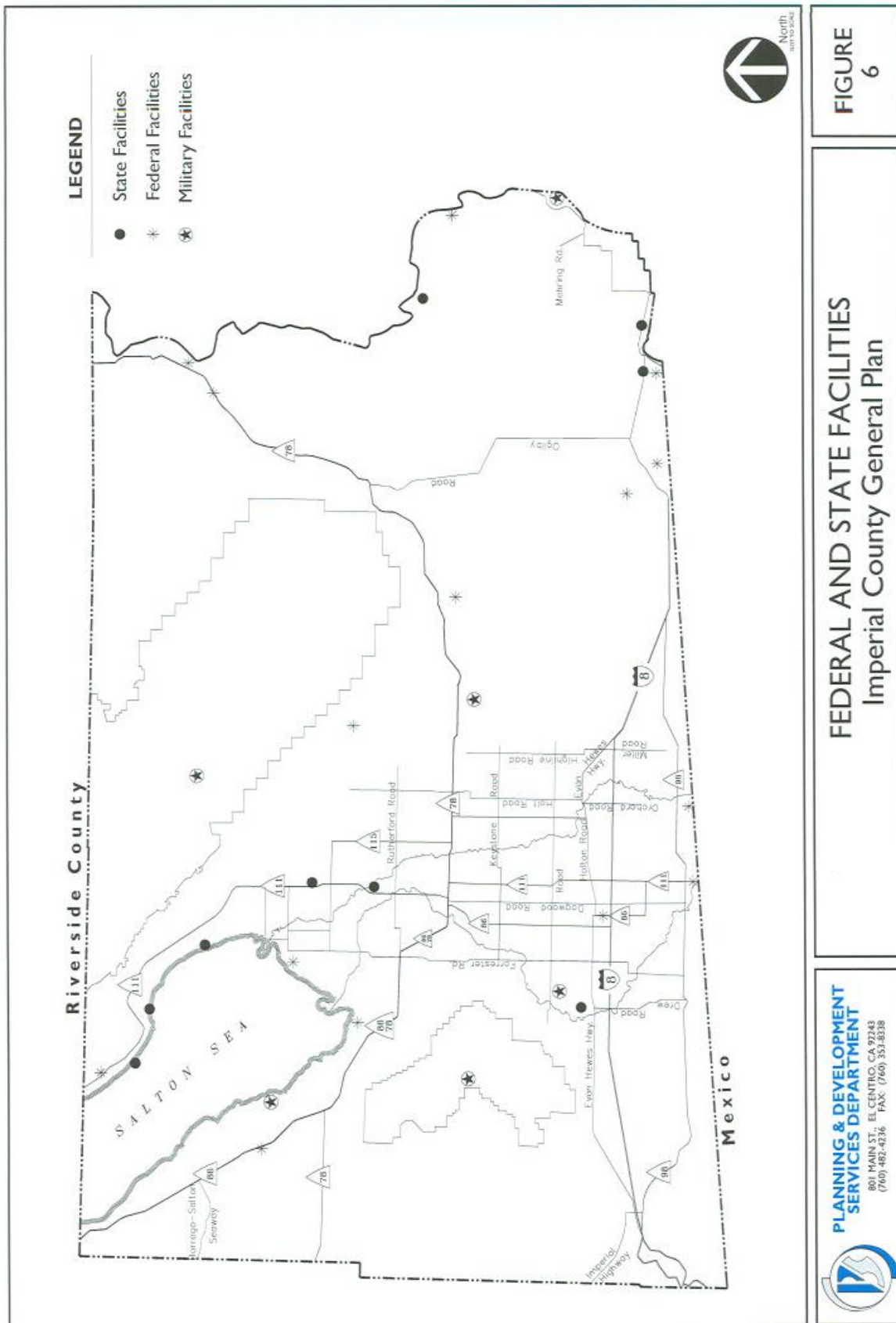
The State Department of Corrections has a maximum-security prison in the area northeast of the City of Calipatria and a medium-security prison near Seeley. An agricultural pest inspection station is located on I-8 west of Winterhaven, and a Highway Patrol field office is located near Felicity.

The County has three port of entries between the United States and the Republic of Mexico. The City of Calexico is the oldest and heaviest used port of entry. It is the primary passage vehicle port with truck traffic. The Gateway of America's or east port is the newest port of entry, built in 1995. Its primary purpose is as a commercial truck port. It also serves to relieve the Calexico port congestion. The Third port is the Algodones port near the California/Arizona boarder. As a small port, it is used primarily for passenger vehicles, typically tourist.

The County has limited land use authority on federal and state lands when it pertains to private operations in cases where the operation addresses public health and safety issues. The County does not have direct authority on Indian Reservation lands which are the Torres-Martinez Reservation adjacent to the Riverside County line in the Salton City area or the Quechan Reservation in the Winterhaven-Bard area. However, the County has authority over off-site impact generated by on-site operations.

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Figure 6 - Federal and State Facilities



H. Natural/Mineral Resources

Most of the natural and mineral resources of Imperial County are still being developed. Opportunities and needs for mineral materials are found in the County's expanding economy. The more obvious needs are related to the demands of the construction industry. The need to develop additional sources of sand and gravel is expected to increase in the future.

Gypsum is being mined in the Fish Creek Mountains near the San Diego County line and transported by private rail line to a drywall plant at Plaster City. Pumice and claystone for expanded lightweight aggregate are ready for production when the need arises. Industrial materials such as kyanite, mineral fillers (clay, limestone, sericite mica, tuff), salt, potash and calcium chloride (geothermal sources), and sand are readily available.

The County also has large reserves of geothermal fluids. Geothermal energy is the natural heat of the earth that is brought to the surface by wells. These very hot fluids are then used to produce heat and/or electricity. The earliest attempt to develop geothermal steam for power in Imperial County was in 1927. Since then, the geothermal industry has become an important part of the County's industrial base. It has been estimated that Imperial County may have more geothermal energy than any other area in the United States.

Some of the geothermal brines are also rich in potash, lithium, among other critical minerals, which offer additional incentives for mineral and geothermal development. The potential products of these fluids for electric power, fresh water, and minerals may provide the Imperial Valley with new industries. Low cost power sources could provide an added incentive for new industrial development, thus enhancing the value of the County's minerals. Please refer to the Renewable Energy and Transmission Element for further information on geothermal resources.

Gold and manganese deposits in the County contain sizable reserves, although only recently have economics and more efficient mining and processing methods allowed the increased development of the resources. [Gold Fields Mining Company, American Girl Joint Venture and Chemgold (Picacho Mine)], all located in the eastern portion of the County, were the major producers of gold ore in the County. For more information on natural and mineral resources, please refer to the Conservation and Open Space Element.

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III. GOALS AND OBJECTIVES

A. Preface

The Land Use Element of the General Plan serves as the primary policy statement by the Board of Supervisors for implementing development policies and land uses in Imperial County. This section (Chapter III) of the Land Use Element presents Imperial County's Goals and Objectives relative to all land use within the unincorporated areas of the County. They have been prepared in collaboration with the General Plan Ad-Hoc Advisory Committee appointed by the Board of Supervisors.

The Goals and Objectives, together with the Implementation Programs and Policies in Chapter IV, are the statements that shall provide direction for private development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the citizens as being desirable and deserving of community time and resources to achieve. These Goals and Objectives, therefore, are important guidelines for land use decision making. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these Goals and Objectives, and those of the other General Plan Elements, should be used as guidelines but not doctrines.

B. Goals and Objectives

Commercial Agriculture

Goal 1: Preserve commercial agriculture as a prime economic force.

Objective 1.1 Encourage the continued agricultural use of prime/productive agricultural lands.

Objective 1.2 Discourage the location of incompatible development adjacent to or within productive agricultural lands.

Objective 1.3 Identify compatible agriculture-related uses or renewable energy projects appropriate for location in agricultural areas.

Objective 1.4 Encourage and enhance the continued participation in the County Williamson Act Program.

Objective 1.5 Encourage agricultural food processing or value added business to locate in Imperial County to further enhance the continued viability of the Agricultural Economy.

Objective 1.6 Encourage the continued viability and growth of the agricultural industry to minimize dependence on foreign food supplies to the region and the country.

Economic Growth

Goal 2: Diversify employment and economic opportunities in the County while preserving agricultural activity.

Objective 2.1 Achieve a balanced and diversified local economy with a variety of economic and employment opportunities.

Objective 2.2 Provide adequate space and land use classifications to meet current and projected economic needs for commercial development.

Objective 2.3 Continue to evaluate economic development strategies, including new industrial, commercial, and tourist-oriented land uses. Tourist-oriented uses must be compatible with BLM management goals in areas near BLM lands.

Objective 2.4 Improve the “regional” economic development cooperation with the other agencies in the County through collaboration, partnerships, and the utilization of the public/private partnerships such as the current IVEDC (Imperial Valley Economic Development Corporation).

Objective 2.5 Continue partnership efforts such as the Foreign Trade Zone JPA, or the Enterprise Zone JPA to obtain economy in scale, and the better utilization of public funds in promoting the County toward a healthier economy and a healthier quality of life area.

Regional Vision

Goal 3: Achieve balanced economic and residential growth while preserving the unique natural, scenic, and agricultural resources of Imperial County.

Objective 3.1 Maintain and improve the quality of life, the protection of property and the public health, safety, and welfare in Imperial County.

Objective 3.2 Preserve agriculture and natural resources while promoting diverse economic growth through sound land use planning.

Objective 3.3 Attain County growth and development patterns that are orderly, safe, and efficient utilizing appropriate financing resources.

Objective 3.4 Protect/improve the aesthetics of Imperial County and its communities.

Objective 3.5 Ensure safe and coordinated traffic patterns, contiguous growth, and promote a planned and consistent development around city/township areas.

Objective 3.6 Recognize and coordinate planning activities as applicable with the Bureau of Land Management (BLM), and the California Desert Conservation Plan.

Objective 3.7 Establish a continuing comprehensive long-range planning process for the physical, social, and economic development of the County.

Objective 3.8 Utilize non-agricultural land as a resource to diversify employment opportunities and facilitate regional economic growth. Uses must be consistent with each site's resource constraints, the natural environment, and the County Conservation and Open Space Element

Objective 3.9 Promote water recreation activities in Imperial County in suitable areas along the New, Alamo, and Colorado Rivers, and in the Salton Sea.

Objective 3.10 Identify and pursue funding sources for clean up of the New and Alamo Rivers and the Salton Sea.

Objective 3.11 All zoning within the County of Imperial shall be compatible with the General Plan.

Objective 3.12 Plan the County urban areas to have physical features, such as urban green belts, parks, or geographic/topographic features that distinguish one community (city) from another to avoid the future bland mega-city such as the LA basin.

Objective 3.13 Plan for more regional infrastructure systems to reduce the number of smaller treatment facilities to provide greater efficiency and opportunity to service areas that currently are unnerved or lack adequate services.

Objective 3.14 Encourage more regional cooperation and thinking among the elected bodies of the County.

Objective 3.15 Support the safe and orderly development of renewable energy in conformance with the goals and objectives of the Renewable Energy and Transmission Element.

Towns and Communities

Goal 4: Preserve and enhance distinctive historic desert towns and newer communities.

Objective 4.1 Preserve and enhance existing urban and rural communities.

Objective 4.2 Encourage distinctive community identities.

Objective 4.3 Maintain and require compatible land uses within the existing communities.

Objective 4.4 Limit the establishment of non-residential uses in predominantly residential neighborhoods and require effective buffers when appropriate non-residential uses are proposed.

Objective 4.5 Specific Plan Area designation should be used for outlying proposed growth areas in order to better determine appropriate land uses and the timing and financing for needed community facilities.

Housing Opportunities

Goal 5: Encourage the compatible development of a variety of housing types and densities to accommodate regional population projections and special housing needs.

Objective 5.1 Provide sufficient, suitable residential sites and housing supply to meet projected housing needs of all segments of the population.

Objective 5.2 Promote affordable housing for residents of all income groups, including low and moderate income households.

Industrial Development

Goal 6: Promote orderly industrial development with suitable and adequately distributed industrial land.

Objective 6.1 Provide adequate space and land use classifications to meet current and projected economic needs for industrial development.

Objective 6.2 Ensure that development in the areas surrounding military, public, and private airports are consistent with the Airport Land Use Compatibility Plans.

Objective 6.3 Protect industrial zoned areas from incompatible adjacent land uses and from under-utilization by non-industrial uses.

Extractive Resources

Goal 7: Identify and protect areas of regionally-significant mineral resources which are in locations suitable for extractive uses.

Objective 7.1 Provide adequate space and land use classifications to meet current and projected economic needs for extractive activities.

Objective 7.2 Require that extractive uses are designed and operated to avoid air and water quality degradation, including groundwater depletion, other adverse environmental impacts, and comply with the State Surface Mining and Reclamation Act and County Surface Mining Ordinance.

Public Facilities

Goal 8: Coordinate local land use planning activities among all local jurisdictions and state and federal agencies.

Objective 8.1 Coordinate with federal, state, and municipal agencies when planning for the acquisition and improvement of public parks and assure compatibility with adjacent communities and private property.

Objective 8.2 New developments shall provide improvements to meet the added demands for parks and recreational facilities.

Objective 8.3 Ensure that school facilities are adequate to meet the existing and projected needs of the population.

Objective 8.4 Ensure that all future proposed private and public facilities are adequate to meet expected population growth and the needed additional services around local cities.

Objective 8.5 At a minimum, provide adequate sites for solid/liquid and hazardous waste facilities to meet the current and projected demands of the County population and consistent with the County Solid Waste and Hazardous Waste Management Plans.

Objective 8.6 Ensure that land uses adjacent to or near existing waste disposal or storage facilities are compatible with those facilities.

Objective 8.7 Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.

Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.

Objective 8.9 Require necessary public utility rights-of-way when appropriate.

Objective 8.10 Provide for the review of public transportation needs in order to accommodate countywide growth.

Protection of Environmental Resources

Goal 9: Identify and preserve significant natural, cultural, and community character resources and the County's air and water quality.

Objective 9.1 Preserve as open space those lands containing watersheds, aquifer recharge areas, floodplains, important natural resources, sensitive vegetation, wildlife habitats, historic and prehistoric sites, or lands which are subject to seismic hazards and establish compatible minimum lot sizes.

Objective 9.2 Reduce risk and damage from flood hazards by appropriate regulations.

Objective 9.3 Adopt noise standards which protect sensitive noise receptors from adverse impacts.

Objective 9.4 Coordinate with the Republic of Mexico to clean up the polluted New River and Alamo River in order to ensure public health and safety as well as recreational resources.

Objective 9.5 Establish policies and programs for maintaining salinity levels in the Salton Sea which enable it to remain a viable fish and wildlife habitat.

Objective 9.6 Incorporate the strategies of the Imperial County Air Quality Attainment Plan (AQAP) in land use planning decisions and as amended.

Objective 9.7 Implement a review procedure for land use planning and discretionary project review which includes the Imperial County Air Pollution Control District.

C. Relationship to Other General Plan Elements

The Land Use Policy Matrix (Table 3) identifies the relationship between the Land Use Element Goals and Objectives to other Elements of the Imperial County General Plan. The Issue Area identifies the broader goals of the Element and the "Xs" identify that related objectives are contained in the corresponding Elements.

TABLE 3
LAND USE ELEMENT POLICY MATRIX

Issue Area	Housing	Circulation	Seismic/ Public Safety	Agricultural	Open Space Conservation	Renewable Energy	Water
Agricultural Preservation				X	X	X	X
Economic Growth				X		X	
Land Use Planning	X	X	X	X	X	X	X
Housing Opportunities	X	X					
Extractive Resources					X		
Public Facilities	X		X			X	
Environmental Sensitivity	X	X	X	X	X	X	X

Add the Parks and Recreation Element

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IV. IMPLEMENTATION PROGRAMS AND POLICIES

A. Preface

Both Attorney General opinions and court decisions have stressed the importance of the Land Use Element to regulate the use and intensity (both population and building) of land use areas. In that regard, each land use category identified herein has development standards that include population density and building intensity. Specific regulatory standards to implement the General Plan land use categories are contained within the County Zoning Ordinance.

Population density is defined as "the relationship between the number of dwelling units per acre and the number of residents per dwelling." Building intensity may be based upon a combination of variables such as maximum dwelling units per acre, permitted uses, height and size limitations. While some court decisions have defined population density as the number of people in an area, quantifiable standards must be stated for each land use category.

A key component of this Element is the Land Use Plan which delineates boundaries and establishes development standards for land use categories in order to maintain consistency and compatibility between uses and to classify the various land uses recognized by the General Plan. Land use categories are based on the existing land uses and the level of public facilities and services available to support new land uses.

B. Land Use Descriptions

The permitted uses and standards which follow in Section C describe types of agricultural or industrial uses with terms such as "light", "medium", or "heavy" and commercial uses as "neighborhood" or "general". For clarity, the meaning of these terms as used herein are described below. Also, residential is described as "dwelling units per acre" which shall mean per gross acre as described below.

Agricultural Uses

Light Agriculture - Agricultural crop production such as field, forage, tree groves, vines, and other plant crops intended to provide food or fiber, as well as flowers and field or container plants including ornamental, landscape, agricultural, and native plants. Animal keeping, including aquaculture (fish farms), would not be a primary use, but may be allowed as a secondary or incidental use to be regulated by implementing zoning as to types of animals, numbers of animals per acre, minimum lot size for animal keeping, or setbacks from property lines for animal enclosures.

Medium Agriculture - Includes all agricultural crop production described above and permits animal keeping, including aquaculture, as a primary use. Implementing zoning may regulate types of animals, numbers of animals per acre, minimum lot size for animal keeping, or setbacks from property lines for animal enclosures. Incidental uses such as produce stands or on-site packing and processing of agricultural crops, may be permitted with limitations by implementing zoning.

Heavy Agriculture - Includes all agricultural crop production and animal keeping, including aquaculture, dairies, feed lots, and animal sales yards as a primary use. Implementing zoning may regulate numbers of animals per acre, minimum lot size for animal keeping, or setbacks from property lines for animal enclosures. Incidental uses such as produce stands may be permitted with limitations by implementing zoning. On-site packing and processing of agricultural crops and livestock, and farm labor camps, may be permitted with limitations by implementing zoning.

Industrial Uses

Light Industry - Refers to industrial plants, and storage, distribution, and administrative facilities, for uses engaged in manufacturing, compounding, processing, assembling, packaging, treatment, or fabrication of materials and products within an enclosed building. Implementing zoning may restrict use of certain products, processes, or manufacturing equipment due to external effects such as noise, odors, smoke, or dust. Uses which involve compounding of radioactive materials, manufacturing of certain hazardous gases or chemicals, petroleum refining or large petroleum storage facilities, or manufacturing of explosives would not be permitted.

Medium Industry - Refers to industrial plants, and storage, distribution, and administrative facilities, as described above, including uses conducted outside of an enclosed building. Implementing zoning may restrict use of certain products, processes, or manufacturing equipment due to external effects such as noise, odors, smoke, or dust. Uses which involve compounding of radioactive materials, manufacturing of certain hazardous gases or chemicals, petroleum refining or large petroleum storage facilities, or manufacturing of explosives would not be permitted.

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Heavy Industry - Refers to industrial plants, and storage, distribution, and administrative facilities, as described above, including uses conducted outside of an enclosed building. Implementing zoning may restrict use of certain products, processes, or manufacturing equipment due to external effects such as noise, odors, smoke, or dust; and may allow, with restrictions, uses which involve manufacturing of certain hazardous gases or chemicals, petroleum refining or storage, or manufacturing of explosives. Electrical and other energy generating facilities are heavy industrial uses, except, hydroelectric, and renewable energy facilities may be regulated differently than other types of power plants by implementing zoning including the RE Overlay Zone and Conditional Use Permit process. Other uses such as mining and processing of sand, gravel, rock, and other metallic or non-metallic minerals, landfills, and oil or gas drilling rigs, also exhibit characteristics similar to other heavy industrial uses but may be regulated differently by implementing zoning due to necessary location.

Commercial Uses

Light Commercial - Refers to commercial uses which provide for the sale of convenience goods, such as food, drugs and sundries, and personal services which meet daily needs of a local neighborhood trade area. Offices, convenient stores, small gasoline stations, eating and drinking establishments, and recycling collection facilities (not involving hazardous materials) are also permitted but may be limited or restricted by implementing zoning. Automobile painting and repair would not be permitted.

Medium Commercial - Refers to commercial uses as described above, as well as business and construction support services, personal and business storage facilities, supermarkets, commercial recreation, health clubs and spas, medical, financial, and other professional offices and facilities, hotels and motels, automobile and equipment sales and services. Some of these uses may be restricted by location in certain zones, or by other limitations of implementing zoning. Agricultural and animal services may also be permitted subject to limitations of implementing zoning.

Heavy Commercial – Refers to commercial uses that are of regional convenience. This includes uses described above as well as larger retail outlets, regional centers and home improvement stores. Heavy commercial shall be located adjacent to major highways, freeways, or other significant circulation corridors.

Residential Uses

Dwelling Unit - Refers to a single unit providing complete, independent living facilities, including permanent provisions for living, sleeping, eating, cooking, and sanitation, and having only one kitchen. A dwelling unit includes a single family detached home (including manufactured homes), or each of the attached units in a duplex, apartment building, or residential condominium. Hotel and motel units are not dwelling units or residential uses. Lodging or boarding houses, and group living quarters are residential uses which are regulated by zoning, but are not included as "dwelling units per acre".

Dwelling units per acre - Is a statement of residential density which, for the County of Imperial, would result in an approximate average population of 3.0 to 3.5 persons per dwelling unit allowed per acre. For purposes of the County General Plan it shall mean dwelling units per gross acre and shall be determined for each separate and individually owned lot or parcel based on the gross area within the exterior boundary lines of a property. Existing public rights-of-way, railroad rights-of-way, and canals or drains shall be excluded from the gross area when calculating permitted dwelling units.

Density Bonus Per State Law - The California Government Code, Section 65915 et seq., requires each city and county to provide incentives, which may include a 35 percent density bonus, reduced parking requirements etc. for development of lower income housing units in residential projects of five or more dwelling units. This provision, as presently stated in the Government Code or as it may hereafter be amended, is applicable to the Imperial County General Plan. For more information, please refer to the Housing Element of the General Plan.

C. Land Use Designations and Standards

In order to define a clear distribution of development and preservation, the following categories have been defined: Agriculture, Community Area, Government/Special Public, Industry, Recreation/Open Space, Special Purpose Facility, Specific Plan Area, and Urban Area.

The following designations and standards rely on the land use descriptions specified above. Where uses are indicated as permitted in a land use category, limitations on such uses may be required by implementing zoning, such as limiting the location or intensity of such a use, or by requiring a conditional use permit and a site-specific environmental assessment, or other form of discretionary review.

1. Agriculture

This category is intended to preserve lands for agricultural production and related industries including aquaculture (fish farms), ranging from light to heavy agriculture. Packing and processing of agricultural products may also be allowed in certain areas, and other uses necessary or supportive of agriculture. The Agriculture category includes most of the central irrigated area known as the Imperial Valley, the Bard/Winterhaven Valley and the south end of the Palo Verde Valley.

Where this designation is applied, agriculture shall be promoted as the principal and dominant use to which all other uses shall be subordinate. Where questions of land use compatibility arise, **the burden of proof shall be on the non-agricultural use to clearly demonstrate that an existing or proposed use does not conflict with agricultural operations and will not result in the premature elimination of such agricultural operations.** No use should be permitted that would have a significant adverse effect on agricultural production, including food and fiber production, horticulture, floriculture, or animal husbandry. All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category.

No land shall be removed from the Agriculture category except for annexation to a city, where needed for use by a public agency, for renewable energy purposes in accordance with the Renewable Energy and Transmission Element, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process.

Residential Development Standards:

Very low density residential land uses with not more than 1 single family dwelling unit per 40 acres or per legal parcel.

Land shall not be subdivided for residential development.

A defined area of land consisting of a multitude of smaller parcels, which are each less than 10 acres in size, with an aggregate of less than 40 acres (at adoption of this plan), that is already impacted with residential units of 5 or more contiguous residences may, on a case by case basis be considered for further subdivision. Small existing parcels less than 15 acres in size that cannot be combined with larger parcels due to geographic or topographic features may on a case by case basis and with appropriate findings be considered for submission into parcels not less than 25% of their original size and in no case for more than four lots. Provided also that approved potable water and approved waste disposal facilities will be provided. (Reference standards for evaluation in the Agriculture Element, Exhibit "C", page C-1 to C-3).

Agricultural employee housing may be permitted with a Conditional Use Permit and environmental review to determine that continued agricultural use will not be adversely impacted.

Building height maximum of 35 feet.

Commercial Development Standards:

Commercial uses are not permitted except those directly associated with sales of agricultural goods such as feed, grain, fertilizers, pesticides.

Maximum floor area ratio not greater than 1:1 (i.e., 1 square foot of gross building area per 1 square foot of area within the lot or building site).

Maximum building height of 35 feet.

No lot or building site shall have more than 50 percent of its net area covered with buildings or structures.

A minimum of 25 percent of the front lot area shall be landscaped.

Industrial Development Standards:

Industrial uses are not permitted except those directly associated with agricultural products and processes. This would include cotton gins, dehydration mills, seed mills, fruit, vegetable, meat and fish packing plants, hay storage and shipping, and nut shelling and cooking. Implementing zoning may require a Conditional Use Permit for some or all of these industrial uses.

Renewable Energy projects may be permitted with an appropriate Conditional Use Permit subject to zoning and environmental review.

Maximum floor area ratio not greater than 1:1 (i.e., 1 square foot of gross building area per 1 square foot of area within the lot or building site).

Building height maximum of 50 feet. A lesser height may be required by the Airport Land Use Compatibility Plan.

Industrial land uses should locate in areas where high noise levels will not impact existing or planned noise sensitive land uses.

Industrial uses within this category must locate in areas having access to major transportation systems or must make provision for adequate transportation systems. Distribution facilities, such as truck transport terminals, are not allowed in this category.

A minimum of 25 percent of front lot area shall be landscaped.

Open Space/Recreation Standards:

Open space and recreation land uses within this category consists of environmentally sensitive areas, parks, fault zones, floodways and floodplains, agricultural lands, and areas designated for the managed production of mineral resources.

Commercial recreation enterprises including hunting clubs, fishing lakes, equestrian centers, dude ranches, and similar uses, however, a conditional use permit may be required by implementing zoning regulations for some types of commercial recreation enterprises.

Mobile home parks and recreational vehicle parks and campgrounds are strictly prohibited.

Solid and Liquid Waste Disposal Facilities:

Landfills, and or other waste disposal/treatment facilities a are not allowed within this category.

2. Community Area

The Community Area category represents land uses associated with the unincorporated communities of Hot Mineral Spa/Bombay Beach, Ocotillo/Nomirage, and Palo Verde. Their land use orientation is primarily toward relatively low density second home and retirement dwellings and recreational services, rather than urban residential, commercial, and industrial uses. Community Areas usually include small local- and tourist-serving central business districts with a rural orientation.

Urban services, including sewer, water, and physical improvements such as curbs and sidewalks are limited. Ocotillo/Nomirage is provided water service by private water companies and individual water wells; Palo Verde by the Palo Verde County Water District; and Hot Mineral Spa/Bombay Beach by the Coachella Valley Water District. Only Bombay Beach has a public sewage system, also operated by the Coachella Valley Water District, the others rely on subsurface septic systems or facilities operated by mobile home and RV parks. Except in the Hot Mineral Spa area, future growth is expected to consist primarily of infill on existing lots, rather than expansion of community boundaries, except at very low densities. The designation of "Community Area" is not intended to preclude incorporation of a particular community.

All development within Community Areas shall also be reviewed by affected local agencies and County departments to determine that an adequate level of public services exist to serve the proposed project. This would include the off-site circulation system (County Department of Public Works), adequate water supply and pressure for fire suppression (County or City Fire Marshal), police services (County Sheriff or City Police Department), schools (local school district and

County Department of Education), potable water (local water district), sewage disposal (local sanitation district or County Health Department), local park facilities (County Parks and Recreation Department), and other services which the Planning/Building Department may identify as impacted.

Residential Development Standards:

Residential land uses at a population density from less than 1 dwelling unit per acre to a maximum of 4 dwelling units per acre. Higher densities may be allowed pursuant to an approved "Master Plan" for the overall Community Area where adequate public infrastructure exists.

Residential building intensity is determined by available public facilities and services and physical or environmental factors which may affect the site, including soil characteristics, groundwater conditions, etc.

New residential development must be consistent with the existing character of the community.

A minimum lot size of 20,000 square feet (net area exclusive of road and other easements) is required for new residential units where sewer service is not presently available. A larger lot size may be required for an on-site sewage disposal system to be approved by the County Environmental Health Services Division. Smaller lots may be considered if the approving agencies accept an engineered alternative that can provide the same or better level of sewage treatment. The purpose is to allow for changing technology to be considered and therefore allow for better land utilization.

An on-site potable water supply approved by the County Health Department is required for all residential development.

Commercial Development Standards:

Low to medium intensity commercial land uses, which can be shown to be compatible with adjacent existing or planned residential uses, including neighborhood and general commercial uses. Only neighborhood commercial uses will be permitted in the Ocotillo/Nomirage Community Area.

Maximum floor area ratio not greater than 2:1 (i.e., 2 square feet of gross building area per 1 square foot of area within the lot or building site).

Building height maximum of 50 feet (consistent with C-1 zone).

A minimum of 10 percent of the lot area shall be landscaped. A greater percentage of landscaping may be required for projects involving discretionary review.

Industrial Development Standards:

Manufacturing/industrial zoning and land uses are generally not permitted in this category. Implementing zoning may allow limited assembly and manufacturing of "craft" items such as stained glass, pottery, wood, and fabric products. Zoning for more intensive industrial use may be allowed pursuant to an approved Master Plan for the overall Community Area where adequate public infrastructure exists.

Agricultural Land Use Standards:

Agricultural land uses within this category consist of light and medium agricultural uses.

Agricultural land uses located within the Community Area category may be subject to limitations with respect to animal keeping, setbacks, building height, and other regulations of the County Zoning Ordinance.

Due to potential groundwater overdraft conditions, commercial agricultural uses are prohibited in the Ocotillo-Coyote Wells groundwater basin.

Open Space/Recreation Standards:

Open space land uses within this category consist of environmentally sensitive areas, fault zones, flood ways and flood plains.

Recreational land uses within this category are limited to recreational vehicle parks and uses which consist primarily of outdoor facilities such as parks, athletic fields, golf courses, and swim and tennis clubs. Other more intensive commercial recreation uses may be allowed pursuant to an approved Master Plan for the overall Community Area where adequate public infrastructure exists. Due to potential groundwater overdraft conditions, only passive recreation uses are allowed in the Ocotillo-Coyote Wells groundwater basin.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations or treatment facilities are not allowed within this category. Municipal solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

3. Government/Special Public

This designation indicates lands generally owned by public agencies which are presently, and for the foreseeable future, used for a specific governmental purpose. This designation includes military bases, schools or school related

facilities and public parkland and may also be applied to airports, sewer and water facilities, cemeteries, and other public utilities and facilities.

Federal Lands:

The County has no jurisdiction over federally-owned lands and the use and intensity on such lands will be determined by the appropriate federal agency, such as the Department of the Navy for the Naval Air Facility and bombing ranges which are designated Government/Special Public. Also in this category are the Salton Sea, Cibola, and Imperial National Wildlife Refuges.

Land uses on Indian Reservations are also not regulated by the County. These lands, however, are generally not designated Government/Special Public. The Quechan and Fort Yuma Indian Reservations in the southeastern corner of the County are generally designated Agriculture. Portions of the Torres-Martinez Indian Reservation in the northwestern corner of the County are designated Recreation/Open Space or Urban Area.

State Lands:

Portions of four California State Parks are within Imperial County: Anza Borrego Desert State Park, Ocotillo Wells State Vehicle Recreation Area, Salton Sea State Recreation Area, and Picacho State Recreation Area. Use of these lands, which are designated Government/Special Public, are under the jurisdiction of the State Department of Parks and Recreation.

County and Other Local Agency Lands:

Existing County Parks are Sunbeam Lake, Wiest Lake, Red Hill Marina, Heber Dunes, Walker Park, and Palo Verde Park, most of which are designated Government/Special Public. Other local agency lands may also be placed within this land use category.

Private Lands:

Where private land, such as in holdings, exist within an area designated Government/Special Public, the Development Standards shall be the same as for the Recreation/Open Space category. Development of such lands shall also be evaluated for compatibility with existing and planned uses on nearby public lands.

4. Industry

Industrial land uses within this category consist of heavy manufacturing land uses located in areas with the necessary supporting infrastructure and located away from conflicting existing or planned land uses. Generally, these lands are

not suitable for agricultural use and are located adjacent to major transportation systems.

The Industry category is intended to designate areas outside of existing cities where heavy industrial uses exist, such as Plaster City, or can be accommodated without impacting residential or agricultural land uses. Zoning to allow heavy industrial uses may be applied to these areas, and may also be applied to certain Specific Plan Areas, but should not be applied in other unincorporated areas of the County or in other land use designations of the General Plan.

Residential Development Standards:

Residential land uses are limited to one single family dwelling unit if appurtenant to a permitted industrial or commercial use and occupied by a caretaker, custodian, or night watchman when on the same lot as the industrial use and only upon the issuance of a conditional use permit by the Planning/Building Department or Planning Commission.

Industrial Development Standards:

Heavy manufacturing land uses.

Maximum floor area ratio not greater than 4:1 (i.e., 4 square feet of gross building area per 1 square foot of area within the lot or building site).

A minimum of 10 percent of the lot area shall be landscaped.

Building height maximum of 150 feet, except where a lesser height is required by the Airport Land Use Compatibility Plan.

Industrial uses should locate in areas where high noise levels will not impact existing or planned noise sensitive land uses.

Prior to any zone reclassification to allow industrial use, potential significant impacts associated with the proposed rezone and appropriate mitigation shall be identified pursuant to the California Environmental Quality Act (CEQA).

Industrial uses within this category should locate in areas having access to major transportation systems.

Commercial Development Standards:

General commercial land uses which are necessary to and/or supportive of permitted industrial uses. This would include agricultural and horticultural sales, and equipment sales and services for business, industrial, construction, and agricultural purposes.

Maximum floor area ratio no greater than 2:1 (i.e., 2 square feet of gross building area per 1 square foot of area within the lot or building site).

Building height maximum of 35 feet.

A minimum of 10 percent of the lot area shall be landscaped.

Solid and Liquid Waste Disposal Facilities:

Landfills are prohibited within this category.

Hazardous waste treatment, incineration, recycling, stabilization/ solidification, residual repository, and transfer/ storage facilities may be sited but must be consistent with the siting criteria of the Imperial County Hazardous Waste Management Plan and the County Integrated Waste Management Plan and require a conditional use permit.

5. Open Space/Recreation/Preservation

The Open Space/Recreation/Preservation categories recognizes the unique recreational character of Imperial County and includes desert, mountain, and waterfront areas with the potential for development as public or private parks and recreation facilities in appropriate areas. Primarily, however, areas designated Open Space/Recreation/Preservation are characterized by a low intensity of human utilization and include mountain areas, sand dunes, desert lands and other open lands that are essentially unimproved and not predominantly used for agriculture. The majority of the land in this category is public land administered by the U.S. Bureau of Land Management (BLM) and owned by either BLM or the U.S. Bureau of Reclamation.

Recreation-related uses include mobile home and recreational vehicle parks, and resort and recreation facilities. Development is a mixture of seasonally and permanently occupied residential units, recreation facilities, community facilities, and neighborhood commercial activities. Examples include Sunbeam Lake, Imperial Lakes, Rio Bend, Red Hill Marina, Goldrock Ranch, and Colorado River camps such as Mitchell Camp and Walter's Camp. Additional recreation sites potentially include the New and Alamo Rivers, and the Salton Sea. These waters, however, must be cleaned up before they can be promoted as recreational resources so as not to jeopardize the health and safety of users.

Uncontrolled desert residential development has occurred in this area in past; examples are Imperial Gables and Milpitas Wash areas in northeastern Imperial County where no water, sewer, electrical, or telephone services exist. Further development of this type shall be restricted to dwellings in compliance with the Uniform Building Code and which can be supported by adequate public access, potable water, and sewage disposal satisfactory to the County Environmental Health Services Division.

Some areas designated Open Space/Recreation/Preservation contain soils suitable for agriculture, such as the East and West Mesa and Pilot Knob Units of Imperial Irrigation District, which are predominately owned by the Bureau of Land Management and not presently improved for agricultural cropland. Other areas designated Recreation/Open Space may be suitable for aquaculture, particularly where favorable groundwater conditions exist. Agricultural uses are, therefore, permitted in the Open Space/Recreation/Preservation category.

The Open Space/Recreation/Preservation category also includes lands for the preservation of natural resources; areas for the recharge of groundwater basins; rivers and lakes which are important as wildlife habitat and for the enjoyment of recreational sport fishing; areas for the conservation and managed production of mineral resources; and areas for the preservation of areas of outstanding scenic, historic and cultural value. It is intended that this category also be used to protect public health and safety, including areas that require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soils, flood plains, watersheds, and other areas required for the protection of water quality.

Residential Development Standards:

Low density land uses with not more than 1 single family dwelling per 20 acres. Maximum allowed residential use for Open Space/Recreation/Preservation is one residence per acre. Greater densities may be permitted by Specific Plan encompassing at least 160 acres for appropriate recreation-oriented residential development where adequate facilities and services for such use exist or can be provided.

Residential building intensity is determined by available public facilities and services and other factors which may affect the site.

An on-site potable water supply and sewage disposal satisfactory to the County Health Department.

Maximum building height of 35 feet.

No lot shall have more than 50 percent of its net area covered with buildings or structures.

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Agricultural Land Use Standards:

Light to medium agricultural land uses including row and field crops, orchards, aquaculture, grazing, and apiaries where groundwater resources (or imported water) are adequate to support agricultural

production without impact to existing domestic water wells or community water supplies.

Agricultural uses are prohibited on all areas administered by the BLM and the U.S. Fish and Wildlife Service, and on private lands that are in holdings in "Areas of Critical Environmental Concern" (ACEC).

Open Space/Recreation Standards:

Open space land uses within this category consist of environmentally sensitive areas, fault zones, floodways and floodplains, undeveloped desert lands, parks, and areas designated for the managed production of natural resources.

Recreational land uses within this category are limited to recreational vehicle parks and uses which consist primarily of outdoor facilities such as parks, athletic fields, golf courses, swim and tennis clubs, and off-road vehicle use areas.

Intensive recreational development within this category is prohibited in areas designated by BLM as "Areas of Critical Environmental Concern" or in a National Wildlife Refuge. These areas will be preserved in the General Plan for biological resources. Unauthorized entry is prohibited by the U.S. Fish and Wildlife Service into a National Wildlife Refuge.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste facilities are not allowed within this category, with the exception of maintaining existing facilities.

6. Special Purpose Facility

This designation may be applied to lands which are necessary for basic governmental services which have physical or operational characteristics incompatible with most other land use categories. In particular, noise, odors, air and water quality impacts, aesthetics, and traffic may create dangerous or objectionable conditions.

Permitted uses are subject to approval of a Conditional Use Permit and include Class I, II, and III solid and liquid waste facilities, prisons, and general aviation airports, or sites approved for those purposes. It is the intent of this designation that such proposed and existing facilities be protected from encroachment by development or incompatible land uses.

Solid Waste Facility Development Standards:

All new solid waste facilities, including all classes of landfills, which receive local and state approval shall be placed within this category

through a General Plan Amendment, if not already so designated and operating in conformance with an approved Conditional Use Permit. The designation shall include all contiguous or adjacent lands owned or otherwise controlled by the individual, corporation, or other entity which owns, operates, or proposes to own or operate, the landfill in order to provide an adequate buffer from other land uses. The minimum required buffer for any area proposed for the permanent placement of solid waste (i.e., the actual landfill portion of the facility) shall be 1,320 feet (one-quarter mile) from any lands not owned or controlled by the landfill owner or operator. Where public lands dedicated to open space uses or landfill related industrial development or mining operations are located within the said 1,320 feet, the buffer may not be required as determined by the public agency. The potential long term environmental impacts to the neighboring land uses or development may be considered in making this determination.

All solid waste facilities shall conform to the County Integrated Waste Management Plan (COIWMP), when adopted, and shall be subject to approval of a conditional use permit pursuant to the County Zoning Ordinance which shall specify standards for the establishment, operation, and closure of such facility and related or buffer-area land uses. Additional review and approval is required from the California Integrated Waste Management Board (CIWMB) and the County of Imperial Health Department acting as the Local Enforcement Agency (LEA) designated by the CIWMB. Review and/or approval by the following agencies is also required in most cases: Imperial County Air Pollution Control District, County Department of Public Works, State Water Resources Control Board, State Air Resources Board, State Department of Fish and Game, U.S. Environmental Protection Agency, and U.S. Fish and Wildlife Service. Due to the large amount of land in Imperial County under the control of the U.S. Bureau of Land Management, approval by that agency may also be required.

Related Landfill Facilities:

In addition to the landfill itself, the solid waste facility may include necessary and incidental support and operations facilities including intermodal transfer facilities (e.g., from rail line to truck), equipment repair, maintenance, and storage, administration and employee buildings, fueling and petroleum products storage, water reclamation and treatment facilities, landfill gas and energy recovery facilities, electrical substation, and water storage tanks or reservoirs.

Other Permitted Uses:

Other uses may be permitted within the Special Purpose Facility land use designation which provide a necessary governmental or public service use not appropriate in other land use designations or for which suitable land is not adequately available.

Also permitted are uses which are appropriate, supportive, or compatible with the principal Special Purpose Facility use of the site. Such uses shall be described in the conditional use permit and other local, state, and federal approvals as may be required and may include: commercial, industrial, agricultural uses; facilities operated by public agencies or public utilities, renewable energy facilities, solid waste sorting, recovery, and recycling facilities; mining and processing of mineral, aggregate, or other natural resources; private or public parks or recreation facilities; employee residences where not subject to adverse air quality or other impacts incompatible with residential use.

7. Specific Plan Area

The Specific Plan Area (SPA) designation may be used where a Specific Plan has been approved or must be approved prior to development. Land within this category usually has environmental constraints or unique land use concerns or opportunities which require special land use and/or design control. Suitable areas may also include lands proposed for large-scale urban development, for natural resource protection or historic preservation, or other use requiring more detailed planning than would typically be required by the County Zoning or Subdivision Ordinances.

Development Standards:

Application of the Specific Plan Area designation shall be accompanied by adoption of Objectives and Policies for the design, development, and use of such areas. This may include residential, commercial, industrial, agricultural, recreational, open space, and public uses. Except as provided below, once land is designated as a Specific Plan Area no use other than agriculture may be established and no major or minor tentative subdivision map or zone reclassification to a more intensive zone shall be approved except in accordance with an approved Specific Plan. Future development within the vicinity of the Holtville Airport shall not preclude the long-term viability of the airstrip to be developed as a regional airport.

Interim Uses:

Prior to the approval of a Specific Plan, land within this category may be used for agriculture or underlying zone, unless such interim use is specifically prohibited by the Objectives and Policies of the particular Specific Plan Area. Other interim uses may be permitted by the County Board of Supervisors which are consistent with the Goals and Objectives of the General Plan upon specific findings clearly showing consistency. Interim uses are subject to Zoning Ordinance and CEQA review and such conditions of approval as are necessary or appropriate.

8. Urban Area

The Urban Area Classification on the Land Use Plan includes areas surrounding the seven incorporated cities; Brawley, El Centro, Westmorland, Holtville, Calipatria, Imperial and Calexico. Urban Areas also include the unincorporated communities of Niland, Heber, Seeley, Winterhaven and West Shores/Salton City. These areas are characterized by a full level of urban services, in particular public water and sewer systems, and contain or propose a broad range of residential, commercial, and industrial uses.

It is anticipated that these areas will eventually be annexed or incorporated and should be provided with the full range of public infrastructure normally associated with cities. Therefore, development in these areas shall provide for the extension or development of full urban services such as public sewer and water, drainage improvements, street lights, fire hydrants, and fully improved paved streets with curbs and, in many cases, sidewalks. If located within an urban area, such improvements shall be consistent with City standards as determined by the City. In cases where the Urban area is located in the unincorporated communities (i.e. Heber, Seeley, etc.) improvements shall be consistent with County standards as determined by the County engineer, department of Public Works, Fire/OES, Environmental Health Services, and Planning & Development Services.

All development within Urban Areas shall also be reviewed by affected local agencies and County departments to determine that an adequate level of public services exist to serve the proposed project. This would include the off-site circulation system (County Department of Public Works), adequate water and pressure for fire suppression (County or City Fire Marshal), police services (County Sheriff or City Police Department), schools (local school district and County Department of Education), potable water (local water district), sewage disposal (local sanitation district or County Health Department), local park facilities (County Parks and Recreation Department), and other services which the Planning/Building Department identifies as impacted. In areas potentially affected by airport operations, developments shall be reviewed for conformance to the Airport Land Use Compatibility Plan.

Residential Development Standards:

Residential land uses at a population density of 1 to a maximum of 29 dwelling units per acre.

Residential building intensity is determined by available public facilities and services and physical or environmental factors which may affect the site.

New residential development must be consistent with the existing character of the community.

New residential development within the vicinity of airports must be consistent with the Airport Land Use Compatibility Plan

Commercial Development Standards:

Low to high intensity commercial land uses including professional offices, neighborhood and general commercial uses.

Maximum floor area ratio not greater than 2:1 (i.e., 2 square feet of gross building area per 1 square foot of area within the lot or building site).

Building height maximum of 75 feet or as provided by the Airport Land Use Compatibility Plan.

A minimum of 10 percent of the lot area shall be landscaped. A greater percentage of landscaping may be required for projects involving discretionary review.

New commercial development within the vicinity of airports must be consistent with the Airport Land Use Compatibility Plan.

Industrial Development Standards:

Light and medium industrial land uses.

Maximum floor area ratio not greater than 3:1 (i.e., 3 square feet of gross building area per 1 square foot of area within the lot or building site).

Building height maximum of 80 feet or as provided by the Airport Land Use Compatibility Plan.

Industrial uses should locate in areas where high noise levels will not impact existing or planned noise sensitive land uses.

Significant impacts associated with the proposed land use must be mitigated.

Industrial land uses within this category should locate in areas having access to major transportation systems.

A minimum of 10 percent of the lot area shall be landscaped. A greater percentage of landscaping may be required for projects involving discretionary review.

New industrial development within the vicinity of airports must be consistent with the Airport Land Use Compatibility Plan.

Agricultural Land Use Standards:

Agricultural land uses within this category consist of light and medium agricultural uses.

Agricultural land uses located within the Urban Area category may be subject to limitations with respect to animal keeping, setbacks, building height, and other regulations of the County Zoning Ordinance.

Open Space/Recreation/Preservation Standards:

Open space land uses within this category consist of environmentally sensitive areas, fault zones, floodways and flood plains, and agricultural lands. Recreational land uses within this category consist of both outdoor and indoor facilities such as parks, athletic fields, recreational vehicle parks, and commercial sports enterprises such as golf courses, health and athletic clubs, and bowling alleys.

Solid and Liquid Waste Disposal Facilities:

Landfills and hazardous waste storage and transfer stations are prohibited within this category.

Solid waste transfer and recycling stations may be permitted with appropriate zoning and environmental review.

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D. Compatibility Matrix

The primary purpose of a compatibility matrix is to provide a means to evaluate and achieve compatibility between the general plan and zoning ordinance. A matrix can be used to compare the land use categories of the general plan with the zoning districts and corresponding development standards of the Zoning Ordinance.

To illustrate the extent of zoning compatibility with the general plan, the Imperial County Consistency Matrix features the following categories:

- Compatible: Zones that are compatible with the General Plan Designation
- Incompatible: Zones that are not compatible with the General Plan Designation
- Conditionally Compatible: Zones that the County could find compatible under certain circumstances, but that generally are not compatible

The conditionally compatible category is zoning that is not by itself compatible, but could be found to be compatible under unique or unusual circumstances. Such circumstances would include zoning needed to accommodate an existing legal or legal non-conforming use; when additional density or use restrictions can be included by use of an "overlay" or "combining" zone; or where a Specific Plan, conditional use permit (CUP) or other discretionary permit can be required for a proposed use and mitigating measures can be imposed to reduce or eliminate potential land use conflicts.

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**TABLE 4
COMPATIBILITY MATRIX**

Land Use Categories	ZONES																			
	R-1	R-2	R-3	R-4	G/S	A-1	A-2/A2-R	A-3	AM-1	AM-2	C-1	C-2	C-3	M-1	M-2	M-3	S-1	S-2	G	L
Agriculture	■	■	■	■	■	■	○	○	○	○	■	●	●	■	■	■	●	●	○	■
Community Area	○	●	●	●	●	●	■	■	■	■	○	○	■	●	■	■	○	○	○	○
Government/ Special Public	■	■	■	■	■	■	●	●	●	●	■	■	■	■	■	■	○	○	○	■
Industry	■	■	■	■	●	■	●	●	●	●	●	●	●	○	○	○	■	○	○	○
Recreation/ Open Space	■	■	■	■	○	■	○	○	○	○	■	●	■	■	■	■	○	○	○	■
Rural Residential	■	■	■	■	○	○	●	●	●	●	■	●	■	■	■	■	○	○	○	○
Special Purpose Facility	■	■	■	■	■	■	●	●	●	●	■	■	■	■	●	●	■	●	●	●
Specific Plan Area	●	●	●	●	■	■	●	●	●	●	●	●	●	●	●	●	●	○	●	●
Urban Area	○	○	○	○	●	○	■	■	■	■	○	○	○	○	■	■	●	○	○	○

Note: Matrix modified to reflect the 1998 Land Use Ordinance Update.

E. Implementation Policies and Programs

Implementation of the Land Use Element is intended to be a continual process involving amendments to the County Zoning Ordinance and Zoning Maps, and discretionary review of proposed subdivisions and conditional use permits; and also involving ministerial review procedures to assure that proposed development has adequate potable water and sewage disposal, and to determine that no hazard to public health or safety will result from flooding, earthquakes, unstable soil, or other natural hazards.

1. Agriculture

Policy

Residential encroachment into agricultural areas has resulted in land use conflicts and potentially unhealthful conditions for residents due to tilling of fields and use of farm chemicals on crops. This situation also often leads to reduction in agricultural production due to complaints from new residents. The County strongly supports continued agricultural use of all areas designated "Agriculture" and exclusion of incompatible residential uses.

Program

- Existing areas designated Agriculture which are zoned A-1 will not be considered in conformance with the Agriculture land use designation and should be rezoned to the A-2 or other existing or new agricultural zone which requires a minimum lot size of 40 acres.

Policy

Over 50 old subdivisions, most in agricultural areas, have the potential to develop with incompatible residential uses. If this occurs, land use conflicts and complaints from new residents are likely to result. Procedures should be established to assure that residential development of old subdivisions do not result in conflicts with continued agricultural use.

Program

- Evaluate existing zoning of all old subdivisions in areas designated Agriculture. Consider creation of a new zone or overlay zone which would permit residences only if specific findings are made by the Board of Supervisors that continued agricultural use of surrounding lands will not be impacted and that adequate public infrastructure exists to support residential use, including on- and off-site roads, sewage disposal, and potable water. Without an approved potable water supply and an approved wastewater treatment system, these subdivisions shall not allow for individual lots to be developed..

Policy

The County of Imperial finds that farmland is one of its most vital resources. Continued preservation of this resource is paramount. The County is committed to the Williamson Act and its ideals of preserving Farmland. Since 2000 the County has put over 126,000 acres into the program. The purpose of the Williamson Act is to establish long term (10 year perpetual) contracts for the preservation of farmland. The Department of Conservation finds that "...a loss of agricultural land represents a permanent reduction in the State's agricultural land resources..." (November 2005 letter). As a way to mitigate this potential significant impact, the County concurs with the Department of Conservation's stance on preserving additional farmland to replace the loss of farmland resulting from development.

Program

- The developer, property owner, or agency (applicant) of a "Development project" located on land designated by the General Plan Land Use Map (Land Use Element- Figure 1) as "Agricultural" that will result in the direct and total loss of Prime Farmland in excess of 40 acres, shall provide not-less-than 100% for un-contracted and 150% for contracted land,

replacement land. Said replacement land shall to be placed under Williamson Act Preservation Contract(s). Said land shall presently have water availability (not fallowed), cultivated and located outside the path of development. This shall be accomplished one of three ways:

- (1) Place additional, applicant owned but un-contracted qualifying farmland into a new Williamson Act Preservation Contract.
- (2) Place additional land through procurement of new un-contracted qualifying farmland into a new Williamson Act Preservation Contract.
- (3) Applicant shall find a third party sponsor to voluntary place their qualifying un-contracted farmland into the County of Imperial's Williamson Act Program.

The replacement land shall be of the quality as the land proposed to be removed. For example if the land is identified as "Prime Farmland" then the replacement land shall be "Prime Farmland."

The replacement land shall be outside of the path of development and subject approval by the Imperial County Planning & Development Services Department. Outside of the path of development shall mean not-less-than two miles from a development area (i.e. city, townsite, community area, industrial or commercial area, etc.).

Policy

The General Plan covers the unincorporated area of the County and is not site specific, however, a majority of the privately owned land is located in the area identified by the General Plan as "Agriculture," which is also the predominate area where Burrowing Owls create habitats, typically in the brims and banks of agricultural fields.

Program

- Prior to approval of development of existing agricultural land either in form of one parcel or a numerous adjoining parcels equally a size of 10 acres or more shall prepare a Biological survey and mitigate the potential impacts. The survey must be prepared in accordance with the United States Fish and Wildlife and California Department of Fish and Game regulations, or as amended.

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2. Industry

Policy

New industrial development is essential to maintaining a viable County economy. Areas designated Industry or planned for industrial development, such as the Mesquite Lake SPA and Gateway of America's, need to be protected from incompatible surrounding development, in particular residential.

Program

- Review existing zoning within and adjacent to areas designated Industry. Agricultural zones, with a prohibition on residential development, are preferred adjacent to Industry. Prohibit new residences within areas designated Industry except for managers or caretakers. Where existing or planned residential areas are adjacent to industrial areas, require light industrial uses as a transition zone on the perimeter of planned industrial areas.

3. Urban Areas

Policy

A primary concern for new development in Urban Areas, particularly those which are adjacent to incorporated cities, is the adequacy of existing public services and facilities, and the level of infrastructure improvements proposed by new development.

Program

- All proposed subdivision development and new multiple family, commercial, and industrial development within the Urban Area category, shall be required to provide full public street and drainage improvements, including the installation of curb and gutter, sidewalks, sewers and potable water. Such improvements shall comply with that City's design and improvement standards.

Policy

Existing County zoning regulations in agricultural, commercial, and industrial zones enable residential development which conflicts with planned uses envisioned by the General Plan and results in land use conflicts and loss of potential County fiscal benefits from lands zoned for commercial or industrial uses.

Program

- County zoning maps shall be amended to conform to the Urban Area designation; and the County Zoning Ordinance shall be amended to prohibit residential as a principal use in commercial and industrial zones.

4. Air Quality

Policy

The County of Imperial air basin has been classified by the U.S. Environmental Protection Agency (U.S. EPA) as an area of “moderate” to a “serious” non-attainment for PM10 and other air emissions. According to the National Clean Air Act (CAA), “serious” non-attainment areas are required to implement the more stringent Best Available Control Measures (BACM) requirements while moderate non-attainment areas are required to implement the less stringent Reasonable Available Control Measures (RACM). Therefore new and existing developments will need to meet all pertinent Local, State, and Federal Air pollution emissions standards and be subject to an air permit by the Local Air Pollution Control District.

Program

Prior to approval of development the project proponent shall comply with the Local Air Pollution Control District current air quality attainment regulations in effect at the time of development.

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APPENDIX A

GATEWAY OF THE AMERICAS SPECIFIC PLAN

APPENDIX B

MESQUITE LAKE SPECIFIC PLAN

APPENDIX C

RIO BEND SPECIFIC PLAN

APPENDIX D

IMPERIAL LAKES (SKI LAKES) SPECIFIC PLAN

APPENDIX E

McCABE RANCH SUBDIVISION SPECIFIC PLAN

APPENDIX F

RIVER FRONT SPECIFIC PLAN

**RENEWABLE ENERGY AND TRANSMISSION ELEMENT
COUNTY OF IMPERIAL GENERAL PLAN**

Prepared by:

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Approval- Geothermal Element	1977
Approval- Geothermal and Transmission Element	1985
Approval- Geothermal and Transmission Element	1990
Approval- Geothermal and Transmission Element	1993
Approval- Geothermal and Transmission Element	1998
Approval- Geothermal and Transmission Element	2003
Approval- Geothermal/Alternative Energy and Transmission Element	2006
Approval-Renewable Energy and Transmission Element	2015

IMPERIAL COUNTY GENERAL PLAN RENEWABLE ENERGY AND TRANSMISSION ELEMENT

I. INTRODUCTION

A. Preface

Imperial County is a national leader in the development of its renewable energy resources. Also, the County supports and encourages the development of renewable energy resources in a manner compatible with the protection of existing communities, agriculture, military operations and sensitive environmental resources. The County implements this goal by providing leadership, staff liaison with other regulatory and permitting agencies, and an effective set of goals, objectives, programs and policies to facilitate a balanced development process.

This *Renewable Energy and Transmission Element* is designed to provide guidance and approaches with respect to the future siting of renewable energy projects and electrical transmission lines in the County. This is intended to take into account both the expansion of new types of renewable energy projects and the potential and probable growth of major transmission facilities anticipated to occur in Imperial County. New transmission lines will be needed to accommodate increased demand for power delivery due to both local and regional demand, system delivery requirements in southern California's service area, the need to improve overall system reliability and to support the development of expanded renewable energy power production and exportation.

B. Purpose of the Renewable Energy and Transmission Element

The *Renewable Energy and Transmission Element* is an optional element of the Imperial County General Plan as permitted by Section 65303 of the California Government Code.

The purpose of the *Renewable Energy and Transmission Element* is to provide a comprehensive document that contains the latest knowledge about the resources, feasible development technology, legal requirements, policies (Federal, State and County), and implementation measures. The Element provides a framework for the review and approval of renewable energy projects in the County. The development projections in this Element are based on forecasts obtained from the renewable energy industry, regional utilities, and the Desert Renewable Energy Conservation Plan (DRECP). It is not the intent of the *Renewable Energy and Transmission Element* to provide zoning, regulation, permitting or taxation.

C. Benefits of Renewable Energy and Transmission Development

The benefits of Renewable Energy development in Imperial County are:

1. Fiscal benefit of expanded property tax revenues;
2. Fiscal benefit of sales tax revenues from the purchase of equipment, goods and services;
3. Royalty and lease benefits to local landowners and County;
4. Social and fiscal benefits from increased economic activity and local employment opportunities that do not threaten the economic viability of other industries;
5. Improvements in technology to reduce costs of electrical generation;
6. Reduction in potential greenhouse gases by displacing fossil-fuel-generated electricity with renewable energy power which does not add to the greenhouse effect;
7. Contribution towards meeting the State of California's Renewables Portfolio Standard (RPS); and
8. Minimization of impacts to local communities, agriculture and sensitive environmental resources.

The benefits of Electrical Transmission and Joint Use Corridors in Imperial County are:

1. Provision of infrastructure for additional capacity to transmit renewable energy generation to meet both local and regional demand for electric power;
2. Increase in reliability of California's electrical system;
3. Reduction of potential land conflicts between and among renewable energy developers, agriculture, environmental resources and local landowners; and
4. Provision of increased certainty as to the future location and siting of electrical transmission facilities.

II. EXISTING CONDITIONS AND TRENDS

A. History of Renewable Energy Generation

Imperial County has a long history of generating energy from renewable sources. Direct heat application of geothermal energy resources in the form of hot springs was initially used by Native Americans and later by European settlers. The first attempts to utilize the underground geothermal resources in the County commenced with the drilling of three wells between 1927 and 1928 on Mullet Island. The wells were abandoned because the steam pressure and volume were insufficient for commercial use. Successful geothermal wells were drilled in the 1950s, but the production of electricity was impeded by mineral deposition and corrosion of equipment.

From 1965 to 1970, the University of California at Riverside conducted an intensive investigation of geothermal resources in the Imperial Valley. The research culminated in a 1971 report entitled *Cooperative Geological-Geophysical-Geochemical Investigations of Geothermal Resources in the Imperial Valley Area of California*. Numerous subsequent studies throughout the years have been performed to determine the nature of geothermal resources in the Salton Trough. This data has facilitated the development of economically efficient geothermal/alternative energy power plants.

In the mid 2000's, the State of California Legislature enacted renewable regulations and requirements for utility companies to generate a significant percentage of electrical energy from geothermal and other renewable resources known as the Renewable Portfolio Standards of California (RPS). The regulations, as of 2014, required that the electrical utilities needed to achieve 33% of their energy from renewable energy resources by 2020. From 2009 to 2014, Imperial County received 36 applications for renewable energy projects, with 24 permits approved for implementation. Providing that all 24 approved renewable energy projects are implemented, approximately 3,700 megawatts of additional electrical power would be generated from renewable resources.

A variety of environmental documents have analyzed the environmental effects and mitigation measures of renewable energy development in Imperial County. The major environmental issues addressed in these documents include air quality; agricultural, natural and cultural resources; public health; compatibility with urban land uses; and military operations. Approximately 22,000 acres of agriculturally designated land will be impacted by the implementation of the applications for renewable energy development (for more detailed history, please refer to Appendix A).

B. Geologic and Climate Conditions

Geologic Conditions

The Imperial Valley is part of a large, southeastern-trending basin known as the Salton Trough, which is a 3,100-square-mile structural depression that extends from the Transverse Range on the north to the Gulf of California on the south. The Peninsular Range forms the western border of the valley, and the Colorado River forms the eastern border. The formation of the Colorado River delta perpendicular to the Trough created a

subsiding basin to the north that contains the Salton Sea and Imperial Valley. The Salton Trough Basin is bound to the east by the Chocolate Mountains and associated ranges. Though the area east of those mountains and continuing over to the Colorado River is technically part of the basin and Range geomorphic province, it is not the subsiding Salton Trough. The Salton Trough is an active spreading rift valley where sedimentation and natural tectonic subsidence are nearly in equilibrium. A thick clay-dominated strata extends downward from 1,000 to about 3,000 feet throughout the Trough.

The California Division of Mines and Geology recognizes the Salton Trough as an area underlain at shallow depths by thermal water of sufficient temperature for direct heat application. Separate geothermal anomalies are distributed throughout the Trough that have hotter fluids suitable for generation. Hypersaline brines are present under the Salton Trough, but are not found everywhere. The hypersaline brines are only found in the northern central 1/3 of the basin where ancient salt and evaporate deposits were located. The southern 1/3 of the basin extending to Mexico and the northern 1/3 extending into the Coachella Valley are not underlain by hypersaline brines. Large-scale development of the geothermal resources has depended on the ability to engineer cost-effective technology which overcomes technical problems and makes geothermal development economically feasible.

The United States Geological Survey (USGS) has identified nine Known Geothermal Resource Areas (KGRAs) in Imperial County. A KGRA is defined as:

An area in which the geology, nearby discoveries, competitive interests, or other indicia would, in the opinion of the Secretary of the Interior, engender a belief in those who are experienced in the subject matter that the prospects for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures of money for that purpose (30 U.S.C. 1001).

The nine KGRAs are located throughout the County and vary in temperature, pressure, and chemical composition of brine solutions found in each area (ICPDS 2006), and constitute approximately 326,938 acres (11 percent) of total land area of the County of Imperial (Table 1: Geothermal Resource Area Acreages in Imperial County). Four of the nine KGRAs are located within Imperial County designated Geothermal Overlay Zones that have been identified in approved Environmental Impact Reports (EIRs). These areas would provide opportunities for geothermal energy generation.

With the occurrence of critical minerals in the geothermal brine of the Salton Sea KGRA, geothermal operations have additional economic opportunities.

Figure 1 shows the locations of the existing KGRAs, the Truckhaven Geothermal Leasing Area, and West Chocolate Mountains Renewable Energy Evaluation Area. Figure 1 also shows the locations of the four existing Geothermal Overlay Zones that were approved previously by the County that will be incorporated into the Renewable Energy Overlay Zone.

Figure 1: Known Geothermal Resource Areas in Imperial County

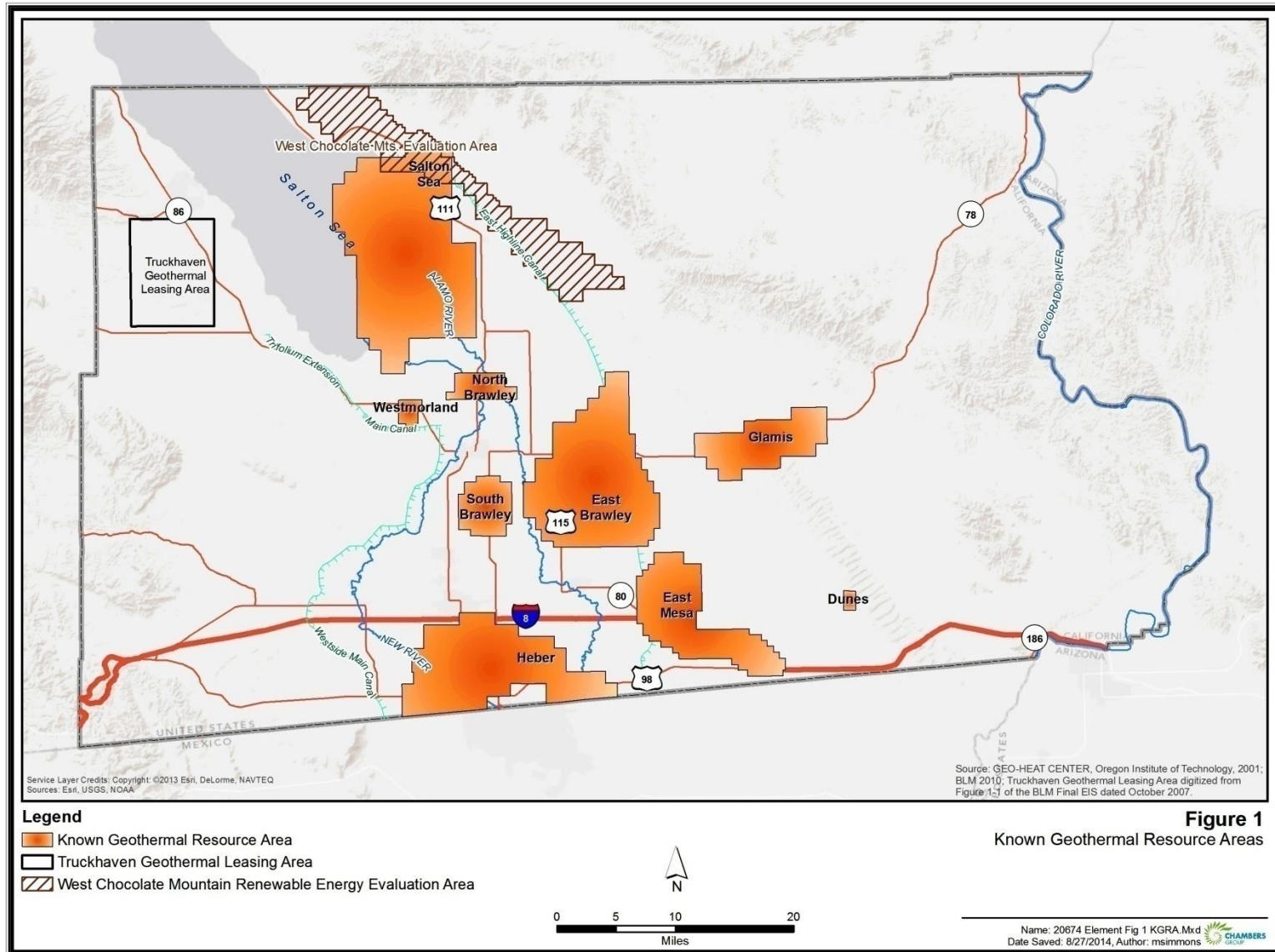


Table 1: Geothermal Resource Area Acreages in Imperial County

Known Geothermal Resource Area*	Area (acres)	Percentage of Imperial County
Salton Sea	103,221.51	3.51%
East Brawley	70,548.85	2.40%
Glamis	25,985.76	0.88%
East Mesa	37,802.91	1.28%
Dunes	7,723.11	0.26%
South Brawley	12,782.22	0.43%
Heber	59,319.26	2.02%
Westmorland	2,534.01	0.09%
North Brawley	7,020.26	0.24%
Total	319,917.63	11.11%

Source: Geo-Heat Center, Oregon Institute of Technology

Climate Conditions

Imperial County is characterized as a semiarid desert with hot, dry summers and warm winters. Rainfall at the El Centro Station, which represents the area's climate in the SSAB, averages approximately 2.64 inches annually (Western Region Climatic Center (WRCC) 2014). The heaviest precipitation occurs in January through March. The mean annual air temperature ranges from 55 degrees Fahrenheit (°F) in January to 92 °F in July, with an annual average temperature of approximately 73 °F (WRCC 2014).

The combination of the flat terrain of the valley and the strong diurnal temperature differentials created by solar heating produce moderate winds and deep thermal convection, making the County an ideal location for a wide range of renewable energy projects. The high temperatures combined with low humidity produce hot, dry summers and warm winters that make the area attractive for future renewable energy development.

Based on U.S. Department of Energy's National Renewable Energy Laboratory which identifies areas with potential for wind and solar power resources, Imperial County has excellent solar resources and limited wind resources. The annual average daily total solar resources and the annual clear sky direct normal irradiance (DNI) data is beneficial in determining solar resources opportunity areas. These factors result in the excellent basis for solar resources for power generation in the County.

Figure 2: Potential Wind Power Resource Areas in Imperial County

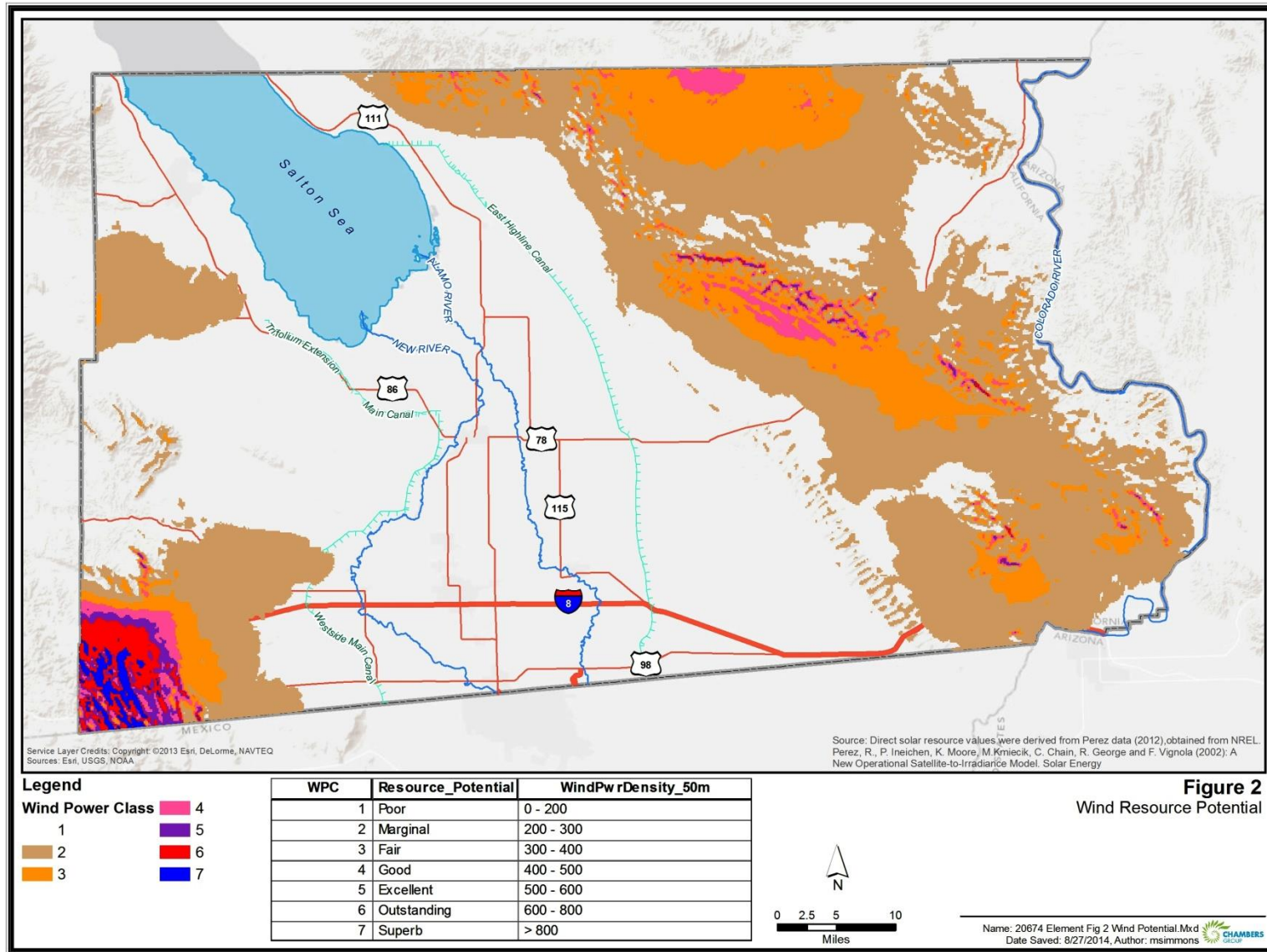
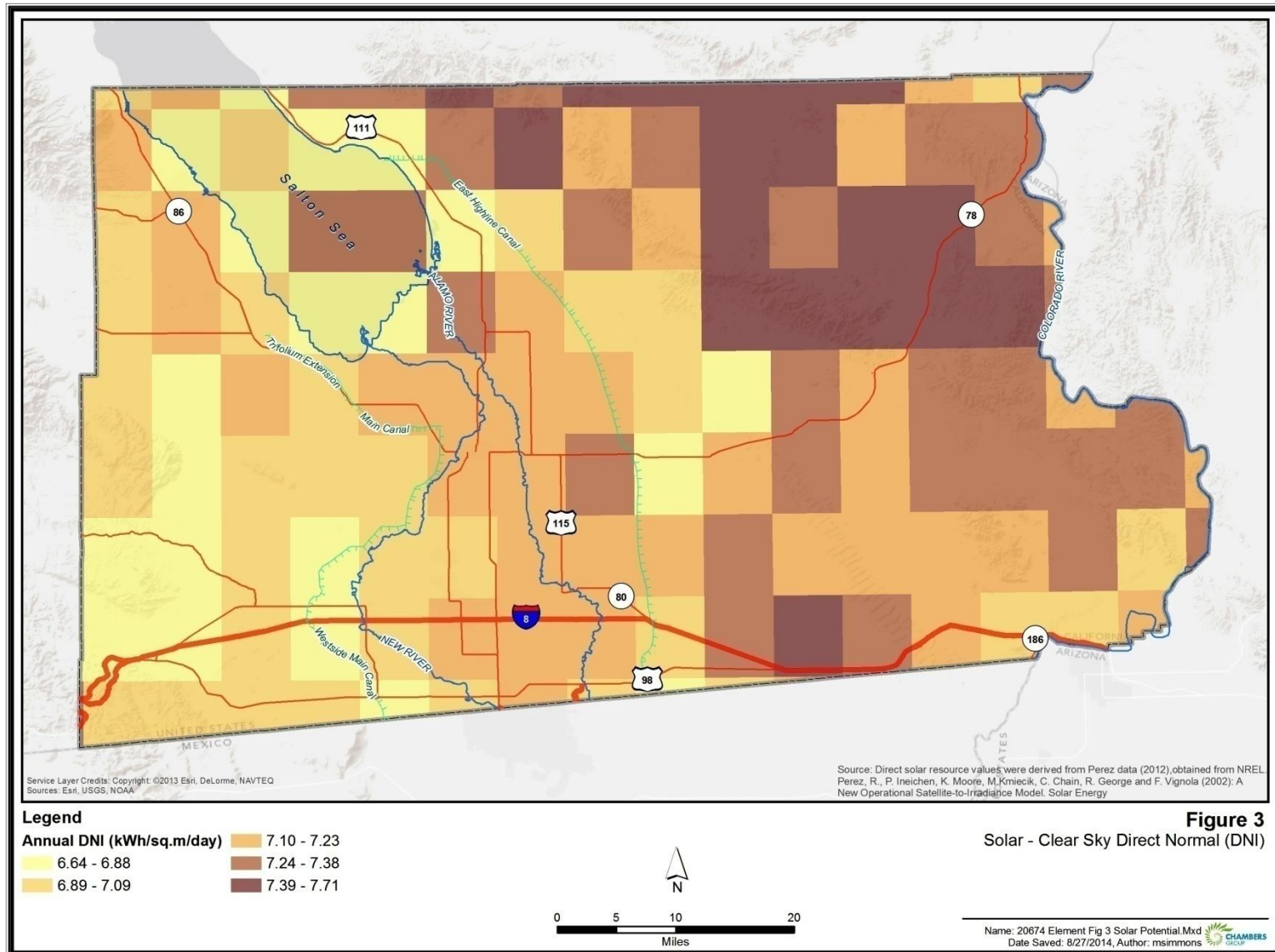


Figure 3: Potential Solar Power Resource Areas in Imperial County



C. Existing Renewable Energy Generation Facilities and Electrical Transmission Corridors

Renewable Electricity Generation

The 1977 Geothermal Element estimated that 4,500 megawatts (MW) of electricity could be generated by the year 2020 from geothermal resources. Geothermal development has been significantly lower than anticipated in 1977; however, an increase in the demand for geothermal electrical generation is anticipated due to the reliable and consistent energy generated over a 24-hour period. An increase in the requirement for energy to be generated from renewable resources could accelerate development of all types of renewable sources, including mineral recovery projects.

Geothermal power generation facilities are currently being operated in the East Mesa, Heber, North Brawley and Salton Sea KGRAs. In addition, the Bureau of Land Management will continue reviewing geothermal leasing areas on Federal lands located in the County. Approximately 19 solar power generation facilities, utilizing photovoltaic technology, have been developed and/or approved throughout much of Imperial County. Many of the facilities are concentrated in southern Imperial County south of Interstate 8 (I-8) between Calexico and the New River. A large wind energy facility has been constructed in southwest Imperial County on both sides of I-8 near Ocotillo. In addition, three bio-mass energy generation facilities producing ethanol and dimethyl-ether (DME) have been approved in the Brawley area.

Electrical Transmission

The Imperial Irrigation District (IID), as the Balancing Authority, is the primary electrical Transmission Service Provider (TSP) in Imperial County. IID is the responsible entity for maintaining load-interchange-generation balance within their Balancing Authority Area and supports interconnection frequency in real time. As the Balancing Authority, the IID maintains load-resource balance (generation, transmission and load) within its metered boundary. IID's Board of Directors has ratemaking authority. Retaining local ratemaking authority enables lower energy rates.

The IID is the primary owner of electrical transmission and the sole owner of the distribution network in Imperial County. IID provides electrical service for residential, commercial, and industrial customers in Imperial and portions of Riverside and San Diego Counties. Their transmission system consists of 500 kilovolt (kV), 230-kV, 161-kV and 92-kV transmission lines and lower voltage distribution lines. The two existing 230-kV transmission lines provide for import/export of renewable electrical within the County and regionally.

San Diego Gas and Electric (SDG&E) and IID have two 500-kV lines that traverse the southern part of Imperial County and interconnect with the transmission system in Arizona. These two 500-kV lines currently serve as the primary import lines for electrical power to be brought into SDG&E's system to supply power to San Diego County and the City of San Diego. These two 500-kV lines also provide import/export capacity to the

IID service area. The Sunrise Powerlink, completed in June 2012, provides additional transmission capacity between Imperial and San Diego counties.

Several 92-kV transmission lines provide interties between the renewable power plants in the County and tie these electric generation sources into the IID transmission and distribution system, I.V. Substation and the California grid. If the renewable power generation facilities that are now in the planning stages are built, then new interties and substations may be constructed to link these generation facilities into transmission lines.

An upgrade to the 230kV IID line (Path 42) is currently under way located on the east side of the Salton Sea. This transmission upgrade would provide additional capacity to deliver energy generated in Imperial County from renewable resources to load centers in California. IID has also proposed a 500-kV Direct Current link between Imperial County and the San Onofre Nuclear Generation Station (SONGS) to facilitate the transmission of additional energy to compensate for the generation capacity lost when SONGS was shut down in 2013.

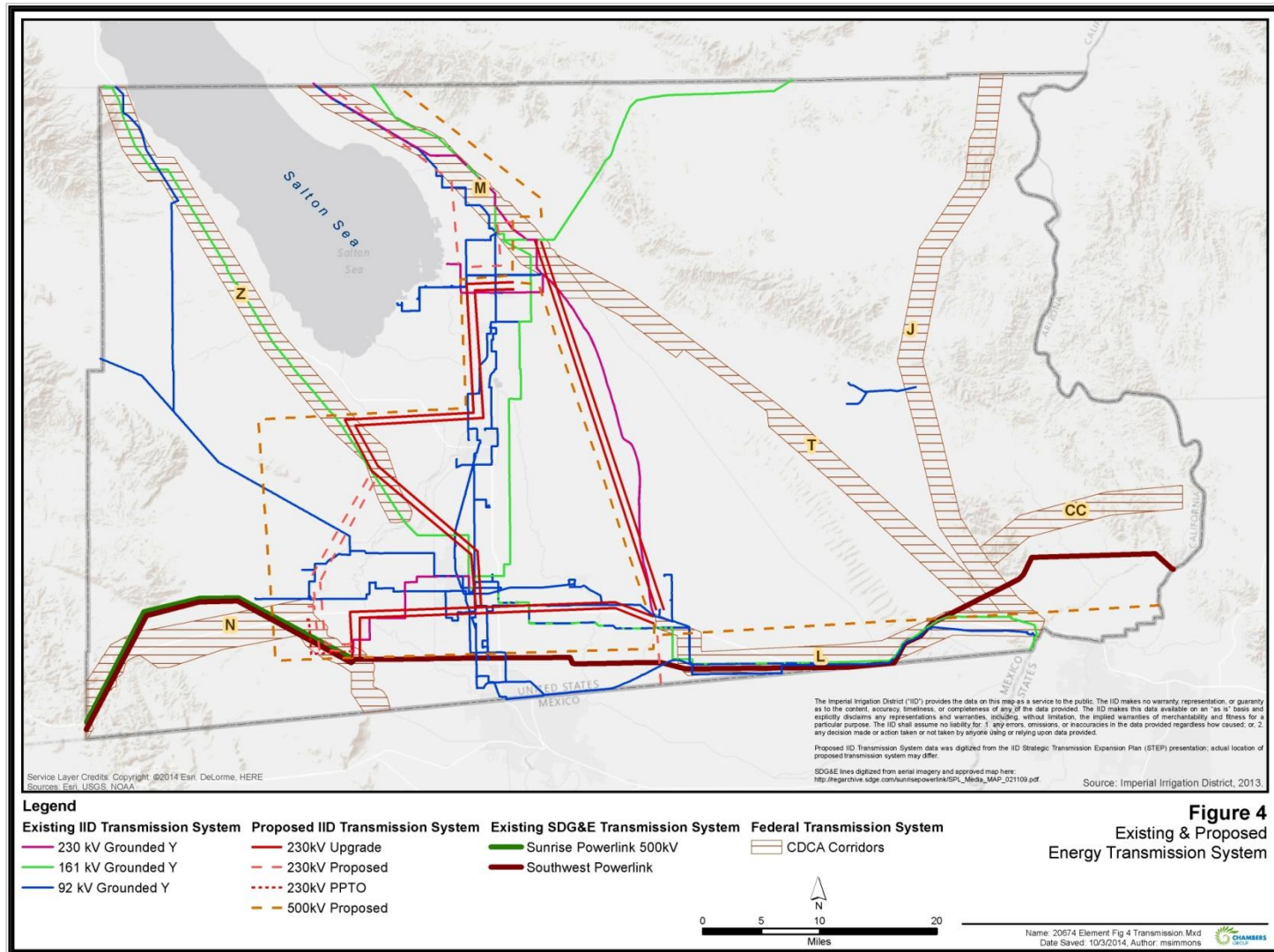
The remaining planned transmission lines are anticipated to be smaller and intended primarily to support power plant development. It is the intention of this *Renewable Energy and Transmission Element* to provide input and guidance to those developers and agencies that will plan and have regulatory siting authority over the proposed and potential transmission lines to be constructed in the County. Figure 4 shows the existing and proposed IID and SDG&E electrical transmission corridors described above.

[The Lithium Valley Specific Plan also includes recommended transmission corridors to meet future electrical demands of the Plan Area. See Figure 6-5 Electrical Transmission of the Lithium Valley Specific Plan.](#)

D. Renewable Energy Generation and Electrical Transmission Line Siting Development Regulation

A wide variety of Federal, State, and County agencies regulate and monitor development of renewable energy and transmission line siting in Imperial County and their responsibilities often overlap. Government agencies use permits to exercise their discretionary power or require developers to conform to regulatory conditions. The permits require developers to conform with all agency regulations and regulatory conditions established by other agencies with jurisdictional authority. All discretionary decisions for permits must be preceded by appropriate environmental review pursuant to the National Environmental Policy Act (NEPA) and/or the California Environmental Quality Act (CEQA). Permits often stipulate conditions to mitigate potential environmental impacts and implement monitoring programs to assure conformance with permit conditions over the life of the project.

Figure 4 Existing and Proposed Energy Transmission System



Renewable Energy Generation

The County, through the Planning and Development Services Department, regulates the use of land for renewable energy purposes through zoning and Conditional Use Permits (CUPs). A Renewable Energy (RE) Overlay Zone was added to the County Land Use Ordinance, Division 17, which following a recommendation by the County Planning Commission, was approved by the Board of Supervisors. The County acts as “lead agency” in the preparation of environmental documents for renewable energy projects within its jurisdiction.

The following agencies, among others, are also involved in permitting or regulating renewable energy projects: Federal Energy Regulatory Commission; California Energy Commission; Army Corps of Engineers; California Public Utilities Commission; Department of the Navy; State Lands Commission; State Water Resources Control Board; State Department of Fish and Wildlife; Regional Water Quality Control Board; County Air Pollution Control District; and Imperial Irrigation District.

Electrical Transmission

If a transmission line is intrastate and does not cross federal lands, then the proposed line must undergo environmental review pursuant to CEQA. Once the project is completely defined an appropriate “Lead Agency” will be identified to implement CEQA.

If the transmission line is wholly within federal lands, or has a federal nexus, then the federal Lead Agency must prepare an environmental review document for the project as outlined by the National Environmental Policy Act (NEPA). If a project crosses a combination of local, state and federal lands in California, then a joint CEQA/NEPA document is usually prepared. The agency which has the greatest impacts to its jurisdiction (most often the greater lineal distance on their lands or area of jurisdiction) would serve as lead agency for the CEQA portion and the primary Federal Agency will be responsible for the NEPA element for preparation of the environmental document.

If a State agency, such as the California Public Utilities Commission (CPUC), takes the lead in a CEQA equivalency process over the local agency, such as the County of Imperial, then the NEPA review will still lie with Federal Agency with land use control. This scenario would likely occur when an investor-owned utility (over which the CPUC has exclusive regulatory authority in California to permit and site electrical utility lines) is the project proponent and the State of California has greater overall regulatory interest.

Agencies with Permit Authority over Renewable Energy Generation and Electrical Transmission Line Siting

The agencies with regulatory and environmental oversight are outlined below:

- Federal Energy Commission (FEC) – Interstate electrical transmission lines where the primary intent of the line is to service interstate power interest, where no formal State environmental guidelines apply, and where federal lands may also be involved.

- Other Federal Agencies (Bureau of Land Management [BLM], U.S. Forest Service [USFS], U.S. Fish and Wildlife Service [USFWS], U.S. Army Corps of Engineers [USACE], Bureau of Indian Affairs [BIA], Department of Defense [DOD], etc.) – Lines that are within federal lands and are not being developed primarily for interstate transmission of electrical power.
- California Energy Commission (CEC) – Electrical transmission lines that are appurtenant to a thermal power generation facility of equal to or greater than 50 MW in size from the facility to the first point of interconnection. It is important to note that the environmental review process implemented by CEC is a Certified Regulatory Program under CEQA (§21080.5) and results in a document that is the functional equivalent of an EIR.
- California Public Utilities Commission (CPUC) – Transmission lines that are being sited and developed by an electrical corporation.
- California State Lands Commission – Lines that are primarily or exclusively within the boundaries of lands owned by the State of California.
- Municipal Utilities (includes irrigation districts and water authorities) – Agencies that act as their own regulatory entities for the siting and permitting of electrical transmission lines. Municipal Utilities must follow CEQA guidelines with respect to siting decision-making; however, they are not subject to other extra territorial review and oversight, assuming none of the conditions apply as outlined for the agencies listed above.

In Imperial County, all of the agencies and governmental entities listed above could potentially be involved in the siting and permitting of electrical transmission lines; however, the agencies with the greatest potential for transmission line regulatory oversight and siting would likely be federal land and resource management agencies (such as ACOE, USFWS, BLM, BIA, DOD, and Bureau of Reclamation[BOR]) CEC, CPUC, , the California State Lands Commission, or a local municipal utility (such as the Imperial Irrigation District).

While the County would have some land use and zoning regulatory authority concerning the siting and construction of electrical transmission lines, environmental review would predominately be the responsibility of one or a combination of agencies listed above. The following is a synopsis of the siting review and environmental oversight for each of the various agencies that could be called upon to provide siting regulatory oversight in Imperial County.

Federal Agencies

If a transmission project is to be sited on federal lands, then the specific agency whose lands would be impacted would be the lead agency for regulatory oversight. There have been instances where the federal government has served as lead agency for lines not on federal lands as well. That agency would be required to review the applicant's

project following the NEPA guidelines and in particular those administrative guidelines the agency has put in place to adhere to NEPA. Each agency has developed specific approaches to implementing project environmental review for the siting of projects such as electrical transmission lines. In Imperial County, the primary federal agencies that would review transmission projects are BLM, BOR (Salton Sea), and Department of Defense (Naval Air Facility, El Centro). While each agency has its own process to comply with environmental review, the agency would generally follow the NEPA process.

The Federal Aviation Agency (FAA) needs to be notified of any new construction or alteration to transmission structures that may impact the National Airspace System. FAA will perform or require the developer to perform an aeronautical study of the proposed transmission line development / modification. The results from this study may require a utility or developer of transmission assets to install obstruction lighting and/or markers.

The Federal Communications Commission (FCC) prohibits the operation of transmission lines and associated equipment that interferes with radio frequency communication. If a transmission line is found to interfere with radio communications, appropriate mitigation methods must be employed. CPUC's General Order 95 is the document that governs the construction and operation of power lines to prevent or mitigate radio frequency interference.

Western Area Power Administration

Western Area Power Administration (WAPA) is a Federal Power Marketing Administration within the Department of Energy (DOE). The agency primarily markets federal power for project use and marketing to "preference" customers, who are generally nonprofit public entities including federal and state governments, municipal utilities, electric cooperatives, Native American tribes, etc. WAPA owns and operates high voltage transmission facilities throughout 15 central and western states. WAPA assesses the potential environmental impacts of any proposed transmission interconnection project in accordance with NEPA and other relevant environmental regulations.

The interconnection procedures for connecting to WAPA's system are similar to those that are followed by public utilities. WAPA's interconnection procedures are essentially in accordance with the Open Access Transmission Tariff on file with FERC.

California Energy Commission

As noted above, the California legislature has provided regulatory authority and oversight to CEC for the siting of thermal energy generation facilities in the State that are 50 MW or larger. Transmission lines from the power plants to the first point of interconnection are also within the jurisdiction of CEC. CEC must provide environmental review and permit oversight in the siting of these transmission lines and their relationship to the power plants to which they are interconnected. CEC (as mentioned above) has established a specific CEQA "equivalent" review process that all energy

facilities and their related transmission facilities are required to undergo as part of an Application for Certification. CEC must complete their review of the application as well as an environmental review per CEQA-equivalent Certified Regulatory Program prior to issuing to the project proponent a Permit to Construct. CEC and the County of Imperial coordinate the permitting and siting of power plants and interconnection facilities.

California Public Utilities Commission

CPUC has discretionary approval authority over the planning, design, economic, and environmental considerations for new facilities proposed by the three investor-owned utilities (IOU), Pacific Gas and Electric, San Diego Gas & Electric, and Southern California Edison, referred to in the Public Utilities Code as electrical corporations. Two key regulations which govern these activities are: (1) PUC General Order 131(d) (Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities, and Substations Located in California); and (2) Rules 17.1 and 17.3 (The Commission's Rules of Practice and Procedure), which require the PUC to conduct CEQA review for transmission line applications. These rules apply to any project initiated by an IOU in the State of California on public or private land. It is also likely that other private transmission developers would also need a CPCN from the CPUC to proceed with a project, and that would include environmental review.

As delineated in §131(d), a new transmission line proposal could fall under the jurisdiction of one of two permits: (1) the Certificate of Public Convenience and Necessity (CPCN) or (2) a Permit to Construct (PTC). In general, the CPCN process applies to construction of larger facilities (greater than 200 kV), whereas the PTC applies more to transmission line upgrades and substation modifications (50 kV to 200 kV). Regardless of which "track" is deemed appropriate for a given application, the first step in the process is to file an Application, along with a Proponent's Environmental Assessment (PEA), which describes the applicant's understanding of the potential environmental impacts associated with the proposed project. This filing initiates CPUC's formal review process. When an IOU is seeking CPCN approval through CPUC, the Balancing Authority will typically perform its own independent system assessment relating to proposed transmission line application to determine regulatory and economic need for the project. This does not substitute for the CPUC determination of need, but is highly influential for electrical corporations.

The CEQA compliance process provides several opportunities for public notice and involvement. By statute, the CPUC must consult with local government agencies and consider their land use policies; however, they are not formally bound to adhere to them. This consultation process, along with public and agency commenting opportunities, provides the primary means by which a local government agency can provide input to the process.

California State Lands Commission

The State Lands Commission has jurisdiction over the siting of electrical transmission lines if the project falls wholly within state lands and is not superseded by the jurisdiction

of either CPUC or CEC. If the State Lands Commission is the lead agency for siting review and approval, the standard CEQA process would apply.

California Division of Oil, Gas, and Geothermal Resources

State law designates the California Division of Oil, Gas, and Geothermal Resources (CDOGGR) as the lead agency for geothermal exploration projects on land under the jurisdiction of the State or the County. While CDOGGR exercises this authority in other counties, it has designated the Imperial County Planning and Development Services Department to act as lead agency for geothermal exploration projects.

The Planning and Development Services Department also serves as the lead agency for geothermal power plant projects that generate less than 50 MW (net capacity). CEC is the lead agency for power plants that generate more than 50 MW (net capacity) with the exception of solar plants. BLM is the lead agency for review under the National Environmental Policy Act for geothermal exploration and development projects on lands under their jurisdiction. The lead agency for the California Environmental Quality Act review is a function of the project's State and Local permit requirements.

Municipal Utility and Local Government

Based on the California Government Code Section 53091, publicly-owned utilities are exempt from other local and state regulatory oversight for the siting and approval of transmission lines and can act as their own lead agency; however, they must review the environmental effects of their actions pursuant to CEQA. While each agency (such as the Imperial Irrigation District) may have some administrative differences in how the CEQA process is applied, they must undertake CEQA review of siting new transmission projects. Publicly owned utilities also have the right of eminent domain to ensure that important projects cannot be delayed or blocked due to land ownership purchase or needed acquisition of rights-of-ways for projects which they wish to build and that have undergone CEQA review.

As noted above, the siting of electrical transmission lines is exempt from local government regulatory review; however, local Municipal and County governments do have land use and zoning authority within their boundaries which can be overridden only by a public utility invoking eminent domain. In addition, Municipal and County governments can establish a process for public review and process by developing such a process within their general plans. Several counties in California have done so and helped create and guide a more orderly and comprehensive process to ensure early public input to the siting process, creating the potential for more community participation and a reduction in potential environmental effects caused by the siting of the transmission corridor. In addition, a well-thought-out planning process at the County and Municipal levels can lead to the planning of joint use corridors and efficient implementation of important electrical transmission projects.

The revisions associated with the Imperial County *Renewable Energy and Transmission Element* to include transmission siting and planning is an attempt to provide a more comprehensive and orderly approach to the development of future transmission facilities

in the County. In this regard, the development of utility/road/canal joint use corridors and renewable energy are attempts by the County to provide a new roadmap to foster orderly and environmentally responsible energy and transmission development in Imperial County.

Airport Land Use Commission

The Imperial County Airport Land Use Commission (ALUC) is established pursuant to California Public Utilities Code, Section 21670 et seq. (Chapter 4, Article 3.5 of the State Aeronautics Act). The ALUC helps to ensure that development projects and transmission lines are consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP). The ALUCP guides the reviews of local general and specific plans, zoning ordinances and updates thereto. The ALUC also reviews building heights, restrictions on land use and standards for building construction in the vicinity of the County's seven (7) airports.

E. Issues Relating to Renewable Energy Development and Transmission Corridors

The following issues serve as the basis for the Goals and Objectives contained in Chapter III of this Element.

Aesthetics

The visual character of Imperial County varies greatly, consisting of natural scenic visual resources such as deserts, sand dunes, mountains, recreation areas, and the Salton Sea. The visual character of Imperial County also includes agricultural areas, urban areas, and areas of solar development. Development of renewable energy facilities would have the potential to impact existing visual character and quality, including scenic vistas, natural environment and existing landscape, general built environment and historic buildings, and scenic highways. Renewable energy facilities may also create new sources of substantial light or glare which would adversely affect day or nighttime views in the area.

Future projects would need to evaluate whether their location in relation to key observation areas would impact the existing aesthetics of the surrounding area. Much of the County is visible from major roadways, and potential impacts to existing visual resources from proposed alternative energy projects would need to be considered during siting, planning, and design. Although no highways in Imperial County are designated as state scenic highways, the routes considered eligible for designation are still recognized and would need to be taken into consideration for planning renewable energy projects. Recreational areas with scenic qualities such as the Salton Sea and Picacho State Recreation Area would need to be considered when siting potential renewable energy projects. Furthermore, future projects would also need to be evaluated for compatibility with current visual resource ratings assigned to BLM-managed lands.

Agricultural Resources

According to data from the California Department of Conservation (CDC), approximately 540,942 acres, or 18 percent, of the total land within Imperial County is classified as farmland. Agricultural production constitutes a major portion of the County's overall economy and was estimated to have yielded a gross income of approximately \$1,945,759,000 in 2012 (County 2012). It is estimated that approximately 1,668 acres of farmland within the County were converted to other uses between 2008 and 2010 (CDC 2010). The 2012 gross income from agricultural production described above represented a 0.93 percent decrease compared to the 2011 gross value (County 2012). Consequently, development of renewable energy in the County may be constrained due to the potential for projects to further affect revenue produced by agricultural land.

Development of renewable energy projects may also be constrained by federal statutes intended to preserve farmland. The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Pursuant to the FPPA, federal agencies must use the criteria and guidelines established in 7 CFR Section 658.5 to identify and take into account the adverse effects of federal programs on the protection of farmland. Because the FPPA does not authorize the federal government in any way to regulate the use of private or nonfederal land or in any way affect the property rights of owners of such land, an opportunity still exists to develop renewable energy projects on these lands.

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. Although the Imperial County Board of Supervisors voted not to accept any new Williamson Act applications and not to renew any previous contracts under the program (2010), each existing contract lasts for 10 years. As such, several parcels still remain throughout Imperial County that are subject to the land use restrictions of the Williamson Act agreements.

Development of renewable energy resources will need to incorporate sensitivities with regard to the County's agricultural industry. Given the level of regional reliance on the industry, consideration of a potential site for such facilities should include thoughtful deliberation regarding impacts to farm operations and IID's canal and drain systems which support agriculture. To this end, general and specific standards include preservation of farm operations by minimizing surface land usage and by avoiding disruption to existing irrigation and drainage patterns.

Air Quality

The climate of Imperial County is characterized as a semiarid desert with hot, dry summers and warm winters. The combination of the flat terrain of the valley and the strong diurnal temperature differentials created by solar heating produce moderate winds and deep thermal convection. The high temperatures combined with low humidity

produce hot, dry summers and warm winters. These conditions are attractive for renewable energy development.

Development of renewable energy facilities could increase criteria pollutant emissions, and lead to increases in the frequency or severity of existing air quality violations. Imperial County is currently designated as a nonattainment area for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for 8-hour ozone and particulate matter up to 10 micrometers in size (PM₁₀). A portion of Imperial County is also currently designated a nonattainment area for the NAAQS for particulate matter up to 2.5 micrometers in size (PM_{2.5}). Additional emissions generated from development of renewable energy projects within the air basin, particularly during construction, would have the potential to contribute to conditions that already exceed air quality standards. Furthermore, changes in land use (e.g., agricultural to industrial) due to development of renewable energy facilities could also lead to inconsistency in the assumptions used for development of regional transportation plans and State Implementation Plans (SIPs).

Consequently, renewable energy projects developed in Imperial County would need to meet the requirements of the Imperial County Air Pollution Control District (ICAPCD) CEQA Handbook. Any project with the potential to have a significant impact on regional and local air quality would be required to develop a Comprehensive Air Quality Analysis Report. Specifically, the CEQA Handbook requires analysis and mitigation of construction and operational air emissions. The ICAPCD recommends the implementation of effective and comprehensive mitigation measures to reduce air quality impacts.

Biological Resources

A review of the California Natural Diversity Database (CNDDDB) managed by the California Department of Fish and Wildlife (CDFW) determined that six sensitive habitats are presumed extant within the County (CDFW 2013a). Similarly, numerous agency-designated sensitive habitats located within the County include, but are not limited to, USFWS Critical Habitat (USFWS 2013d), USFWS National Wildlife Refuges (CEC 2009), and California Desert Conservation Act (CDCA) areas. Additionally, several habitat conservation plan areas exist or are proposed within the County. These conservation areas are designed to conserve the ecosystems upon which listed species depend and ultimately serve to contribute to their recovery. Habitat conservation plans within the County include the Desert Renewable Energy Conservation Plan (DRECP) California Desert Conservation Area (BLM 1999) and Imperial Sand Dunes, Northern and Eastern Colorado, and Western Colorado land use plans (BLM 2013a). Imperial County also possesses numerous sensitive wildlife and plant species that are protected under federal and State regulations. A review of CNDDDB (CDFW 2013a) and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPSEI 2013) determined that 60 sensitive plant species and 69 sensitive wildlife species were known to occur in the County.

Development of renewable energy facilities in the County may be constrained by sensitive biological resources. Construction and operation of renewable energy facilities could impact biological resource areas of high importance, including sensitive habitats and agency-designated or protected areas. Similarly, water-associated habitats directly adjacent to the Salton Sea and Colorado, Alamo, and New rivers that provide habitat for sensitive and listed species may constrain development. Agricultural ditches and canals, which contain wetlands, riparian habitat, and wildlife corridors and attract insects which provide food for migratory birds, burrowing owls, and a number of bat species, may also constrain development. The biologically sensitive areas described above would not necessarily be excluded from development of renewable energy projects but would be subject to agency regulations and requirements for permitting and approval. Projects with a federal nexus would require preparation of a NEPA document and public involvement, preparation of restoration plans, and specific mitigation measures that would contribute to schedule and cost constraints.

Cultural Resources

A review of existing technical studies previously completed by the County, IVC museum, local tribes, and IID identified numerous archaeological sites including villages, rock shelters, habitation sites, lithic scatters, milling stations, and isolated artifacts. Similarly, ethnographic studies previously completed in the County suggest the concept of sacred geography has always been important to the desert cultures of this region. A review of existing technical studies, and consultation of the National Register of Historic Places (NRHP), California Historical Landmarks, California Points of Historic Interest, and local historical registers also identified numerous previously identified and listed archaeological and historical resources in Imperial County. These previously identified resources include 10 archaeological sites and districts listed as eligible to the NRHP, 14 resources identified to be of statewide significance and are listed as California Historic Landmarks by the State Office of Historic Preservation (OHP), and 4 cultural sites listed as points of historical interest as defined by the OHP.

Development of renewable energy facilities in the County would have the potential to impact archaeological and historical resources described above unless properly sited. Similarly, sensitive prehistoric and historical cultural resource sites that have not been systematically surveyed, including built environment resources, are likely to exist in areas within Imperial County. Previously identified and newly identified archaeological and historical sites would require further study and avoidance to ensure that the cultural and scientific value present at these sites is not adversely affected by future renewable energy facilities. Future renewable energy projects would be required to prepare appropriate CEQA and/or NEPA documentation, consult with Native American tribes, and develop mitigation measures to minimize impacts. Future renewable energy projects would also need to analyze the potential to impact paleontological resources and develop mitigation measures to minimize impacts.

Environmental Justice

The development of renewable energy projects involving a federal action (funding, permit, or land) would need to comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994. Executive Order 12898 requires federal agencies to take the appropriate and necessary steps to identify and address disproportionate impacts on minority and low-income populations to the greatest extent practicable and permitted by law. Development of renewable energy facilities in the County could disproportionately affect minority and low-income populations through environmental impacts or displacement of jobs. Consequently, all future renewable energy projects involving a federal action would need to analyze potential disproportionate impacts on minority and low-income populations and develop mitigation, minimization, and avoidance measures to address these impacts to the greatest extent practicable and permitted by law.

Land Use

Imperial County covers an area of approximately 2,942,080 acres and consists of a variety of land uses, including urban areas, active farmlands, recreation areas, and undeveloped land. Existing land uses throughout Imperial County are governed by land use and zoning regulations that may constrain development of renewable energy facilities. For instance, the existing County of Imperial Land Use Ordinance provides comprehensive land use regulations for all unincorporated areas. These regulations are adopted to promote and protect the public health, safety, and general welfare through the orderly regulation of land uses throughout the unincorporated areas of the County. Future renewable energy facilities would need to demonstrate consistency with the Land Use Ordinance in order to receive project approval. Similarly, projects on State lands would require authorization from the California State Lands Commission (CSLC) for development of renewable energy facilities. Land use classes identified in the California Desert Conservation Area Plan limit the type of electrical generation facilities allowed for development. Future renewable energy facilities in the incorporated cities of Brawley, El Centro, Westmorland, Holtville, Imperial, Calipatria, and Calexico would need to demonstrate consistency with city standards, as determined by each city, prior to project approval. Additionally, any proposed alternative energy activities should be located outside a 0.5-mile buffer of all urban area boundaries. Physical characteristics, such as endangered species and habitat, flood hazards, steep slopes, unstable slopes, liquefaction, and active faults could also constrain future renewable energy facilities. Agricultural land uses also possess land use constraints which are described above.

Military Operations

Several military installations are located within Imperial County. Future renewable energy projects would need to evaluate whether their location in relation to existing military bases would impact operations. Development within the Chocolate Mountains Aerial Gunnery Range and Naval Air Facility (NAF) El Centro target ranges would be prohibited due to the dangers associated with military activities at these bases. Development of renewable energy facilities could be constrained due to their potential

to interfere with military aircraft operations. Large wind turbines, concentrated solar-thermal power (CSP) towers, and drilling or cooling tower plumes associated with geothermal facilities could obstruct airspace, limit pilot visibility, or interfere with radar. Similarly, glare from solar energy and CSP facilities could limit pilot visibility. Large wind turbines and CSP towers could conflict with restrictions within 5-mile Bird/Wildlife Air Strike Hazard (BASH) subzones due to the potential for birds to strike these facilities. If potential impacts are identified for any of the scenarios described above, future renewable energy projects would need to incorporate modifications and/or mitigation before receiving approval.

Water Resources

The County of Imperial is entirely within the Colorado River Hydrologic Region (HR). The major surface water features within the County of Imperial are the Colorado River and Salton Sea. Several small rivers and creeks occur within the County of Imperial; but only the New River and Alamo River are perennial. Average annual precipitation for the Colorado River HR ranges from less than 3 inches along the eastern boundary near Imperial Valley to 25 inches in the mountain divide between the Salton Sea and Pacific Ocean drainages. Runoff occurs from winter precipitation, especially in the higher elevations, and from summer thunderstorms. The surface water that intermittently exists flows toward the Salton Sea and Colorado River.

The Colorado River HR is underlain by 64 groundwater basins/subbasins covering 8.68 million acres, or approximately 26 percent of the HR. Within the HR, 8 percent of domestic and agricultural supply is drawn from groundwater resources. In some larger basins, particularly near dry lakes, aquifers may be separated by aquitards that create confined groundwater resources. Groundwater in most of the smaller basins is found in unconfined alluvial aquifers (DWR 2003). The Colorado River HR contains water bodies that do not meet the water quality objectives and do not support the beneficial uses as defined in the Basin Plan. These water bodies are designated as impaired under CWA Section 303(d). Water bodies listed as impaired under the CWA Section 303(d) require the development of Total Maximum Daily Loads (TMDLs) to establish priority rankings and control plans. TMDLs provide the method to attain and maintain the established water quality objectives and beneficial uses. Other issues relating to water quality associated with renewable energy projects include point source discharge and the requirement for compliance with NPDES permits.

Development of renewable energy facilities in the County may be constrained by impaired water bodies, the increasing salinity and impairments of the Salton Sea, and the limited water supply of the Colorado River. Construction and operation of renewable energy facilities could generate untreated or inadequately treated stormwater runoff that may eventually flow to receiving waters. Similarly, development of renewable energy facilities may increase the amount of impervious surfaces in the County, thus reducing the amount of water that would normally infiltrate into the soil and be filtered naturally. Other issues relating to water quality associated with renewable energy projects include point source discharge and the requirement for compliance with NPDES permits.

Proposed projects would be required to include design features and mitigation measures consistent with applicable hydrology- and water-quality-related regulatory requirements that would minimize impacts to the maximum extent practicable. Furthermore, projects proposed within the Lithium Valley Specific Plan Area are subject to the hydrology and water quality policies and programs included in Chapter 6, Infrastructure.

III. GOALS AND OBJECTIVES

A. Preface

The *Renewable Energy and Transmission Element* serves as the primary policy statement by the Board of Supervisors for implementing development policies for geothermal and other renewable energy land uses in Imperial County. The Element also addresses Transmission as an interrelated activity that needs to be considered when reviewing renewable energy projects. This section (Chapter III) of the *Renewable Energy and Transmission Element* presents Imperial County's Goals and Objectives relative to renewable energy project development within the unincorporated areas of the County. They are based on community input, extensive collaboration with key regional stakeholders, identification of environmental issues and balancing economic interests.

The Goals and Objectives, together with the Implementation Programs and Policies in Chapter IV, are the statements that shall provide direction for renewable energy development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements representing ideals which have been determined by the Board of Supervisors as being desirable and deserving of community time and resources to achieve. These Goals and Objectives are important guidelines for renewable energy projects and related land use decision-making. It is recognized that other social, economic, environmental, and legal considerations are involved in land use decisions and that these Goals and Objectives, and those of the other General Plan Elements, should be used as guidelines for reviewing individual projects overall conformance.

B. Goals and Objectives

Goal 1 – Support the safe and orderly development of renewable energy while providing for the protection of environmental resources.

- Objective 1.1: The County of Imperial supports the overall goals of the Desert Renewable Energy Conservation Plan to provide a balance between the development of renewable energy resources while preserving sensitive environmental resources within its jurisdiction.
- Objective 1.2: Lessen impacts of site and design production facilities on agricultural, natural, and cultural resources.
- Objective 1.3: Require the use of directional geothermal drilling and “islands” when technically advisable in irrigated agricultural soils and sensitive or unique biological areas.
- Objective 1.4: Analyze potential impacts on agricultural, natural, and cultural resources, as appropriate.
- Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing renewable energy facilities.

Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.

Objective 1.7: Assure that development of renewable energy facilities and transmission lines comply with Imperial County Air Pollution Control District's regulations and mitigation measures.

Goal 2 – Encourage development of electrical transmission lines along routes which minimize potential environmental effects.

Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors, easements, and rights-of-way.

Objective 2.2: Where practicable and cost-effective, design transmission lines to minimize impacts on agricultural, natural, and cultural resources, urban areas, military operation areas, and recreational activities.

Goal 3 – Support development of renewable energy resources that will contribute to and enhance the economic vitality of Imperial County.

Objective 3.1: Preserve IID's Balancing Authority and local rate-making authority which allows IID to continue to provide low-cost service. Lower energy rates enhance the economic vitality in Imperial County.

Objective 3.2: Encourage the continued development of the mineral extraction/production industry for job development using geothermal brines from the existing and future geothermal flash power plants.

Objective 3.3: Encourage the development of services and industries associated with renewable energy facilities.

Objective 3.4: Assure that revenues projected from proposed renewable energy facility developments are sufficient to offset operational costs to the County from that particular development.

Objective 3.5: Encourage employment of County residents by the renewable energy industries wherever and whenever possible.

Objective 3.6: Encourage the establishment of necessary and applicable renewable energy training programs in local school systems in association with the renewable energy industry.

Objective 3.7: Evaluate environmental justice issues associated with job creation and displacement when considering the approval of renewable energy projects.

Objective 3.8 Promote the integration of renewable energy storage batteries into the grid to alleviate pressure during peak demand periods. Supporting the development of microgrids may also alleviate the grid and offset operational costs.

Goal 4 – Support development of renewable energy resources that will contribute to the restoration efforts of the Salton Sea.

Objective 4.1: Prioritize the Salton Sea exposed seabed (playa) for renewable energy development, and their supplemental uses like the mineral recovery industry using geothermal brine.

Objective 4.2: Encourage the development of renewable energy facilities that will contribute to the reduction or elimination of airborne pollutants created by exposure of the seabed of the Salton Sea as it recedes.

Objective 4.3: Develop mitigation measures and monitoring programs to minimize impacts to avian species and other species that may be affected by renewable energy facilities constructed near the Salton Sea.

Goal 5 – Encourage development of innovative renewable energy technologies that will diversify Imperial County’s energy portfolio.

Objective 5.1: Support the implementation of pilot projects intended to test or demonstrate new and innovative renewable energy production technologies.

Objective 5.2: Encourage development of utility-scale distributed generation projects in the County.

Goal 6 – Support development of renewable energy while providing for the protection of military aviation and operations.

Objective 6.1: Assure that renewable energy facilities proposed in areas adjacent to military installations and training areas will be compatible with these uses.

Objective 6.2: Facilitate the early exchange of project-related information with the military for proposed renewable energy facilities located within a military operations area (MOA) or within 1,000 feet of a military installation.

Objective 6.3: Assure that renewable energy facilities proposed within MOAs will not jeopardize the safety of existing residents or impact military operations.

Goal 7 – Actively minimize the potential for land subsidence to occur as a result of renewable energy operations.

- Objective 7.1: Require that all renewable energy facilities, where deemed appropriate, include design features that will prevent subsidence and other surface conditions from impacting existing land uses.
- Objective 7.2: For geothermal energy development facilities, establish injection standards consistent with the requirements of the California Division of Oil, Gas, and Geothermal Resources (CDOGGR). Request a CDOGGR subsidence review, if necessary, for consideration prior to setting injection standards.
- Objective 7.3: Require renewable energy facility permittees to establish and monitor subsidence detection networks in areas affected by permitted project activities.
- Objective 7.4: Require monitoring programs for determining the possibility or extent of induced subsidence.
- Objective 7.5: Require corrective measures, in proportion to each developer's activities, if evidence indicates that operation of geothermal energy facilities have caused, or will cause, surface impacts. In determining monitoring or mitigation requirements, the County shall consult with informed parties such as CDOGGR, County Department of Public Works, the IID, the permittee, other developers, and other experts as appropriate.
- Objective 7.6: Where geothermal fields have been divided into units or developers have established a cooperative agreement for reservoir management, specific production and injection requirements of individually permitted projects may be modified in accordance with both Federal and State requirements.
- Objective 7.7: Require seismic monitoring be performed in conjunction with major geothermal projects.
- Objective 7.8: Require operators of geothermal facilities analyze seismic data to determine the effects of geothermal production and injection on seismic activities within the development area.
- Objective 7.9: Consult with experts, such as CDOGGR, U.S. Geological Survey, geothermal industry representatives, permittees, and other developers to determine appropriate monitoring and mitigation requirements.
- Objective 7.10: Require operators of geothermal facilities to establish a notification system to warn or notify surrounding residents of the accidental

release of potentially harmful emissions as part of an emergency response plan.

Objective 7.11: Require all geothermal energy facilities to include operating procedures that would prevent detrimental impacts to geothermal reservoirs.

Goal 8 – Develop overlay zones that will facilitate the development of renewable energy resources while preserving and protecting agricultural, natural, and cultural resources. Development of overlay zones shall include coordination with Federal, State, County, Tribal governments, educational entities, the public and local industries.

Objective 8.1: Allow for County review with appropriate development and performance standards for development of local resources within the overlay zones.

Objective 8.2: Promote the exchange of information concerning renewable energy development to be circulated between industry, County staff, and the public.

Objective 8.3: Provide the public adequate opportunity to obtain information on the current status of renewable energy development and to provide input on matters related to the development of renewable energy resources.

C. Relationship to Other General Plan Elements

State law mandates seven “elements” for local government general plans. Although the *Renewable Energy and Transmission Element* is not mandatory, it must comply with requirements that are requisite to all parts within a general plan. Legislative intent must be fulfilled as set forth in Government Code, Section 65300.5: “...the General Plan and the parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency...”

The *Renewable Energy and Transmission Element* Policy Matrix (Table 2) identifies the relationship between the *Renewable Energy and Transmission Element* Goals and Objectives to other Elements of the Imperial County General Plan. The Issue Area identifies the broader goals of the Element and the “Xs” identify that related objectives are contained in the corresponding Elements.

Table 2: Renewable Energy and Transmission Element Policy Matrix

Issue Area	Land Use	Housing	Circulation	Noise	Seismic/ Public Safety	Agricultural	Open Space Conservation	Water
Land Use Planning	X		X				X	
Agriculture/ Biology	X					X	X	
Water Use							X	X
Land Subsidence					X		X	
Transmission Line	X		X				X	
Use of Renewable Energy	X		X	X	X	X	X	X
Zoning	X							
Natural Seismicity					X			

IV. IMPLEMENTATION PROGRAMS AND POLICIES

A. Preface

The demand for energy produced from renewable resources has increased dramatically since the previous update of the *Renewable Energy and Transmission Element* (formerly the Geothermal/Alternative Energy and Transmission Element) in 2006. This increase in demand has resulted in increased production of energy from geothermal resources as well as production of energy from other renewable resources such as solar, biofuels and biomass. Also, additional renewable energy facilities and transmission corridors are planned due to:

- Increased requirements for utility companies to procure higher percentages of power from renewable energy sources, either as part of a renewable portfolio standard or to meet climate change-driven emission reductions; and
- Increased electrical service demand due to larger population growth in southern California and the need to enhance system reliability.

In 2014, approximately 1,800 MW of renewable energy was being produced in Imperial County. Additional renewable energy projects that could increase the total amount of renewable energy generation have been processed and approved by the County. Approval of these and future renewable energy projects could increase the total renewable energy capacity located in Imperial County. The Desert Renewable Energy Conservation Plan (DRECP) has a renewable energy goal of up to 7,000 MW for Imperial County.

While the environmental effects of existing and approved renewable energy projects have been well documented, additional impacts to agriculture, natural and cultural resources, as well as other environmental issues, could be created by the projects needed to meet the DRECP goal of up to 7,000 MW. This updated *Renewable Energy and Transmission Element* creates a Renewable Energy Overlay Zone that directs the location of new renewable energy facilities to areas in Imperial County that minimize overall environmental impacts. The associated Program Environmental Impact Report describes the environmental effects of new renewable energy facilities and proposes mitigation measures and monitoring programs that will further reduce impacts to the environment.

In addition, increased capacity of existing transmission corridors and new transmission corridors needed to transmit the increased renewable energy production will create additional environmental effects.

This Section of the *Renewable Energy and Transmission Element* builds upon the Goals and Objectives of Chapter III, which establishes County policies on:

- Supporting development of energy from renewable resources;

- Supporting the location of transmission corridors which minimize environmental effects;
- Supporting the development of renewable energy resources that will enhance economic vitality;
- Contributing to the restoration efforts of the Salton Sea;
- Protecting military aviation and operations;
- Minimizing the potential for land subsidence; and
- Developing overlay zones in coordination with federal, State, and local agencies; tribal governments; the public; and the renewable energy industry that protect communities, agriculture, natural, and cultural resources, and reduce impacts to the environment.

Described in this Chapter are implementation programs for County agencies to utilize the Renewable Energy (RE) Overlay Zone pursuant to provisions of the County's Land Use Ordinance, Division 17, as amended.

B. Assumptions

Based on current data and updated growth scenarios, certain assumptions have been made concerning the future development of energy from renewable resources. The following assumptions were utilized in the preparation of this Element:

- Electrical demand will increase significantly in the future (2 to 3 percent per year, as the market dictates) in Imperial County, California, and the region.
- Electricity developed from renewable energy resources will become competitive in cost with electricity developed from other sources as technology advances, costs decrease, and cost of other energy sources increases.
- An adequate and satisfactory source of water will be available for renewable energy development.
- The DRECP goal of up to 7,000 MW of electrical generation from renewable resources will be developed in Imperial County.
- If the Renewable Portfolio Standard for California increases, then electrical development from renewable sources will significantly increase.
- As the land use agency, the County of Imperial will retain a leading role in guiding and regulating development of renewable energy resources in Imperial County.

- Renewable energy development will continue to be environmentally acceptable with adequate protection of agricultural, natural, and cultural resources. Adequate protection of biological resources will be encouraged with the implementation of the Desert Renewable Energy Conservation Plan (DRECP) by the California Energy Commission, California Department of Fish and Wildlife, Bureau of Land Management, and the U.S. Fish and Wildlife Service.
- New electrical transmission projects will either occur in Imperial County or transect the County. These transmission lines will be developed to export renewable power from Imperial County to other parts of California or will cross County jurisdiction to transport power to other statewide or interstate locations and end users.
- Due to Imperial County's unique location and future growth, Joint Use Corridors will need to be identified in order to create greater certainty and reduce impacts associated with locating new transmission facilities.

C. Programs and Policies

In order to implement the policies set forth in this Element, the County shall:

1. Maintain an updated Land Use Ordinance, including regulations for renewable energy projects, a Renewable Energy Overlay Zone, and definitions of renewable energy resources, facilities, and projects;
2. Require discretionary review for all Conditional Use Permit (CUP) applications for renewable energy projects to the extent allowed by law and implement County mitigation measures for such CUP's;
3. Add new projects into the existing subsidence, seismicity, and air quality monitoring networks;
4. Establish independent agency procedures to evaluate the findings of each environmental monitoring program to determine if:
 - a. mitigation measures are necessary;
 - b. the monitoring program should be modified;
 - c. results demonstrate that the monitoring program is unnecessary; and
 - d. results demonstrate that there needs to be compliance with the monitoring program.
5. Periodically review insurance and bond requirements to establish appropriate levels of protection;

6. Coordinate County planning and regulation of renewable energy development with the regulatory requirements of other governmental agencies as necessary;
7. Establish procedures to assure County input on projects for which other governmental agencies are “lead agency” or the approving authority, and to ensure continuity of enforcement in the event of such agency's failure or inability to exercise their authority;
8. Periodically update the Program Environmental Impact Report (PEIR) prepared for this Element add the Lithium Valley Specific Plan as necessary to describe the environmental effects and mitigation measures needed to reduce any adverse effects for areas with substantial anticipated renewable energy development;
9. Periodically review utility transmission corridor plans with the Imperial Irrigation District, other utilities, and representatives of the renewable energy industry to determine if such plans are consistent with the Element and the PEIR;
10. Develop, in conjunction with IID, other utilities, merchant power companies, government agencies, and the County, prospective joint use transmission corridors. Such joint use corridors would be intended to accommodate future growth needs; provide certainty to the renewable energy industry, developers, and local citizens of where such transmission projects will occur; and describe how the impacts of such facilities will be reduced;
11. Determine the costs of processing applications and performing inspections and monitoring (including major monitoring projects) so that costs can be passed onto renewable energy developers through appropriate fees;
12. Assure that safe and adequate waste disposal facilities are available for waste materials resulting from renewable energy operations such as defective solar panels and liquids not injected or recovered for useful purposes;
13. Facilitate the development of direct heat utilization of geothermal energy;
14. Provide information to the public on necessary occupational skill levels required for employment in the renewable energy industry, and encourage educational institutions, unions, and industrial companies to offer appropriate courses and training programs;
15. Keep the public informed on renewable energy development in Imperial County with periodic informational program updates; and
16. Cooperate and participate in studies, as appropriate, of:
 - a. the effect of renewable energy development on the demand for public services and facilities,

- b. technical improvements and changes in renewable energy facility development and operations which might require changes in County policy or regulations,
- c. water resources for renewable energy facility use with Imperial Irrigation District,
- d. means and incentives to develop direct heat industries in Imperial County for economic development,
- e. possible legislative incentives to accelerate renewable energy resource development in Imperial County,
- f. options available for the utilization of renewable energy revenues to augment County staffing to assure adequate monitoring of renewable energy operations,
- g. the effectiveness of mitigation measures required to mitigate or reduce adverse environmental effects to agricultural, natural, and cultural resources created by the production and transmission of energy from renewable resources,
- h. the effect of renewable energy development to the economic vitality of Imperial County, with special attention to continued 1) agricultural viability, 2) job quality, 3) skilled career training, and 4) local hire practices, and
- i. the effect of renewable energy development to protect the public's health, safety, and welfare.

D. Land Use Designations

The County Land Use Ordinance, Division 17, includes the Renewable Energy (RE) Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved Conditional Use Permit (CUP). The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. Conditional Use Permit applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. An amendment to the overlay zone would only be approved by the County Board of Supervisors if a future renewable energy project met one of the following two conditions:

- Adjacent to the Existing RE Overlay Zone: An amendment may be made to allow for development of a future renewable energy project located adjacent to the existing RE Overlay Zone if the project:
 - Is not located in a sensitive area

- Would not result in any significant environmental impacts
- “Island” Overlay: An amendment may be made to allow for development of a future renewable energy project that is not located adjacent to the existing RE Overlay Zone if the project:
 - Is located adjacent (sharing a common boundary) to an existing transmission source
 - Consists of the expansion of an existing renewable energy operation
 - Would not result in any significant environmental impacts.

E. Implementation Standards

The “Development Standards for Conditional Use Permits in Imperial County” applicable to the various types of proposed renewable energy projects located in the RE Overlay Zone have been included in the updated Land Use Ordinance, Division 17.

1. Land Use

Land use standards include requirements for application and review of renewable energy projects in order to assure that renewable energy development is conducted in a manner that assures that the location, size, design, and operating characteristics will be compatible with and not materially detrimental to:

- adjacent uses by maintaining adequate setbacks from property lines; streets, and, in particular, noise sensitive land uses such as residences, schools, and hospitals;
- residents, by avoiding the creation of nuisances and unsightly conditions; requiring appropriate limits on hours of operations, light control, adequate fencing and landscaping; and establishing proper procedures and bonding for system shutdown and site abandonment;
- farm operations, by minimizing surface land usage for renewable energy facilities, and by avoiding disruption to existing irrigation and drainage patterns; or
- agricultural, natural, and cultural resources, by locating renewable energy projects in the RE Overlay Zone.

2. Health and Safety

A number of health and safety considerations are involved in renewable energy development such as:

- compliance with air quality and dust control standards;
- avoidance of geologic, soil, and hydrology hazards through seismic and subsidence studies and monitoring;
- protection of surface and groundwater quality and proper disposal of wastes; proper operating procedures, including appropriate routing of pipelines and electrical transmission lines; noise control management; and safe use of public roads for equipment transport;
- ensuring the health and safety of workers constructing, operating and maintaining renewable energy facilities; and
- maintaining an Emergency Response Plan covering incidents such as blow-outs, major fluid spills, earthquakes, fires, and other emergencies.

3. Environmental

The design, siting, and operation of renewable energy facilities shall give adequate consideration to potential direct and indirect environmental impacts pursuant to the California Environmental Quality Act:

- Aesthetics
- Agricultural Resources/Forestry
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing

- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

4. Monitoring and Management

In order that good planning and design are not negated by ineffective implementation, the Land Use Ordinance includes, but is not limited to, the following:

- standard requirements for compliance with all applicable laws and regulations, with bonds, fees, and insurance requirements to ensure proper performance by operators of renewable energy facilities;
- monitoring inspections and access/ entry provisions;
- identification of a responsible agent for all renewable energy project activities; and
- provision for permit revocation or limitation due to noncompliance.

APPENDIX A

HISTORY OF GEOTHERMAL USE AND DEVELOPMENT

(This document has been modified and updated to better reflect current standards and agency responsibilities.)

The usage of California geothermal resources started at many of the hot springs found throughout the state. At these springs, Indians and then later settlers gathered to use and enjoy the warm waters. By the late 1800's, some hot springs were commercialized.

Surface geothermal phenomena has been noted in Imperial County for many years. The famous "mud pots" of the Salton Sea, steam fumaroles, and boiling springs were observed near Mullet Island which is a volcano that erupted about 16,000 years ago.

In 1905, the Colorado River broke through earth closure works in a newly constructed intake channel and waters from the river flowed into Imperial and Coachella Valleys for more than a year. The uncontrolled water formed the Salton Sea. Many of the "mud pots" and other natural phenomena were covered, but their manifestations are visible on the sea's surface in a number of locations.

The initial attempts at utilizing the underground resources of the County commenced when three wells were drilled on Mullet Island in 1927-1928 by the Pioneer Development Company exploring for the Southern Sierra Power Company. The deepest well was drilled to 1,473 feet and reached a maximum temperature of 245° F. All three wells produced steam, hot water, and non-condensable gases; however, steam pressures and volumes were not considered sufficient for commercial use, and the wells were abandoned.

While these were being sunk, large quantities of carbon dioxide gas was produced. This led to the formation of the Salton Sea Products Corporation which began exploring for carbon dioxide gas. In 1932 the discovery well for the Imperial Carbon Dioxide field was drilled about a mile northeast of Mullet Island. The field produced commercial carbon dioxide gas from 1933 to 1954, and the gas was recovered from shallow sands 200 feet to 700 feet deep. Two plants were built in the field to convert the carbon dioxide to dry ice. The field was abandoned in 1954 because of depletion of the producing sands, the rising level of the Salton Sea, and the development of modern refrigerated transport systems.

In 1957, Kent Imperial Corporation drilled "Sinclair 1" which is considered to be the discovery well for the Salton Sea Geothermal field. This well produced substantial amounts of geothermal fluids. It was drilled as an oil well to 4,725 feet. When it was tested, it produced hot water and steam.

A small pilot electrical generation plant was installed at the wellhead in 1959. However, this test facility was shortly abandoned due to the deposition of minerals on the equipment forcing a shutdown.

The first geothermal exploratory well intended to locate a resource was "Sportsman 1", by Joseph I. O'Neil, Jr. It was drilled in 1961 to 4,729 feet, about 4 miles northeast of "Sinclair 1". From 1961 to 1964, 10 more geothermal wells were drilled in the vicinity and 8 produced geothermal fluids. The mineral content of these wells was very high, occasionally reaching concentration of over 300,000 ppm total dissolved solids. The brine was slightly caustic and production was hampered by severe corrosion and scaling.

The Morton Salt Company (Imperial Thermal Products, Inc.) and Union Oil Company erected small pilot plants in an effort to extract minerals from the brine. After a few years of experimentation with brine and electrical production, these ventures were terminated as uneconomical.

From 1965 to 1970, the University of California at Riverside conducted an intensive investigation of the Imperial Valley. The research culminated in a report entitled *Cooperative Geological-Geophysical-Geochemical Investigations of Geothermal Resources in the Imperial Valley Area of California*, dated July 1, 1971. This program was supported by many organizations, including the U.S. Bureau of Reclamation, the National Science Foundation, Standard Oil Company of California, the Chevron Oil Field Research Company, the Imperial Irrigation District and the United States Department of Energy.

Since 1912, when G. Hoyt drilled a 6-inch well approximately 475 feet deep, Imperial County has had numerous entrepreneurs, oil companies, and private landowners drill wells throughout Imperial Valley searching for viable economic resources such as oil, gas, geothermal resources, and minerals. This search continues today with exploratory applications being made in various areas in Imperial County.

Numerous studies through the years have been made of the resource and the resource characteristics in the Salton Trough including: temperatures and temperature gradients, ground levels and slopes, seismicity, isotopic studies of groundwater and hydrology of underlying waters, gravity anomalies, magnetic anomalies and stratigraphic geology.

APPENDIX B

GEOHERMAL RESOURCE DEVELOPMENT REGULATION

(This document has been modified and updated to better reflect current standards and agency responsibilities.)

There are numerous governmental entities, which monitor and control all aspects of geothermal exploration and development in Imperial County. These entities include federal, state, and local agencies, and they often have similar responsibilities. The agency identification and brief descriptions presented here and in the following sections are intended to clarify the interrelationship of the various governmental levels and entities.

Each of the public agencies having discretionary approval power and exercise their discretionary power through the use of permits. For the purpose of implementing their environmental responsibility, the permits issued by such agencies may include:

Any condition or stipulations deemed necessary by that agency, including appropriate mitigation measures within the statutory jurisdiction of the agency; and

A monitoring program capable of assuring the permittee's conformance with all such conditions or stipulations.

A. County of Imperial

Imperial County is the local governmental entity which exercises jurisdiction over geothermal development on private and state lands outside of incorporated cities. The County is lead agency for all exploratory and test projects, and for power plant production projects generating less than 50 MW (net capacity). The California Energy Commission (CEC) regulates all power plants over 50 MW (net).

1. County Environmental Review

The County acts as the "lead" agency in the preparation of environmental documentation. All projects, including geothermal, must meet the requirements of the California Environmental Quality Act (CEQA). State law designates the Division of Oil, Gas, and Geothermal Resources (CDOGGR) as "lead" agency for CEQA purposes for geothermal exploration projects. Although CDOGGR exercises this authority in other counties, they have designated Imperial County Planning and Development Services Department to perform that function for them here.

According to CEQA Guidelines, a lead agency is one which has the "principal responsibility for carrying out or approving a project. . ." The lead agency prepares the environmental document for the project either directly or by contract. A responsible agency is a public agency, which also has discretionary approval power over the project, but uses the environmental documentation prepared by the lead agency.

There are three basic types of environmental documentation: Notices of Exemption, Negative Declarations, and Environmental Impact Reports (EIRs). EIRs can be comprehensive Master or Program EIRs or narrowly-focused site specific EIRs.

Imperial County has adopted several Master EIRs (MEIRs) for the major geothermal anomalies. These are useful base documents and reduce documentation for subsequent projects within that geothermal area. For example, the Salton Sea Anomaly Final EIR (1981) environmentally reviewed a "worst case scenario" of 4,000 MW's (81 geothermal power plants).

The County must adopt "certification" that a MEIR and mitigation measures are adequate for each project. Site specific analysis is also prepared for any new project.

2. County Land Use Review

The County regulates the use of land for geothermal purposes through zoning and conditional use permits (CUPs). The Geothermal Overlay Zone is adopted by ordinance. Exploratory, test, and production projects are approved by conditional use permit (also referred to as a geothermal permit), which is a land use permit. The permit does not authorize a person or corporation to drill a well or build a plant, but it does authorize a specific parcel of land to have wells drilled or to have plants built upon it. The permit runs with the land, and the project cannot be moved to another location without a separate application and environmental analysis prepared and approved.

The County exercises authority over all phases of geothermal development on private and state lands and the various permits may be issued on a "project-by-project" basis. All permits require developers to conform with all County regulations as well as regulatory conditions established by other permitting entities. The normal processing time for County permits is:

- | | |
|------------------------|--|
| 1. Notice of Exemption | 10 days (after approval of project) |
| 2. Exploration CUP | 1 to 6 Months (depends on project) |
| 3. Production CUP | 6 months (depends on project) |
| 4. Rezoning | 6 to 12 months (depends on project) |
| 5. Building Permits | 20 days (depends on other departments) |

Numerous permits are required to bring a project from the first exploratory well to the full field development and power plant phase. A project may not be required to have more than one discretionary permit from the County, but an applicant may sometimes develop a "project" in phases and submit each phase as a separate permit application. All permits have conditions outlining construction, operation, and monitoring requirements specific to that permit. County permits are not for an unlimited period of time and may expire if not used, or if a specific time limit is included as a condition.

Ministerial permits are those granted without exercise of personal judgment or discretion. These are issued after staff evaluation ensures that a project meets the standards and conditions outlined in the statutes. There are approximately twenty-one ministerial permits from the following: Building Inspection, Fire Department, Road Department, State Department of Industrial Relations, State Department of Transportation, and Federal Communications Commission.

B. State Agencies

1. California State Lands Commission (CSLC)

The CSLC has jurisdiction over the development of mineral resources beneath state lands including those lands owned by other state agencies. There are approximately 40,000 acres of state-owned lands in the County of Imperial, which is about 1.3 percent of all lands in the County. It is estimated that at least 5,000 acres may have commercially valuable amounts of geothermal resources. The type of ownership ranges from lands where the state owns both the surface and mineral rights, to lands where the states has sold the surface rights but retained the mineral rights.

The California State Lands Commission does not preempt the County in permitting geothermal activities on state lands. A proposed developer on state lands must obtain permits from and comply with all regulations of the County of Imperial.

Application for and issuance of geothermal permits, leases, and on-going lease management activities are handled from the SLC's Long Beach office. There are four methods of using state land for geothermal activities:

- a. Nonexclusive Geothermal Exploration Permit. This permit is issued for preliminary geotechnical information gathering. Activities may include geophysical, geological and geochemical exploration including the drilling of temperature gradient holes. The permit is for a period of two (2) years and does not give the permittee any preferential right to a geothermal lease. This permit may not require the preparation of an environmental document if it is for information gathering only and does not have the potential to result in a serious or major disturbance to an environmental resource.
- b. Geothermal Prospecting Permit. This permit gives the developer the exclusive right to explore the permit area for a period of two years with a possible two year extension. If a geothermal resource is discovered in commercial quantities the permittee may have a preferential right to a lease under terms agreed to before issuance of the permit. The permit allows drilling of deep exploratory wells and requires environmental impact documentation. This may range from a negative declaration to an EIR depending on the nature, scope and severity of the impacts of the project. The permit requires the drilling of at least one well during the term of the permit and provides for an escalating annual rental per acre until a well

has been drilled. This permit is generally issued in areas where the existence and nature of the geothermal resource is less well known.

- c. **Leasing by Competitive Bidding.** Generally, these leases are issued in areas where the existence and nature of the geothermal resource is well established. The lease requires that a well be drilled within a specified drilling term.
- d. **Negotiated Leasing.** The Commission may issue negotiated leases if the resource is to be utilized entirely for purposes other than electrical generation; or, if the Commission finds:

Wells drilled upon private or public lands are draining or may drain geothermal resources from State-owned lands;

The lands are determined to be unsuitable for competitive bidding because of such factors as their small size, irregular configuration, or inaccessibility from surface drill sites;

The state owns a fractional interest in the lands; or

The lease is determined by the Commission to be in the best interests of the state.

2. California Energy Commission (CEC)

The CEC has the following role:

Policy: To maximize the use of geothermal energy to generate electricity, to promote the use of direct heat, and to monitor compliance with the Renewables Portfolio Standard.

Permits: The CEC reviews and approves the construction of power plants with a capacity to produce more than 50 megawatts (net) or greater.

Environmental: The CEC is lead agency for preparation of the Site Assessment for projects they approve. They comment on EIR'S prepared by other agencies as appropriate.

3. The California Division of Oil, Gas, and Geothermal Resources (CDOGGR)

The CDOGGR is within the State Department of Conservation, and is charged with the responsibility to "exercise its power and jurisdiction to require that wells for the discovery and production of geothermal resources be drilled, operated, maintained and abandoned in such manner as to safeguard life, health, property and the public welfare, and to encourage maximum recovery." (Public Resources Code, Section 3700).

CDOGGR preempts local agency surface regulations which might interfere with state subsurface regulations.

The CDOGGR has the following role:

Permits: CDOGGR issues permits for a variety of operations pertaining to wells or well sites, including drilling, redrilling, reworking, abandonment, injection well programming, and drill site construction.

Regulatory: Supervises all wells on non-federal land during all phases of drilling, operation, maintenance and abandonment.

Environmental: CDOGGR has delegated its environmental review authority to the County of Imperial for exploratory projects. CDOGGR also comments on CEQA documents and EIR's prepared by the County.

4. State Water Resources Control Board (WRCB)

The WRCB has no specific policy on geothermal energy, but plays the following role:

Regulatory: At various stages, the State Water Resources Control Board, through the Regional Water Quality Control Board, is responsible for any discharge or action that could adversely affect the surface or ground water of the State. The WRCB grants water right permits for the use of surface waters or subterranean streams.

Environmental: The Board will act as either a Lead Agency or Responsible Agency pursuant to CEQA for all projects which involve the granting of appropriate water right permits and petitions.

5. Regional Water Quality Control Board (RWQCB)

The RWQCB, Region 7, has the following role in the permitting and regulatory process:

Permits: RWQCB issues permits regulating discharges that could affect water quality. The quality and quantity of any surface discharge of fluid, including the quality and disposal methods of fluids from drilling operations and waste from outside sanitary facilities.

Regulatory: Administers and regulates all water quality matters within its specific geographic area. The RWQCB enforces the standards set by the State WRCB.

Environmental: The RWQCB normally acts as a responsible agency on geothermal projects and reviews and comments on environmental documents.

The Regional Water Quality Control Board can also act as the CEQA lead agency for projects involving significant water quality implications.

6. The State Department of Fish and Wildlife (DFW)

The DFW has an interest in geothermal development as follows:

Regulatory: Has authority over watercourse alteration and activities which may affect fish and wildlife and their habitats.

Environmental: Is designated as a trustee agency and therefore comments on environmental documents prepared by the lead agency.

C. Other Local Agencies

1. Imperial County Air Pollution Control District (APCD)

APCD has discretionary authority as follows:

Permits: The Air Pollution Control District issues two kinds of permits: 1) an "Authority to Construct" based on submission of construction plans showing how emissions are to be controlled; and, 2) a "Permit to Operate" issued following an inspection of the installed facilities.

Regulatory: The APCD sets and enforces regulations for achieving and/or maintaining the air quality standards set by the State Air Resources Board and the U.S. Environmental Protection Agency.

Environmental: Designated as a responsible agency, the APCD must review and approve environmental documents according to its own standards. They are often the CEQA lead agency for projects on federal land.

2. Imperial Irrigation District (IID)

IID plays an important part in the development of renewable energy in Imperial County as follows:

Coordination: IID has a positive and cooperative working relationship with the developing geothermal industry providing water, electricity for initial operation, purchasing power, and the "wheeling" of power generated to points outside and within the County.

Permits: The use of IID irrigation water or disposal of water into its drainage system can only be allowed by permit or contract issued by IID under specified conditions.

Regulatory: Open Access Transmission Tariff (OATT) Process: If a generation facility locating within IID's Balancing Authority is required to apply for interconnection and/or transmission services as part of the plant permitting process, IID has adopted regulations governing interconnection and transmission service requests under their Open Access Transmission Tariff (OATT). IID's OATT is based on the Federal Energy Regulatory Commission (FERC) pro-forma OATT, which requires balancing authorities to evaluate the electrical impacts and interconnection costs of all electric generators that take service under the OATT.

On May 8, 2012, the IID Board of Directors adopted the *Temporary Land Conversion Fallowing Policy*, a policy that requires participation from certain project developers and/or landowners as a condition of water service for new non-agricultural projects. In particular, this policy targets lower water demand projects, such as photovoltaic facilities, that require a temporary land use conversion and are permitted by conditional use permits on agriculturally-zoned lands.

Environmental: IID would like to have a more active role in conjunction with the California Division of Oil, Gas and Geothermal Resources (CDOGGR) and the County in the permitting review, particularly in the monitoring and mitigation of potential subsidence impacts from renewable energy development.

All water delivered by the IID is raw, untreated Colorado River water this is subject to reasonable and beneficial use provisions as required by existing laws, regulations, ordinances and contracts. IID requires new water users to implement Best Management Practices (BMPs), conservation measures, meters and new water saving technologies to minimize a project's water demands from IID to the extent practicable.

All new industrial water users within the IID water service area are required to enter into a Water Supply Agreement in order to receive water deliveries. All water users are subject to IID's Rules and Regulations Governing the Use and Distribution of Water and the Equitable Distribution Plan adopted by the IID Board of Directors in their present form or as they may be amended hereafter. New non-agricultural water uses may be required to import water, provide replacement water, or participate in IID water conservation, supply augmentation, or demand management projects intended to offset or mitigate new project water uses. Certain projects may also be required to adhere to Water Supply Assessment or Water Supply Verification requirements as outlined in California Public Resources Code, Section 21151.9 and California Water Code, Sections 10631, 10656, 10910, 10911, 10912, and 10915. These assessments or verifications must be prepared in consultation with IID, and while not a guarantee of service should provide the environmental assessment necessary to execute a Water Supply Agreement with IID.

3. Environmental Health Services Division, County Health Department/Local Enforcement Agency (LEA)

The Environmental Health Services Division of the County Health Department (EHS/Health) plays an important role as the Local Enforcement Agency through the permitting/regulation of designated waste facilities (Class II landfills) that require local and state approval through the issuance of a "Solid Waste Facilities Permit" for any handling, processing, and disposal of wastes generated by geothermal power plants.

Authorization: The California Integrated Waste Management Board has designated EHS/Health as the authorized LEA for issuing a solid waste facilities permit.

Regulatory: The LEA determines whether the project conforms to local and state standards, and is responsible to protect public health, safety, and welfare by regulating solid waste facilities.

Environmental: The LEA evaluates the environmental impacts of a proposed solid waste facility and any environmental documentation prepared for the process of issuing a solid waste facilities permit.

D. Federal Agencies

1. U.S. Department of Interior, Bureau of Land Management (BLM)

The BLM office in El Centro has jurisdiction over 1.4 million acres of federal land including portions of San Diego County. Federal law preempts any County regulation over geothermal activity on federal lands. Federal lands comprise approximately 50 percent of all lands in Imperial County. Geothermal operations on federal lands are governed by the Geothermal Steam Act of December 24, 1970 (Public Law 91-5810). Surface management of all geothermal activities is provided by the Act and the regulations codified under 43 CFR 3200, and seven Geothermal Resource Operations Orders which were issued by the U.S. Geological Survey.

Policy: To provide management of public lands in a ". . . manner which recognizes the nation's needs for domestic source of minerals (e.g. steam)...protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values." (Federal Land Policy and Management Act of 1976).

The local BLM office has leased thousands of acres of federal land in Imperial County. In the East Mesa KGRA there have been numerous leases granted and there is an operating project. Prior to geothermal development on certain federal lands, the BLM prepared an Environmental Impact Statement (1973 EIS) on the use of these lands for geothermal activities under its *California Desert Conservation Area Plan (CDCA)*

(1980). This master plan covers approximately 25 million acres of land under federal jurisdiction in the California desert area.

Before lease tracts are released for bid and development, an EIS or Environmental Assessment Report (EA or EAR) is prepared. This report more specifically describes potential site-specific environmental concerns and mitigation considerations for the lease tract. The regulations implementing the Geothermal Steam Act also require that an environmental baseline study be conducted and a regular environmental monitoring program must be maintained when operating.

A NEPA leasing analysis was completed for the Truckhaven area with preparation of an EIS and a subsequent Record of Decision allowing for leasing, BLM/CA/ES-2008-004+3200. Also, a NEPA leasing analysis was initiated for the Superstition Mountain area located in the western portion of the County and within the boundaries of the CDCA. It was not completed and there has been no further activities in the Superstition Mountain area by either the Navy or the BLM. The NEPA proposals/actions were to allow for the issuance of federal geothermal leases for development on an approximate total of 46,400 acres, 40,000 and 6,400 acres for the Truckhaven and Superstition Mountain areas respectively. The BLM prepared an EIS for the West Chocolate Mountains Renewable Energy Evaluation Area (REEA) with a Record of Decision, BLM/CA/ES-2013-001+1793.

The geothermal developer prepares a proposed Plan of Operations, which must be approved by the district office of the BLM for each phase of geothermal resource investigation and development. There are often multiple "Plans" that require multiple reviews, e.g. "Plan of Utilization", and "Plan of Development". The plan details the work that will be followed in preparing the well pads, drilling the wells, exploring for a viable resource, and utilizing the resource. During the BLM review of the plan, the BLM may consider any state or local ordinances, which may be pertinent and require that the geothermal developer's plan comply with them.

Within the County's nine KGRA's, the federal government retains the mineral rights to some lands under the 1916 Stock Raising and Homestead Act. The court has opined that the acquisition of surface rights does not include ownership of the geothermal resource. The right to explore and develop the geothermal resource on these lands is thus subject to the same management and controls as that on other federal lands. The BLM has the same responsibilities with lease revenues and royalties subject to a 50:50 split between the federal and state governments. As the direct result of Assembly Bill 1905, passed and adopted in 1980, 45 percent of the state's share of the money collected from leases is returned to the county in which the federal lease is located.

The East Mesa KGRA is largely under federal jurisdiction and a number of power plants have been permitted and built since the 1980's. As proposals for power plants are submitted, BLM will focus on the same factors as those considered for development on private and state lands such as:

- Consistency with the California Desert Conservation Plan, including designated and proposed planning corridors;
- Protection of air quality;
- Impact on adjacent wilderness and sensitive resources;
- Visual quality;
- Fuel sources and delivery systems;
- Cooling-water source(s);
- Waste disposal;
- Seismic hazards; and
- Regional equity.

2. Military Use of County Lands

The Department of the Navy operates the Naval Air Facility, which was established in the mid-1940's. Disposition and leasing of lands for geothermal development falls under the provisions of the Military Construction Act of 1979 which grants each military department the right to use and benefit from geothermal resources.

Range lands, used by the Navy for aerial weapons training activities, are controlled through a number of land use instruments, some of which allow for geothermal development and compatible use where practical as discussed for the Superstition Mountains and West Mountains REEA areas. It does not appear that there are commercially viable geothermal fields on lands in West Mesa. There are no federal KGRA's in that area and BLM's study of the area indicates that potential for geothermal development is relatively low.

Due to uncertainties regarding the economic feasibility of developing the Glamis KGRA CA-670-14-098/DOI-BLM-CA-D070-2014-0033-DNA/(8100)P 670.28 and the unknown potential of West Mesa, there may not be any significant impacts on U.S. Navy operations in Imperial County due to geothermal development.

3. Federal Energy Regulatory Commission (FERC)

The FERC PURPA Rule allows "Qualifying Geothermal Facilities", up to 80 MW, within one mile between separate geothermal facilities.

The development density of a geothermal anomaly will be naturally limited by the amount of heat that can be delivered from the reservoir to a surface utilization facility. Generally, this is related to surface acreage in the range of one MW per five to forty (5-40) acres. Expressed another way, one square mile of surface area over a geothermal reservoir may be able to support development of power generation facilities in the range of 16 to 128 MW.

Some geothermal anomalies underlie large, non-uniform geographical areas, with diverse surface and mineral ownership. The relaxation of the "one mile" rule would allow plant siting to better accommodate geographical, environmental and property ownership restrictions. This would promote more efficient resource and land use pattern. The natural limitation of geothermal reservoir energy deliverable to the surface, or heat loss, during surface transport will limit the distance the resource can be economically utilized.

APPENDIX C

GEOHERMAL RESOURCE DEVELOPMENT STRATEGIES

(This document has been modified and updated to better reflect current standards and agency responsibilities.)

This section provides a generalized view of the different activities which may occur in the search and development of geothermal resources for both power and direct heat uses. There may be many variations and, depending on the success of each previous activity, all or only some of the activities may be conducted at a particular site.

A. Geothermal Resource Exploration and Production

1. Initial Exploration Phase

Most of the early studies and activities during this phase are not surface-oriented and have no impact. These studies include literature review, broad geologic studies, aerial photography, and possibly airborne magnetic surveys. Geological mapping provides for an understanding of local geology and may be done by foot or off-highway vehicle (OHV). Collections of soil, rock, or water samples from various points in the region may be taken for analysis.

Geochemical studies include water sampling to determine fluid chemistry and temperatures and soil/rock analysis regarding geochemical make-up with age dating analysis if required. These samples are normally collected in small bottles.

If preliminary mapping and soil/rock sampling yield promising results, geophysical surveys are done to attempt to determine information about subsurface temperatures, geologic structures, composition of substratum and other resource data. These surveys can be gravity, magnetic resistivity, magneto telluric, radiometric, passive seismic or active seismic studies. In each of these survey methods, a number of vehicles and people are needed and temporary access roads may be necessary.

Shallow temperature holes are then drilled to measure thermal gradients. These holes, two to four inches in diameter, are usually no more than 2,000 feet deep. Spacing will be determined as exploration continues. The hole is drilled; a plastic tube is placed in the hole, filled with water, capped and allowed to remain undisturbed for about a week. A temperature device is then used to gather water temperature readings at various depths. Temporary access roads may be needed and a clearing of about 900 square feet is necessary for the drill site. This type of drilling is normally completed in one month by truck-mounted or small drilling rig.

Observation holes may be drilled for further information about the subsurface geology. These may be as large and deep as the regular production wells described below. Some may be drilled from truck-mounted rigs. These wells are flow tested to assess the reservoir and brine characteristics. Sumps, tanks, and brine handling equipment

are installed. One to three acres may be occupied during the drilling and testing period.

Once the preliminary exploration stages are complete, and results encouraging, drilling starts to develop the resource. This involves construction of a road, drill pad, well cellar, and sump. The existing infrastructure of roads in Imperial County is generally adequate, but roads may be improved to carry heavier loads, withstand more constant traffic, and function year-round as necessary. The drill pad area must be leveled and cleared of vegetation large enough to accommodate the drilling rig and accessories, temporary structures, and crew parking. The required space must provide room for service and delivery vehicles. A reserve pit called a "sump" may be used for waste fluids and drill cuttings with the size of the sump depending on the expected depth of the well. The sump must be designated to provide adequate containment (from 1 to 2-1/2 acre-feet), subject to the requirements of the RWQCB. Large "Baker" tanks are sometimes used instead of a sump.

2. Drilling Phase

After the road, drilling pad, cellar, and sump are completed, a 26-inch to 36-inch hole is drilled with an auger to a depth of 50 to 100 feet and a 20-inch to 30-inch conductor pipe is inserted and cemented to the surface.

The drill rig may stand up to 175 feet high and may have a variety of accessories generally assembled together on the site. Accessories may include: mud tanks for mixing and/or storing drilling mud, blowout prevention equipment, compressors, pipe rack for storing pipe sections (usually 30 foot segments), mud pumps, engines of up to 1000 horsepower, and facilities for cooling drilling mud during later stages of drilling, fuel tanks, and water tanks. Ancillary equipment used periodically includes large cement pumping trucks, and mud hauling trucks. Trailers, office and storage buildings may be located in the immediate vicinity.

Personnel requirements include geologists, supervisors, subcontractors and information loggers. Service personnel include delivery and specialized service personnel and may number 10 to 15. A drilling rig crew can total from 17 to 22 with no more than five to ten on-site at any one time. The total rig work force during drilling can range up to 100 people.

Drilling operations proceed 24 hours per day, seven days a week until the required depth is reached. Up to 100 days or more may be required to drill each well, depending on workloads, scheduling, depth of well, and any problems encountered. Well drilling operations, including drilling, casing the well, installation of blowout protection equipment, and tests, and abandonment are regulated and inspected by the California Division of Oil, Gas, and Geothermal Resources, BLM or State Lands Commission.

A rotary drilling rig is most commonly used with mud as the circulating medium. Drilling mud removes cuttings from the hole, controls subsurface pressure, cools and lubricates the drill bit and pipe, prevents bore hole walls from caving in, releases drill cuttings at surface, prevents formation damage, provides maximum information from formations penetrated, suspends cuttings when circulation stops, and supports weight of drill string and casing.

During the drilling process, steel casing is cemented into the hole. Eight inches is a typical completion depth diameter.

A blowout could occur if subsurface pressures exceed pressures produced by the column of fluid in the bore hole. Various types of blowout prevention equipment can be installed to prevent such an occurrence. Blowout prevention equipment is installed at the surface on top of the casing.

Well cleanout is the process of removing the drilling muds, cuttings, and other material from the hole. After the cleanout is complete and the casing has been set, flow testing commences. Flow is directed to the drilling sump or tanks through a series of mufflers, and is composed of fluids, steam, and non-condensable gases. The fluids from Imperial Valley wells can include less than 10 to over 30 percent (by weight) of dissolved solids. Non-condensable gases and vapors make up less than three percent of the gaseous volume. If testing produces substances detrimental to the environment, these constituents must be safely detained in the sump or portable tanks. Flow testing may continue for thirty days or more, and may be repeated several times over a number of months. Temperature, fluid flow rates, drawdown, chemistry, etc., are analyzed.

A completed well, not being tested, consists only of the fenced well head, cellar, and piping. It may occupy 200 square feet. Abandonment is the regulated process (by CDOGGR and BLM) of plugging the hole with drilling mud and cement. Upon abandonment, all of the equipment, structures, and related materials are removed and the site is restored.

3. Typical Field and Plant Development Phase

In this phase, the plant is constructed, pipelines are run from each well to the plant, and from the plant to the injection wells. Also at this time electrical transmission lines and poles are constructed as required.

The first step in plant construction is to select the site. The site is more or less fixed by the location of the resource. The typical completed plant site occupies between 12 and 20 acres. During construction another 12 to 15 acres of laydown area for the storage of materials and large vehicle use may be required.

The power plant will consist of office space, parking facilities, tool storage buildings, turbine generator, steam condenser, brine and gas handling equipment, the cooling

towers, and flash vessels or heat exchangers. The actual plant size and set up will be determined by which method, flashed-steam or binary, is to be used. If there are noncondensable gases present that exceed air quality standards, then additional equipment will be necessary to "scrub" these gases from the plant's emissions.

Pipes from well to plant and to injection wells are installed and must be able to expand and contract. This is normally accomplished by installation of horizontal or vertical expansion loops. The size of the network will depend on the number of wells required to power the turbine, and the number of injection wells necessary. Each well may have a productive capability of three to five megawatts or more.

The production and injection well sites and pipe networks may range over an area of hundreds of acres, but will actually occupy only from 16 to 19 surface acres depending on the design of the plant and its layout. Plant and field construction may last two years with approximately 200 or more workers at peak. This will be the period of greatest environmental disruption, similar to a large construction site.

4. Typical Power Plant Production Phase

During this phase all facilities have been erected; no additional impacts should occur from construction activities. Some noise, noncondensable gases and toxic elements may be produced but can be mitigated through abatement measures. The production rate of the wells may be less than during the testing phase. During the plant production phase, activities will include the operation and maintenance of the power plant and existing wells, the drilling of new replacement production and injection wells, and waste disposal. Continuing exploration and development can be carried on in other parts of the geothermal field simultaneously with the operational and maintenance activities.

One medium-sized drill rig is needed to drill new wells to maintain generating capacity. As the production gradually diminishes the heat flow from the resource or wells scale up, additional wells must be drilled to allow the plant to operate at full capacity. If brine is to be disposed of by injection, new injection wells will be drilled. The technique and effects of drilling these replacement wells would be the same as for development wells.

Repair, maintenance, and monitoring of the operating field will require use of access roads to service the equipment. Existing wells will require occasional repair work or cleanout. The frequency of remedial work depends upon resource characteristics and production technology. Scaling and corrosion of the equipment from the geothermal brine may require frequent maintenance.

Condensate from the condenser can be used to supply all the water requirements for the power plant cooling towers. However, when the power plant is operating in this mode, about 20 percent of the geothermal brine is lost due to evaporation of the steam condensate in the cooling towers. Eighty percent of the brine is then available for injection to replenish reservoir fluid and help prevent land subsidence. Other sources of water for cooling tower needs may be available, such as imported water, agricultural

wastewater, treated wastewater, river water, the Salton Sea, and ground water. Cooling tower water requirements from external sources depend on the temperature of the resource and plant design and may range from 50 acre feet to 100 acre feet per year per megawatt.

During this phase, the disposal of spent fluids becomes significant simply because of the volume of wastes requiring disposal. Disposal techniques vary, depending on the quality and quantities of waste involved. Normally, injection of the brines and the cooling tower blowdown is preferred. Solid wastes can also be generated by the plant's operation, and may require disposal at proper waste disposal sites. A project may seek permits for on-site disposal of solid and/or hazardous wastes. Processing facilities may require an additional 3 to 5 acres at the plant site.

Geothermal liquids are generally injected back into the reservoir from which it came to give mass support. The fluids are injected far enough from production wells so as not to cause breakthrough in the reservoir field. Fresh water aquifers are protected by engineer well design. Those well designs and well programs are approved by either BLM or by the DOGGR. The well designs call for multiple strings of metal casing cemented in place to protect groundwater. In addition, the injection wells have to be inspected every two years to prove that the casing is still keeping the ground water safe. Furthermore, before the startup of any new geothermal project, the operator must submit an "injection plan" for approval to either the BLM or the DOGGR. This plan outlines what zones will be used for injection and how the reservoir and groundwater will be protected.

It may become economically feasible to extract minerals from the geothermal fluids. Desalinization of brines may also become financially feasible for some areas to provide water for irrigation and other uses.

5. Production Closedown Phase

This would consist of site abandonment and occur when the geothermal resource is depleted to a non-economical level. Geothermal reservoir knowledge has not advanced to a stage where a reasonable economic limit can be predicted, but for planning purposes, a period of at least 30 years is assumed, which in many cases is the power plant amortization period or term of the power purchase agreement.

6. Plant Closeout and Abandonment

This includes the removal of all surface facilities, the plugging and abandonment of all production and injection wells, and surface restoration to a safe, permanent condition which is as near original condition as feasible.

The Master EIRs in each of the four Geothermal Overlay Zones have more detailed information regarding the above procedures.

B. Geothermal Technologies - Flash and Binary Systems

There are currently two basic energy conversion cycles or systems utilized in Imperial County: flashed-steam and binary fluid cycles.

1. Flashed-Steam Conversion Cycle

Electricity is generated as follows:

Steam is separated from a liquid-steam mixture produced by a geothermal production well or well field;

The separated steam is expanded through a turbine;

The turbine turns a generator which produces electricity;

Steam exhausted from the turbine is condensed by a condenser; and

The condensate is either sent to an evaporative cooling system (such as a cooling tower) as make-up water or is mixed with the brine and disposed of by injection.

The basic one-stage flash cycle can be modified wherein there are several flash cycles which flash the fluid two or more times and/or a combined flash/binary cycle where, after the flash cycle, the fluid is passed through a heat exchanger (binary) cycle. Below a temperature of 350° F, flash systems generally do not produce adequate steam for economical operations.

2. Binary process

The geothermal fluid is used to vaporize a secondary fluid with a lower boiling temperature than water as follows:

Geothermal fluid from a production well is passed through a heat exchanger where heat from the brine vaporizes a secondary or working fluid (such as isopentane or isobutane);

The working vapor drives a turbo generator which produces electricity;

The vapor is condensed and returns to the heat exchanger in a closed system; and,

After passing through the heat exchanger, all geothermal fluids are injected.

Aside from design differences between the conversion cycles, the amount of fluids extracted for each kwh (kilowatt hour) of electricity produced is primarily a function of resource temperature. More specifically, as the temperature of a geothermal resource rises, the conversion efficiency of a given geothermal power cycle increases, thus reducing the demand.

The cooling tower (or pond) efficiency also increases with resource temperature. The most important consequence of this change in fluid requirements is a reduction in the number of wells and the acre-feet of cooling water needed to support power plants. In other words, the higher the brine temperature, the fewer wells and less cooling water necessary per MW generated.

The quantity of fluids disposed also varies inversely with the temperature of geothermal brines. With lower resource temperatures, larger amounts of fluids are needed to operate a power plant, and therefore larger quantities of spent fluids must be injected.

The principal difference of the binary system is that it allows utilization of moderate temperature resources, and there is in general no release of noncondensable gases, such as H₂S to affect air quality.

In the Heber "G" Zone, the San Diego Gas & Electric Binary Project (designed at 45 MW net) when it was operating, utilized a working fluid (approximately 90 percent isobutane and 10 percent isopentane) to generate electricity (designed at 65 MW gross). The Second Imperial Geothermal Company Binary Project was permitted in Heber at 33 MW (net) in July 1992.

In the East Mesa area, Ormesa in its various plants utilizes a "modular" unit, known as a Ormat Energy Converter Module (OEC), which includes equipment such as the following: evaporator/preheater, condenser, turbine, generator, motive fluid (pentane) cycle pump, various control safety valves, switches, pressure gauges/controls, internal piping pneumatic lubrication subsystem connections, and power control boards. This Ormat system is based on a subcritical organic Rankin power cycle which produces 3-phase electrical power compatible with the local Imperial Irrigation District grid and all exhaust vapors are subsequently condensed in a water-cooled condenser and recycled to the evaporator by the motive fluid cycle pump. The size of these OEC units is approximately 8' x 8' x 40' in dimension and depending on the size of the facility can be collocated and interconnected to generate the required amount of electricity. The Rankine cycle can reduce parasitic losses and internal pressures within the power plant, meaning higher equipment reliability, due to lower stresses on the components of these modular units.

C. Water Production

The 1977 Geothermal Element projected that desalinization of water could occur as a by-product of geothermal electrical production.

Congress passed the Colorado River Basin Project Act, Public Law 90-537 (1968), authorizing the Bureau of Reclamation to study the viability of augmenting the water supply of the Colorado River from sources within the Basin.

The University of California, Riverside, was contracted to perform preliminary geophysical investigations. In the summer of 1972, Mesa 6-1 was drilled to 8,015 feet in the East Mesa KGRA. The fluid temperature was 330° F and had a flow rate of about 100 gallons per minute with about 20,000 parts per million of total dissolved solids.

On June 3, 1974, the Bureau of Reclamation awarded a contract to Bechtel Corporation to determine heat transfer, scaling, corrosion, fluid chemistry, and flow characteristics. Systems were employed at East Mesa by the Bureau of Reclamation and Bechtel that are used worldwide for the recovery of potable water from seawater. These systems were the multistage flash and the vertical evaporator designs. The operators concluded:

" . . .at least 75 percent of the water content of the geothermal brine entering the plant can be recovered, utilizing the energy of the geothermal brine as a source of heat for the distillation plant. . ." and that, ". . .Recovery of water from geothermal brine is technically feasible through the use of either the multistage flash evaporator concept, or the vertical tube evaporator. . ."

The Bureau of Reclamation estimated in 1972 that as much as 2.5 million acre-feet a year of desalinated water could be produced from geothermal resources in Imperial County. Their 1979 *Geothermal Resources Investigations East Mesa Test Site - Concluding Report*, found (largely due to reservoir transmissivity limitations) this to be an unreasonably optimistic estimate. On an economic basis, they could not support water production.

H.J. Vaux, Jr., of the University of California, Riverside, prepared a cost analysis for producing fresh water from geothermal resources by a desalinization plant. He estimated that desalinization would cost about \$.45 per 1000 gallons, or \$145 per acre-foot.

There does not appear to have been any notable changes in the desalinization technology since these studies were completed, but a rough estimate of cost in 1984, considering inflation and interest rates might be closer to \$1000 per acre-foot. A number of Southern California communities are paying up to \$200 per acre-foot. The Imperial Irrigation District currently delivers water to local industrial users for \$85.00 (2014) per acre-foot and to agricultural, municipal, and miscellaneous users at \$20.00 (2014) per acre-foot. For comparison, the estimated costs for ocean water distillation ranges between \$1,200 and \$1,500 per acre foot depending on the desalinization process utilized (San Diego County Water Authority, 1990).

D. Direct Heat Uses

In addition to electrical generation, geothermal resources can be utilized in nearly any process or activity which requires heat. Geothermal fluids can be used directly from a well, or users could obtain "cascaded" heat from other projects.

The potential for direct use in Imperial County remains to be seen. The long-term availability of geothermal resources could serve as a catalyst for local economic development. A study sponsored by the U.S. Department of Energy and the County (May 1983) evaluated potential uses of direct heat in five major categories:

- 1. Agriculture:** Geothermal energy could be used by farmers, stockmen, ranchers or consortiums of the above; projects could include crop refrigeration and greenhouse and feedlot operations.
- 2. Aquaculture:** Warm waters can be utilized to grow certain aquatic species, e.g. catfish, prawns, algae, tilapia and for the hydroponic growing of vegetables.
- 3. Food Processing:** Opportunities for processing of food include refining and cold packing, vegetable canning, dehydration and freeze-dry operations.
- 4. Ethanol Process:** Imperial County could be a prime location for geothermally-produced ethanol due to the combination of a local supply of feedstock, the geothermal energy resource, and nearby metropolitan markets.
- 5. Manufacturing:** Certain industrial and manufacturing applications could use geothermal energy to replace fossil fuel and electricity, e.g. process heat, refrigeration and motive steam.

Since the temperature requirements are generally lower for direct heat projects, more flexibility in location of direct heat projects may be possible. However, in order to minimize the cost of fluid transmission, project locations must be near the geothermal resource.

The growth of geothermal direct use projects continues to be unpredictable at present, since development will be influenced by a number of factors including prices for competing energy sources, labor costs, price of land, and tax incentives, among others. Development of resources for electricity generation could facilitate development of direct applications. Resolution of technical issues and the availability of cascaded heat from power plants may lead to development of direct heat projects. A successful local application of geothermal resources for an industrial project could stimulate development of other projects.

The geothermal aspects of proposed industrial projects are expected to be relatively minor in comparison with the non-geothermal aspects of the projects, i.e. capital costs, operating costs and environmental impacts.

The non-geothermal issues of economic development and industrial projects are analyzed in other portions of the County General Plan.

E. Mineral and Gas Extraction

In various parts of the world, brine has been used to produce minerals. However, the recovery of these minerals from geothermal brine is dependent upon both production costs and market price.

Some portions of the Imperial Valley are underlain, at depth, by hypersaline brines (water that is greater than three times as salty as sea water). In certain KGRA's, particularly the Salton Sea, the brine is very high in minerals such as sodium, arsenic, antimony, mercury, selenium, potassium, iron, tin, manganese, chlorine, boron, bromine, potash, and zinc, among others. Precious metals--silver, gold and platinum--are present in trace concentrations.

Both the U.S. Bureau of Mines and the Department of Energy have sponsored experimental programs on mineral extraction from Salton Sea brines. However, few detailed reports are available. In 1974, the Bureau of Mines funded research to do a study at the Salton Sea. Hazen Research built and operated a 15 gallon per minute pilot plant which was operated successfully. The process was based on selective precipitation of the hydroxides found in the brine utilizing lime.

Another study was performed by SRI International at the San Diego Gas and Electric Geothermal Loop Experimental Facility (GLEF). This study involved precipitation of the more valuable elements in the brine through use of a sulfide. A number of equilibrium calculations were made using aged, spent brine from the GLEF.

SRI's goal was to precipitate all of the silver, lead, and zinc, while minimizing the precipitation of iron and manganese and using as little of the sulfide as possible. After a careful study and analysis for silver in the brines, they concluded that the silver content of the brine used was 0.02 parts per million utilizing Magmamax #1 brine.

Since the geothermal brines of the Salton Sea KGRA have a greater concentration of valuable minerals, this area's resource is being developed. Currently, the flashed-steam technical design has the greatest potential for mineral recovery in the Salton Sea area.

Some of the minerals being extracted from geothermal brines are of strategic value to our national defense. Cal Energy owned and operated a zinc extract plant at their existing geothermal plants before closing due to production and market declines. Manganese and tin are only two of these metals which may become difficult to import if

world conditions control availability. Table C-1 lists the percentage of metals of strategic value to the United States which are imported from various countries and which could be extracted from geothermal brines. Table C-1 gives typical Imperial Valley brine chemistry.

Early extraction of gas occurred in the Niland area from 1933 to 1954 where a large amount of carbon dioxide was produced to make dry ice. The flow of geothermal brine also releases methane, hydrogen sulfide, radon, benzene, and mercury gases in small quantities. With adequate abatement methods, these gases are not hazardous.

The County recently has approved the SIMBOL Materials, Inc., Simbol Calipatria Plant 1 (CUP #12-0004) adjacent to the existing Hudson Ranch 1 (now known as the John Featherstone 1) Geothermal Flash Power Plant. The County is processing a revised project permit (CUP #14-0006) that will include an 80-foot high communications tower. The commercial Lithium Carbonate Production Plant intends to extract lithium and lithium products from the geothermal brine from this plant.

<p>TABLE C-1</p> <p>STRATEGIC METALS VITAL TO DEFENSE AND ECONOMY</p>			
Metal	Uses	Percent Imported	Principal Sources
Chromium	Stainless steels, electroplates	90	South Africa, C.I.S.
Cobalt	Super alloys, magnets	90	Zaire, Zambia
Manganese	Steels and steel-making	98	Gabon, South Africa
Platinum Metals	Catalysts, glass-making, electronic contacts	89	South Africa, C.I.S.
Tantalum	Capacitors, super alloys, cutting tools	96	Thailand, Malaysia
Tin	Tin plate, bearings, solder	81	Thailand, Malaysia
Source: Lawrence Livermore Laboratories (1985 Geothermal/Transmission Element)			

TABLE C-2						
TYPICAL IMPERIAL VALLEY BRINE CHEMISTRY						
Dissolved Solids (in mg/l)		Salton Sea	Westmorland	Brawley	Heber	East Mesa
Sodium	NA	52,000.00	10,000.00	22,000.00	4,200.00	2,600.00
Potassium	K	14,000.00	1,400.00	3,800.00	260	190
Calcium	Ca	24,000.00	690	8,100.00	880	130
Magnesium	Mg	106	188	34	5.4	3.4
Chloride	Cl	145,000	18,000.00	46,000.00	7,900.00	3,900.00
Sulfate	SO ⁴	84	57	----	99	155
Bicarbonate	HCO ³	140	2,900.00	49	27	490
Arsenic	As	11	----	2.6	0.1	0.16
Boron	B	350	63	140	14	5.4
Barium	Ba	433	----	363	3.8	2.2
Copper	Cu	4	0.07	0.11	0.53	0.03
Fluoride	F	9	2.24	----	1.6	2
Iron	Fe	2,300.00	0.3	65	22	2.2
Lithium	Li	211	48	100	9.5	6.3
Manganese	Mn	1,200.00	2.8	190	2.7	0.42
Nickel	Ni	4	3.8 ----	1.1 340 14	1.9 53 0.83	0.03
Lead	Pb	100				0.09
Strontium	Sr	500				38
Zinc	Zn	660				0.07
		Salton Sea		East Mesa		
Noncondensible Gases (in mg/kg)		Range	Mean	Range	Mean	
Hydrogen Sulfide	H ₂ S	1.6 - 6.0	3.2	0.12 - 1.6	0.54	
Ammonia	NH	20 - 40	35	1.3 - 8.1	4.5	
Carbon Dioxide	CO ₄	1,100 - 3,800	1,700	270 - 2,300	1,100	
Methane	CO ₄	10-Mar	6	4.0 - 56	33	
Hydrogen	H ₂	0.0016 - 0.002	0.0018	0.005 - 0.007	0.0064	
Source: Pimental et al. 1978, Ermak et al. 1979.						

F. Solid Waste Disposal

Geothermal energy production may create large volumes of waste, some of which contains heavy metals, naturally occurring radioactive materials (NORMS), and salts. Wastes also result from well drilling and testing, and power plant operation. Wastes can include rotary drilling muds, work over and clean out fluids, well testing fluids, geothermal brines and residues, pretreatment sludge from cooling water makeup, and cooling tower and boiler blowdown sludges.

An occasional waste is fill-packs at cooling towers of some geothermal plants. Generally the fill-pack is a Class III waste, but can become a Class I waste due to its copper content from sludge and film build-up. Another common waste generated is the desiccant used to keep moisture out of specified compressor lubricants. Generation of Class I, Class II, and Class III wastes (particularly those having special health risks) are reviewed during the County permit process and a mitigation monitoring program is prepared to reduce potential health risks to project employees and the public.

The regulation of geothermal solids depends on the area where the solids originate. The East Mesa Power Plants are permitted by the Bureau of Land Management which would handle disposal issues in conjunction with Regional Water Quality Control Board. In the Salton Sea, North Brawley, Ormesa, and Heber KGRA's, the County Department of Public Works, Planning/Building Department and the Regional Water Quality Control Board (RWQCB), would review and monitor the disposal/storage of geothermal solids in appropriate landfills. Some clean-up efforts in various parts of Imperial County are within the Regional Water Quality Control Board's jurisdiction.

The RWQCB requires that geothermal wastes which contain in excess of 6,000 parts per million (ppm) total dissolved solids, be disposed of in a Class I landfill, and those wastes with less dissolved solids may go to certain Class II sites. Five sites in Imperial County are authorized for the acceptance of geothermal wastes: Clean Harbors (Westmorland), Inc., site accepts hazardous and non-hazardous geothermal wastes, and the County-operated landfills located in Brawley, Calexico, Holtville, and Salton City may accept non-hazardous geothermal wastes.

Desert Valley Company's Class II "Monofill" is permitted to store and dispose of geothermal solids only from CalEnergy's existing geothermal plants in the Salton Sea area. Desert Valley Company also owns two contiguous sections of land which are to be developed in two Phases: Phase I consists of one "monofill" of approximately 7 acres with a capacity of 300,000 cubic yard; and 160 acres of land has been permitted for landfill use.

The County's Integrated Waste Management Plan (COIWMP) has been prepared by the County Department of Public Works, and adopted by the Board of Supervisors and the cities. The COIWMP addresses the need for disposal sites to receive appropriate geothermal wastes. All waste management activities in the County must comply with the COIWMP as adopted and/or amended.

G. Transmission Corridors

It is the intent of Imperial County:

- To recognize the necessity for transmission corridors within and through Imperial County;
- To plan for the least disruptive corridor routing and to encourage the development of joint use corridors; and
- To formalize the County's input to the appropriate public and private entities in terms of goals, policies, routing criteria and specific corridor location plans.

The following goals are established and adopted:

- To protect the health and safety of Imperial County's residents and their communities by assuring that the corridors will be so located as to have the least possible adverse impact upon them.
- To protect the health and well-being of Imperial County's agricultural economy by assuring that the placement of transmission towers and lines will have the least possible adverse impact on agriculture to the extent practicable.
- To protect, as much as possible, the fragile ecological balance of our wetlands and surrounding desert by assuring that natural resources will be considered in the location of transmission corridors.
- To support IID's transmission plan of service, which utilizes to the extent possible existing transmission systems and capability prior to constructing new transmission lines and enhances grid reliability?
- To utilize, wherever practicable and approved by appropriate permitting authority, existing rights-of-way (such as existing lines, roads, canals and railroads) for the placement of transmission towers and lines so as to maximize efficient use of land and minimize impacts to our surrounding environment.
- To minimize, as much as practicable, the impact of transmission towers and lines upon our aesthetic environment by encouraging appropriate location and design features.

- To participate in State and Federal licensing procedures for the location of transmission lines, towers and related substations where it is deemed that such participation would serve the best interests of the County.

The following guidelines will be followed regarding transmission routes, except where competent and responsible advice indicates otherwise.

- Transmission rights-of-way, including the towers and lines, be located adjacent to existing roads, canals and property lines. Towers should be sited at the end of fields wherever possible.
- Diagonal alignments of transmission lines and towers through agricultural fields should be avoided.
- To the extent consistent to prudent utility practices, the use of H-frame transmission towers or mono poles should be considered in the agricultural area where their placement would minimize the removal of land from production and facilitate the operation of farm equipment.
- When the need arises for a second transmission line, it should be placed within the same right-of-way as the first line, parallel to and alongside existing towers, in order to avoid the staggering of tower placement and further impacts to agricultural activities.
- All transmission towers near airports or crop duster strips shall comply with FAA regulations.
- The operating entity shall provide grounding of stationary structures where necessary in order to minimize the build-up of electrical charge and protect avian species.
- Questions concerning payments for rights-of-way, liability in the event of damage to transmission structures, and weed clearance at the tower footings are subject to negotiation between the utility company and the landowners.
- Any new transmission lines shall include a Record of Survey of the route.
- The Line route shall be monumented at points that insure the right-of-way can be established on the ground in the field.
- Any new route surveys or resurveys of existing route shall have California Coordinates. These Coordinates shall be of the right-of-way and section/tract corners used to establish the right-of-way.
- Copies of all coordinates shall be in a format to be used for Geographical Information System (GIS) and submitted to the County Surveyor.

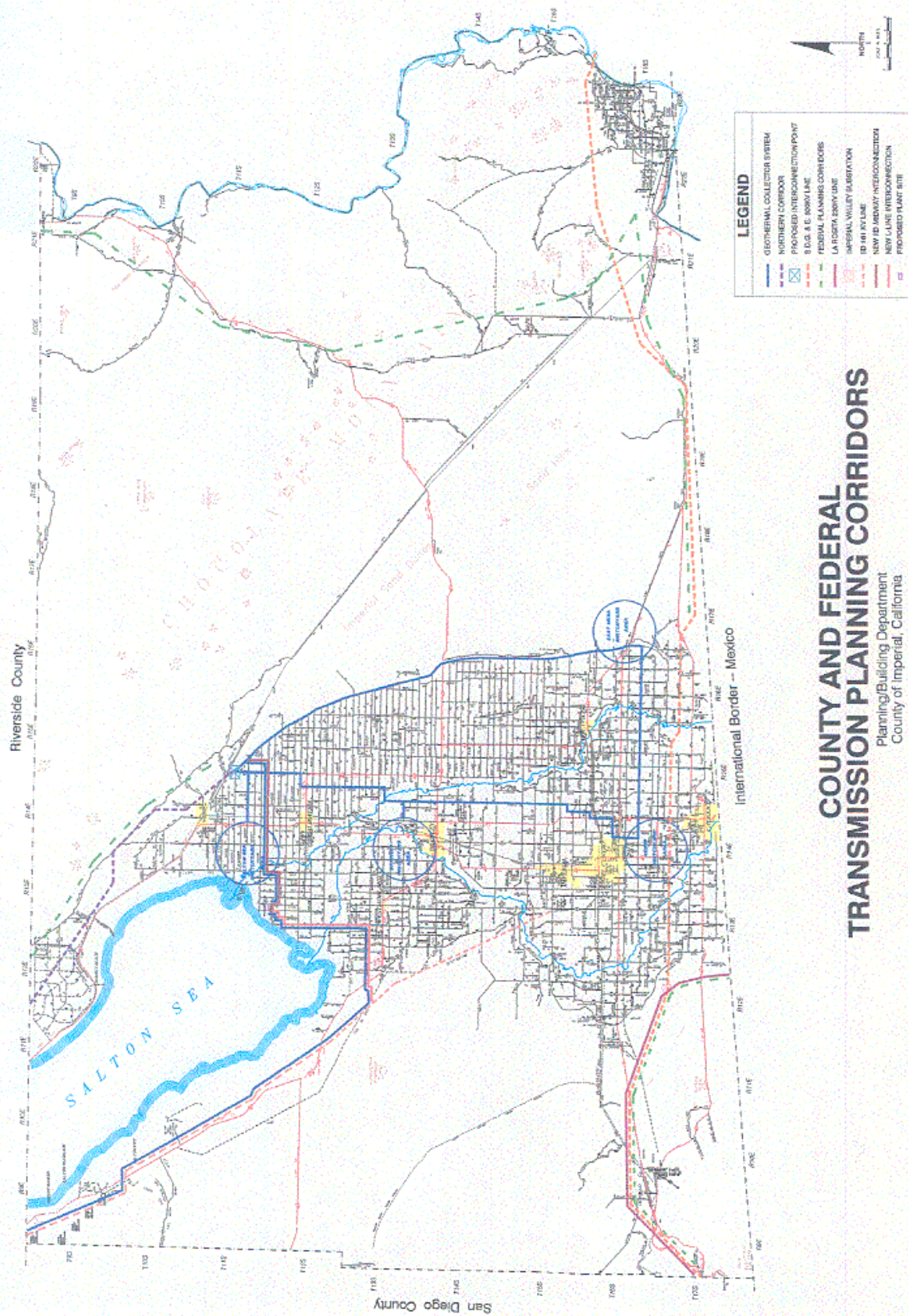
Due to the direct impacts renewable energy development has on existing and future transmission lines in Imperial County, it is necessary to consult with the Imperial Irrigation District and other affected agencies. The District's owns and operates transmission lines within its service area. The primary exception to this is ownership/operations of the two 500-kV transmission lines traversing east-west through Imperial County.

The IID and the geothermal developers have worked jointly in the building of the 230-kV line running from the East Mesa area north to the Southern California Edison system. The IID is currently constructing capacity expansion to Path 42, located east of the Salton Sea.

The following figure is included to provide a general overview of the designated transmission line corridors in Imperial County for renewable energy development. The figure outlines the various switchyard areas for the collector system, and the location of the 230-kV and 500-kV transmission lines in relation to this collector system

The following figure also indicates the four federal BLM planning corridors (J, L, M and N), the CFE-SDG&E 500-kV 230 kV line from the La Rosita Substation in Mexico to the Imperial Valley Substation, geothermal 230-kV line, SDG&E 500-kV line stretching from the Arizona border to the San Diego County line and the new Sunrise Powerlink, 500-kV line. The environmental impacts associated with these transmission lines have been addressed in NEPA/CEQA documents prepared by BLM and SDG&E.

FIGURE C-1



APPENDIX D

BENEFITS OF RENEWABLE ENERGY AND TRANSMISSION DEVELOPMENT

(This document has been modified and updated to better reflect current standards and agency responsibilities.)

The benefits of renewable energy development in Imperial County are:

- Fiscal benefit of expanded property tax revenues (with the exception of solar plants and projects on Federal lands (BLM) that are taxed differently);
- Fiscal benefit of sales tax revenues from the purchase of equipment, goods and services;
- Royalty and lease benefits to local landowners and County;
- Social and fiscal benefits from increased economic activity and local employment opportunities that do not threaten the economic viability of other industries;
- Improvements in technology to reduce costs of electrical generation;
- Reduction in potential greenhouse gases by displacing fossil-fuel-generated electricity with renewable energy power which does not add to the greenhouse effect;
- Contribution towards meeting the State of California's Renewables Portfolio Standard (RPS); and
- Minimization of impacts to local communities, agriculture and sensitive environmental resources.

The benefits of increased transmission line development in Imperial County are:

- Increased regional transmission capacity to support regional energy demand while increasing regional reliability.
- Increased local transmission capacity and associated reliability while supporting local residential, commercial and industrial growth.
- Increased opportunity for the development of renewable energy generation facilities, e.g. wind, solar, geothermal, bio-fuels, bio-mass, algae, deep solar ponds, and hyper-saline brine ponds, for local construction and permanent job creation.

- Provide support to companies developing renewable energy facilities that will provide a significant contribution to the RPS.
- Potential to develop joint use utility corridors that will provide a more balanced approach to addressing zoning and land use conflicts between the renewable energy industry, local development, and agricultural interests.
- Foster the growth of energy parks with attendant jobs and increased sale and property tax revenues.

A. Fiscal benefit of expanded property tax revenues

Assessments and tax revenues have increased because of the development of geothermal properties in the Imperial County. The assessments of the rights to exploration, development and production of useful geothermal energy are controlled by Proposition 13, Article XIII A of the California Constitution. Under Article XIII A, property taxes are limited to 1% of the assessed value of the property. Once the base year assessment has been set by the Assessor the assessment will not increase by more than 2% per year, unless there is new construction or a change in ownership that triggers a new assessment as of the date of completion or as of the date of the change in ownership.

The Imperial County Assessor is responsible for the assessment of all Qualifying-Facility geothermal power plant projects. The State Board of Equalization (SBE) is responsible for the assessment of all non-Qualifying-Facility geothermal power plant properties and the associated power lines and equipment owned that State Board assesses. The state-assessed properties are not controlled by Proposition 13 or its limitations on market value, but are taxed at 1% of their assessed value.

The right to explore for geothermal energy is taxable. The right to explore is valued by any appropriate method allowed in the Revenue and Taxation Code. The Assessor can use the cost, market or the income approach to value the right to explore. The approach used generally is the one that the Assessor has the most reliable information on.

The right to develop useful geothermal energy prior to production is assessable but usually unascertainable unless there is a sale during the development stage. If the sale is considered to be an open market transaction meeting all of the requirements of a fair market value, the sale price will then be enrolled.

The right to produce useful geothermal energy is assessable. Once the power plant is in production, the Assessor can assess the power plant and the proven reserves as of the date the plant comes on line. The Assessor uses the cost approach, the market approach or the income approach to value the geothermal property. Because of the lack of comparable sales data pertaining to geothermal properties, the market approach to value is difficult to use. The Assessor uses the cost approach to value the

improvements. Usually the historical cost approach is used because the actual costs of construction have proven to be the most reliable. The income approach is one of the most reliable tools the Assessor has to value the entire geothermal power plant project including well field and geothermal reserves. The Assessor will use the discounted cash flow analysis. Gross income from sales of electricity will be estimated over the estimated remaining economic life of the project from the gross income and the appraiser will deduct expenses, capital costs to the field, resource, plant, land, wells, fixtures, and personal property. Then the Assessor will arrive at a discount rate and the discount rate will then be used to arrive at a present value of the entire property. From the value of the entire property the Assessor will deduct the value of the improvements, fixtures, and personal property arrived at by the cost approach. The residual value is allocated to the geothermal reserves.

Once the base year value is established and enrolled by the Assessor in accordance with Proposition 13, Article XIII A of the California Constitution, all geothermal energy power plants, inclusive of other renewable energy facilities, are annually reviewed and appraised to determine the fair market value of the power plant as of the current tax year lien date. This annual analysis provides the Assessor the necessary data to determine if a decline in market value of the power plant exists. Property Tax Rule 473 (C) states "Declines in market value of the mineral property shall be recognized when the market value of the appraisal unit (land, improvements, fixtures and proved reserves), is less than the current adjusted base year value of the same unit. " Declines in value will be determined by comparing the current market value of the property to the indexed Prop 13 value of the same property for the current lien date. When the current market value of the property is less than its base year value indexed to the current lien date, the established market value shall be enrolled as the current taxable value.

In addition to the taxes levied on the resource, also subject to tax assessments are the land, power plant, transmission lines, and other facilities. When owned by a public utility, these facilities are assessed by the State Board of Equalization. The Board uses a unitary value concept to determine the fair market value of the land and improvements owned by the public utility in the state. The following factors are used by the Board to determine fair market value: Original/historical cost of land and improvements less depreciation; capitalized earnings; and market value of stock and debt issues.

The State Board of Equalization determines annually the fair market value of all State taxable property and then allocates this value to the County tax areas where the property is located.

The renewable energy operating plants in Imperial County are assessed by the Imperial County Assessor's Office. The top five property tax payers in the County for FY 2012-13 (out of the top 100) are as follows: CalEnergy (\$7,641,846), Energy Source (\$2,343,990), SDG&E (\$1,460,633), Ormat (\$1,120,462) and US Gypsum

(\$1,114,375). The taxes paid annually into the County Treasury by these entities is for disbursement to various local taxing agencies.

In 2012, a 50 megawatt geothermal plant and associated resource development is estimated to have a cost of construction up to \$400 million dollars. According to the above, the cost for a typical field and plant facility is approximately \$8,000 per installed kW in the United States, but can vary significantly based upon a series of factors with costs changing over time with economic conditions.

Due to the SBE's method of determining fair market value and allocating assessed value of the state-assessed property, the exact amount of Imperial County's share is unpredictable. The State assesses no power plants in Imperial County but do assess Southern California Edison power lines.

B. Fiscal benefit of sales tax revenues from purchase of goods and services

Retail sales and resultant sales tax revenues will increase temporarily during peak construction phases. Geothermal service industries, cascaded heat users, and direct heat industries will also be established bringing additional demands upon local business for goods and services. A portion of sales tax revenues generated locally by geothermal development will be returned to Imperial County by the State Board of Equalization.

C. Royalty and lease benefits to local landowners

Local landowners profit from the development of the geothermal resource in three major ways: Annual rental payments for leased land; monthly royalty payments for a percent of gross or net production; and payments for any surface use of land (such as for pipelines and well pads).

Increased revenues to local landowners can provide local benefits through increased expenditures and investments. A secondary benefit to local landowners would be improvements to adjacent roads.

D. Social and fiscal benefits from increased economic activity and employment

Based on estimates and experience, a 50 MW geothermal plant and related facilities could require the following workforce:

Site preparation/drilling	45 workers/average for 9 months
Construction (structure/equipment)	70 to 180+ for minimum 18 months
Operation & Maintenance (once construction is complete)	35 workers (more or less depending on the design of the plant)

Of the local work force who operate and maintain the various electrical plants, the vast majority are local residents. However, for construction of renewable energy power facilities, a large number are Mexican nationals who have permits to work in the United States. The non-local labor force estimated to be needed would increase local retail sales through purchases of food, lodging, gasoline, car maintenance, medicine, entertainment, drugstore items, and laundry services. It is assumed that on weekends and scheduled days off, the non-resident work force would either return home or stay in local establishments.

Direct heat employment opportunities are not included in the above analysis. Recent estimates indicate that employment could range from 6 to 75 persons per project in the related industries such as crop cooling/packing, vegetable dehydration, food processing, greenhouses, and aquaculture.

New geothermal-related jobs will not be seasonal, so the development of geothermal energy could help to stabilize the County's economy.

Local statistics continue to indicate that young adults now tend to leave the County shortly after high school. This emigration might be reduced if geothermal development offers a variety of jobs for those wishing to remain in the County. The employment generated will also produce jobs in other sectors of the local economy, utilize a greater range of job skills, and provide new employment opportunities for local unemployed residents.

F. Contribution to the Renewables Portfolio Standard

The guidelines included in the Element also address aspects of the Renewable Energy Program related to the state's Renewables Portfolio Standard (RPS). This law and any recent revisions requires certain retail sellers of electricity to increase the amount of renewable energy they procure each year by one (1) percent until the renewable energy content of their electricity portfolios equals 33 percent of their power from renewable energy sources. Retail sellers of electricity must meet this 33 percent level by 2020. Under this law, the California Energy Commission is charged with certifying eligible renewable energy resources that may be used by retail sellers of electricity to satisfy their RPS procurement requirements and for developing an accounting system to verify a retail seller's compliance with the RPS. Eligible renewable energy resources identified within the County may qualify for funding under the Renewable Energy Program.

To assist meeting the RPS, the BLM has prepared Programmatic Environmental Impact Statements (EIS) to process BLM-wide programs for geothermal, wind, and solar energy development as follows.

“...A PEIS evaluates the environmental impacts of broad agency actions, such as the development of major programs or the setting of national policies. These PEIS documents examine a range of alternatives for establishing renewable

energy programs on suitable BLM-managed land and amend resource management plans (RMP), a necessary first step before specific projects can be authorized on BLM-managed lands. The BLM published the Wind Energy PEIS in 2005...The BLM published the Geothermal PEIS in 2008...The BLM and the U.S. Department of Energy (DOE) jointly published the Draft Solar Energy PEIS in December 2010. The Draft Solar energy PEIS estimates that up to 214,000 acres of public land could be needed over the next 20 years for solar energy projects...The BLM's establishment of its Renewable energy Coordination Offices (RECOs) in Arizona, California, Nevada, and Wyoming...has facilitated the efficient processing of applications for large-scale solar, wind and geothermal projects..." (Statement of Robert V. Abbey, Director, Bureau of Land Management, U.S. Department of the Interior, Before the House Natural Resources Committee, Oversight Hearing, *"American Energy Initiative: Identifying Roadblocks to Wind and Solar Energy on Public Land and Waters"*, May 13, 2011).

APPENDIX E

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