

**LITTLE
RAINBOW
VALLEY**

LAND USE PLAN
MARICOPA COUNTY

A901.970

OFFICE OF THE BOARD OF SUPERVISORS

MARICOPA COUNTY BOARD OF SUPERVISORS
County Administration Bldg. 301 W. Jefferson Phoenix, Arizona 85003



(602) 506-3415

January 31, 1992

Dear County Resident:

The Maricopa County Board of Supervisors is pleased to present the updated Little Rainbow Valley Area Land Use Plan which was adopted January 7, 1992.

This Plan is one of ten area plans Maricopa County has adopted as part of an on-going land use planning program for the unincorporated areas.

The Land Use Plan was originally adopted on May 2, 1988, and an updated version was adopted on July 30, 1990. This current edition of the Plan has been updated to reflect changing growth patterns, population projections, annexations and other changes to the planning area since the last adoption.

The Land Use Plan serves as a statement of goals and policies to direct growth through the year 2010. Future land use is also designated for those areas under County jurisdiction.

The Little Rainbow Area Land Use Plan demonstrates Maricopa County's efforts to fulfill State mandated planning for the areas of jurisdiction, as well as a significant commitment to the area, its future and its residents.

Very truly yours,

A handwritten signature in cursive script that reads "Betsey Bayless".

BETSEY BAYLESS
Chairman, Board of Supervisors

BB:pz:cm

Enclosure

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District 1

JAMES D. BRUNER
District 2

BETSEY BAYLESS
District 3

CAROLE CARPENTER
District 4

P. BEN ARREDONDO
District 5

MARICOPA COUNTY LAND USE PLAN

**LITTLE RAINBOW VALLEY
PLANNING AREA**

Adopted January 6, 1992

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INTRODUCTION

This "Introduction" provides an overview of the process used to prepare the *Little Rainbow Valley Land Use Plan* as part of the Maricopa County Comprehensive Land Use Plan. The "Introduction" is presented in three sections:

Area Plan Development
Organization of the Little Rainbow Valley Land Use Plan
Annual Update Process

AREA PLAN DEVELOPMENT

In July 1985, the Maricopa County Department of Planning and Development issued a public "Request for Proposal" to professional urban planning consultants for the preparation of the seven specific land use plans as part of the Maricopa County Comprehensive Land Use Plan. One of the specific areas was the Little Rainbow Valley Planning Area.

For each specific area, the County requested that the provided professional services include collection and analysis of existing data leading to specific goals and policies to guide general land development. Each specific study area was also to be provided with a land use plan.

Throughout the planning process, the community participation was emphasized through a number of means. Three public workshops for the Little Rainbow Valley Planning Area were held to solicit input from residents, property owners, business people, and Planning and Zoning Commission members. Newsletters that announced each workshop and provided project progress reports were distributed prior to each workshop. In addition, Planning and Zoning Commission Workshops were held to review the project progress. Thorough coverage by the news media was also encouraged to create further awareness of the workshops and participation by the general public in the planning process.

ORGANIZATION OF THE LITTLE RAINBOW VALLEY LAND USE PLAN

This document presents the results of the planning process for the Little Rainbow Valley Planning Area and is organized corresponding to the major work tasks.

"Inventory and Analysis," is a presentation and analysis of the data elements that describe existing conditions in the Little Rainbow Valley Planning Area.

"Resident Issue Identification," summarizes the major land development issues raised by the residents of the Little Rainbow Valley Planning Area.

"Goals and Policies," defines specific goals and policies which the County has adopted with regard to growth and development in the Little Rainbow Valley Planning Area.

Little Rainbow Valley Land Use Plan," presents the land use plan for the Little Rainbow Valley Area with definitions for each land use category and discussion of the land use plan, which will be implemented, in part, through the application of the policies presented in "Goals and Policies."

ANNUAL UPDATE PROCESS

Each year the *Little Rainbow Valley Land Use Plan* is revised to more accurately reflect current conditions in the area. The Maricopa County Department of Planning and Development updates each land use plan using the most recent Maricopa Association of Governments' (MAG) data, 1985 and 1990 U.S. census data and population projections of the Department of Planning and Development. As each update is completed, it will be considered at public hearings before the Planning and Zoning Commission and Board of Supervisors.

INVENTORY AND ANALYSIS

Development of the *Little Rainbow Valley Land Use Plan* hinges on a thorough understanding of the various physical, social, and economic aspects of life in the immediate and surrounding area. This chapter of the land use plan identifies and describes the following elements:

- Natural Resources
- Social and Economic Characteristics
- Land Use and Zoning

The "Inventory and Analysis" chapter of this land use plan presents an analysis of data that describe existing conditions in the planning area. Population projections are also presented as part of the "Inventory and Analysis" so that the community, elected and appointed public officials, and planning staff have a thorough understanding of the anticipated growth in the planning area.

NATURAL RESOURCES

In describing natural resources in the Little Rainbow Valley Planning Area, the following five elements are identified:

- Physical Characteristics
- Hydrology
- Vegetation and Wildlife
- Archaeology
- Policy Implications

The purpose of this section of the Little Rainbow Valley Land Use Plan is to describe the physical setting, to identify existing groundwater supplies and flood control measures, to locate habitat areas, to note any archaeological resources, and to identify policy implications.

Physical Characteristics:

The "Physical Characteristics" section describes key features of the natural and man-made environment which affect growth and development in the Little Rainbow Valley Planning Area. "Physical Characteristics" are presented in the following six sections:

- Physical Setting
- Soils
- Topography
- Geology
- Visual Features
- Air and Noise Quality

Each of the above factors will, to some extent, dictate the quality, character, and direction of development in the planning area. The purpose of this section is to formulate an understanding of the environmental characteristics which are affecting, and continuing to affect, growth and development in the planning area.

a) Physical Setting

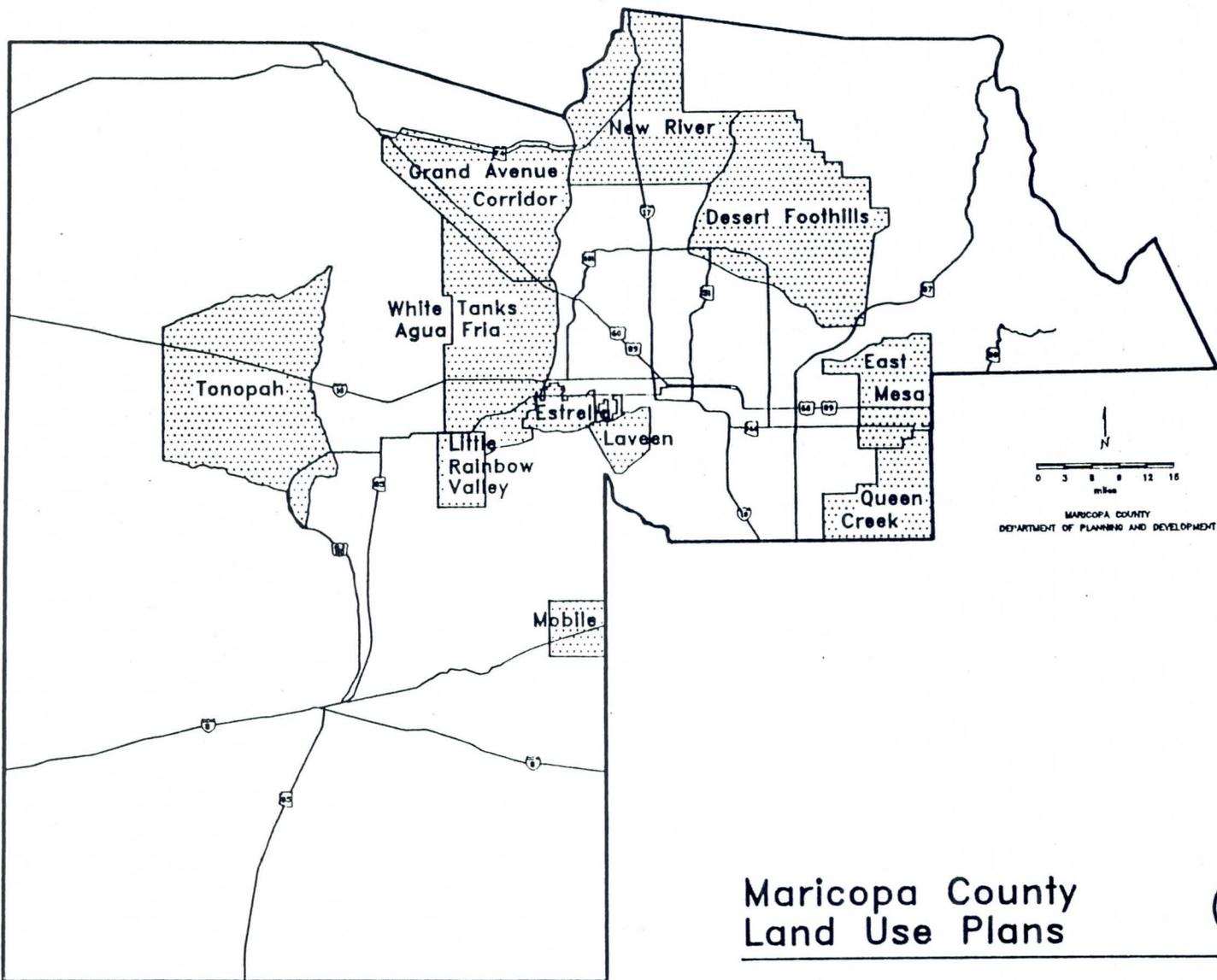
The Little Rainbow Valley Planning Area, as illustrated on *Figure-1*, is located in the south central portion of Maricopa County, west of the Sierra Estrella Mountains and bisected by the Gila River. Elevations within the planning area range from 840 feet above sea level along the Gila River, to 1,774 feet above sea level near the southwestern boundary. Terrain within the planning area ranges from rock outcrops and mountains found along the eastern and southern portions to alluvium found in the central and northern portions.

The Little Rainbow Valley Planning Area encompasses approximately 45 square miles. Landscapes are characterized by rural, natural desert, and riparian scenes. Most of the rural scenes are composed of low density residential development or cropland and most of the natural scenes are composed of desert foothills where Palo Verde-Saguaro habitat is found.

Climate in the planning area is similar to the rest of the Phoenix area with generally mild fall, winter, and spring weather and hot, dry summer weather. *Table-1*, "Average Monthly Weather Characteristics," summarizes monthly temperature and precipitation levels in the planning area.

b) Soils

Six major soil associations, as illustrated on *Figure-2*, "Soil Associations," are found within the Little Rainbow Valley Planning Area. The Gilman-Estrella-Avondale Association covers three different areas: 1) north of the Gila River to the northern planning area boundary; 2) along the western planning area boundary generally between Elliot Road and Williams Field Road; and 3) a one-mile strip, along Williams Field Road from the eastern planning area boundary to 207th Avenue, and along Tuthill Road from Ray Road to the southern planning area boundary. The Carrizo-Brios Association covers the areas within and along the Gila River and the Waterman Wash. The Rillito-Gunsight Perryville Association covers the area between Narramore Road and Ray Road from the eastern planning area boundary west to Rainbow Valley Road. The Laveen-Coolidge Association covers the central portion of the study area. The Casa Grande-Harquua Association covers the area between Tuthill Road and 215th Avenue from Elliot Road to Narramore Road. This association also extends south of Narramore Road along the east side of Waterman Wash.



Maricopa County
Land Use Plans

TABLE-1
Average Monthly Weather Characteristics

Month	Average Daily Maximum Temperature (F)	Average Daily Minimum Temperature (F)	Average Total Precipitation (Inches)
January	66.9	35.8	0.92
February	71.7	38.8	0.76
March	76.8	42.9	0.69
April	86.0	49.2	0.34
May	94.9	56.9	0.10
June	103.2	65.1	0.09
July	106.8	75.3	0.74
August	104.5	73.7	1.24
September	101.0	66.1	0.74
October	90.2	53.7	0.44
November	77.0	42.1	0.57
December	68.2	36.2	0.93
Total	87.3	53.0	7.56

Information based on a thirty year average.
Average Total Snow, Sleet and Hail Annually: Trace
Source: Arizona Department of Commerce

Categories

- | |
|---|
| 1 |
|---|

 Gillman-Estrella-Avondale
- | |
|---|
| 2 |
|---|

 Carrizo-Brios
- | |
|---|
| 3 |
|---|

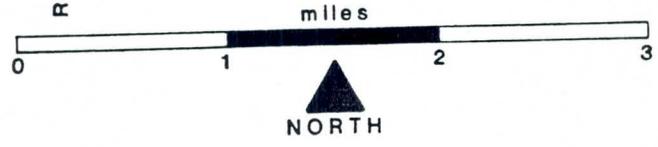
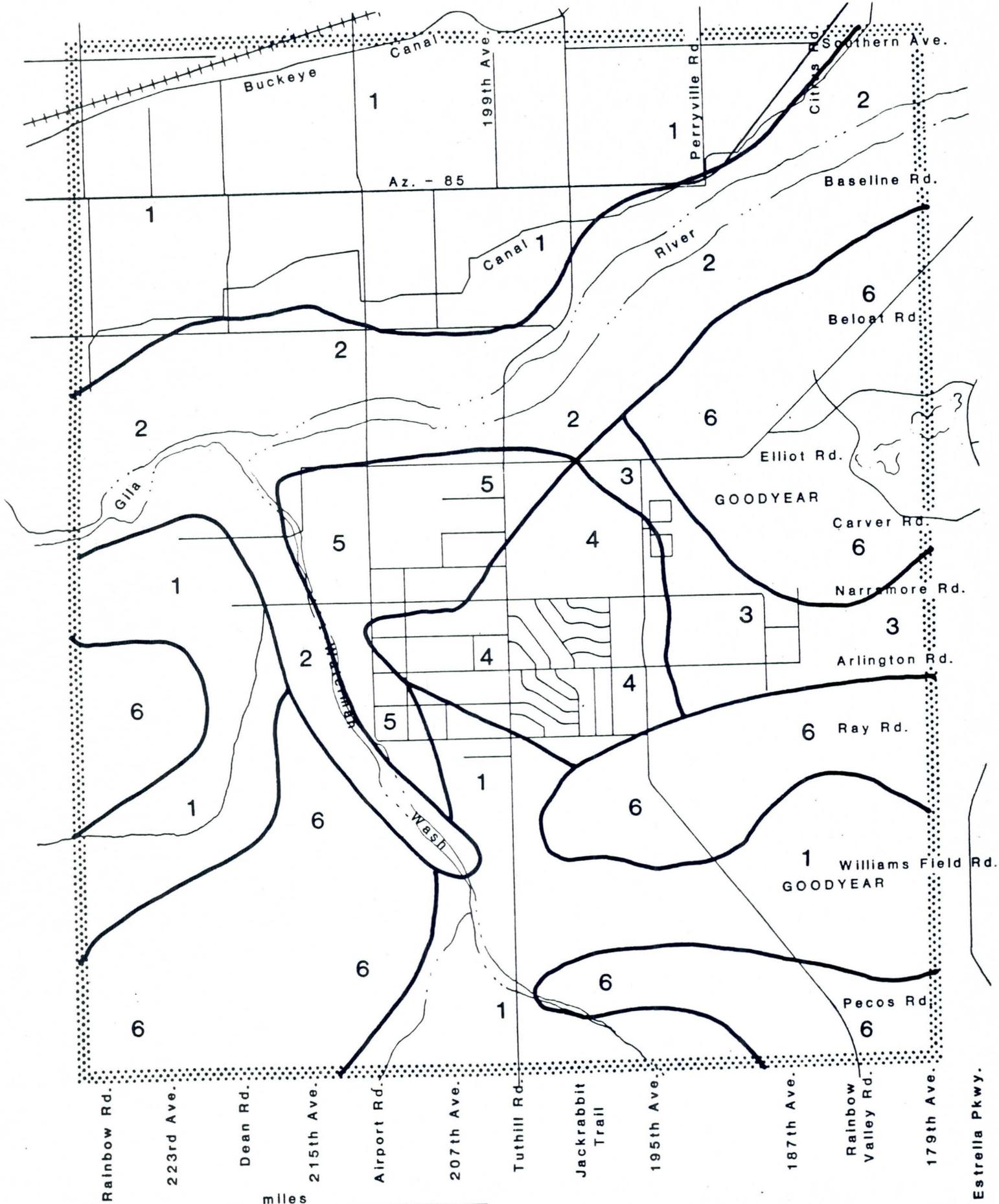
 Rillito-Gunsight-Perryville
- | |
|---|
| 4 |
|---|

 Laveen-Coolidge
- | |
|---|
| 5 |
|---|

 Casa Grande-Harqua
- | |
|---|
| 6 |
|---|

 Cherioni-Rock outcrop

Little Rainbow Valley
Soil Associations



LITTLE RAINBOW VALLEY

The Cherioni-Rock Outcrop Association is located in 5 different areas which correspond to the more mountainous terrain found along the eastern and western planning area boundaries.

To further identify the soil associations found within the planning area, the following section describes the associations in terms of drainage, slope and texture, and terrain:

Gilman-Estrella-Avondale consists of deep, well drained soils, nearly level loams and clay loams on valley plains and low stream terraces.

Carrizo-Brios is deep, excessively drained soils, nearly level to gently sloping, gravelly sandy loams and sandy loams in stream channels and on low stream terraces.

Rillito-Gunsight-Perryville consists of deep, well drained soils, nearly level to moderately steep gravelly loams and loams on old alluvial and valley plains.

Laveen-Coolidge is deep, well drained soils, nearly level sandy loams, loams and clay loams on old alluvial fans and valley plains.

Casa Grande-Harquá consists of deep, well drained soils, nearly level to sloping, saline-alkali loams, sandy loams and gravelly clay loams on valley plains.

Cherioni-Rock Outcrop is well drained soils, gently sloping to very steep, very gravelly loams and rock outcrop on mountains, buttes, and low hills.

The four general soil properties which affect soil suitability for development are permeability, available water capacity, shrink-swell potential, and corrosivity.

Permeability refers to the rate at which water moves through the soil and is usually determined by the texture of the soil. Soils with a slow permeability pose severe limitations for septic tank absorption fields. Soils with slow permeability do not allow adequate absorption of effluent from tile or perforated pipe into natural soil. Approximately, 40 percent of the Little Rainbow Valley Planning Area includes soils that pose severe restrictions for the use of septic tank absorption fields.

Available water capacity is the amount of water a soil can hold which is available for plants. The ability of soil to hold water in part determines the type of plants that can be used for landscaping and lawns. None of the soils in the Little Rainbow Valley Planning Area have low available water capacity.

Shrink-swell potential refers to the capacity of a soil to expand or shrink as the moisture content is increased or decreased. Generally, soils with a high percentage of clay have a tendency to have a high shrink-swell capacity. Soils with a high shrink-swell capacity can contribute to structural problems for buildings and roads. None of the soils in the Little Rainbow Valley Planning Area have high shrink-swell characteristics.

Corrosivity refers to a soil's capacity to induce chemical reactions that will corrode or weaken metals and concrete. A majority of soils in the Little Rainbow Valley Planning Area are highly corrosive to uncoated steel, while most soils are moderately corrosive to concrete. Soils with a high corrosivity may create potential problems for underground utilities, if installed unprotected.

Soil characteristics can play an important role in the development of the Little Rainbow Valley Planning Area. For detailed information on soil types, their characteristics, and their locations in the planning area, refer to the U.S. Department of Agriculture Soil Conservation Service: "Soil Survey of Maricopa County, Arizona, Central Part." This survey is available from the Soil Conservation Service Office in Phoenix.

The characteristics of each soil association as related to development is illustrated in *Table-2*. Because of the locational variability of each soil type within the associations, soil testing should take place prior to actual development; particularly, in any area that might contain soils of the Cherioni-Rock Outcrop, which can pose severe problems for septic tank use, building, and foundation placement.

c) *Topography*

The Little Rainbow Valley Planning Area encompasses portions of the Sierra Estrella Mountains to the east and the Buckeye Hills to the west. Desert foothills slope from these mountains and hills to the north toward the Gila River. The highest point within the planning area is 1,774 feet atop a mountain near the southwestern boundary, while the lowest point within the planning area is 840 feet along the Gila River to the west.

Slope is illustrated on *Figure-3*. The area generally slopes toward the Gila River. Slopes within the planning area range from less than one percent to greater than 15 percent. Approximately 75 percent of the land in the planning area slopes from between 0 to 2 percent, 15 percent of the area has slopes that range from 2 to 15 percent, and 10 percent of the area is sloped at 15 percent and greater.

TABLE-2
DEVELOPMENT CONSTRAINTS BY SOIL ASSOCIATION

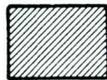
	Gilman- Estrella- Avondale	Carrizo- Brios	Rillito- Gunsight- Perryville	Laveen- Coolidge	Casa Grande- Hargua	Cherioni Rock Outcrop
Septic Tank Absorption Fields	Slight	Severe	Slight	Slight	Severe	Severe
Dwellings Without Basements	Slight to Moderate	Severe	Slight	Slight	Moderate	Severe
Dwellings With Basements	Slight to Moderate	Severe	Slight	Slight	Moderate	Severe
Local Roads and Streets	Moderate	Severe	Slight to Moderate	Slight to Moderate	Moderate to Severe	Severe
Small Commercial Buildings	Slight to Moderate	Severe	Slight	Slight	Moderate	Severe
Lawns and Landscap- ing	Slight to Moderate	Severe	Moderate	Slight	Severe	Severe

Source: U.S. Department of Agriculture, Soil Conservation Service, "Soil Survey: Aguila-Carefree" Area" and Soil Survey of Maricopa County, Arizona, Central Part."

Categories



0 - 2%



2 - 15%



15% and Greater

Little Rainbow Valley
Slope

3

NORTH



13

LITTLE RAINBOW VALLEY

Estrella Pkwy.

Rainbow Rd.

223rd Ave.

Dean Rd.

215th Ave.

Airport Rd.

207th Ave.

Tuthill Rd.

Jackrabbit Trail

195th Ave.

187th Ave.

Rainbow Valley Rd.

179th Ave.

Jecos Rd.

GOODYEAR
Williams Field Rd.

Ray Rd.

Arrington Rd.

Narramore Rd.

GOODYEAR

ETHIO

Rd.

Bellevue Rd.

Baselline Rd.

Citrus Rd.

Southern Ave.

Az. - 85

199th Ave

Perryville Rd.

Gila

Wash
Water

Canal

River

Buckeye

Canal

d) *Geology*

General geology within the Little Rainbow Valley Planning Area consists of sedimentary and metamorphic rocks. Sedimentary rocks (composed of silt, gravel, and conglomerate) are found in the planning area between the Sierra Estrella Mountains and the Buckeye Hills north to the planning area boundary. Metamorphic rocks (composed of granite gneiss) are found forming the surrounding mountains and hills.

e) *Visual Features*

The visual character of the Little Rainbow Valley Planning Area is dominated by views towards the Sierra Estrella Mountains to the east. Hills in the southern portion of the planning area screen views of Rainbow Valley to the south. However, from these hills, distant views of Rainbow Valley are possible.

f) *Air and Noise Quality*

Air quality is affected in a number of ways as a result of a variety of activities. Sources of air pollutants may be mobile or stationary.

One mobile source of air pollution results from motor vehicle use. Such vehicle-generated emissions include carbon monoxide, nitrogen oxides, and hydrocarbons. The pollutant of greatest concern is carbon monoxide because, under certain atmospheric and topographic conditions, concentrations may accumulate which are hazardous to health under prolonged exposure. Stationary sources of air pollution come from roads, agricultural fields, vacant lots, and construction sites where wind-borne particulates such as dust and microscopic debris originate. One pollutant which comes from both mobile and stationary sources is ozone.

While carbon monoxide and wind-borne particulates usually come from a known source, ozone originates from atmospheric chemical reactions between nitrogen oxides, hydrocarbons, and ultraviolet light.

For the Little Rainbow Valley Planning Area, measurable concentrations of pollutants are unavailable.

The effects of noise from airport and highway facilities are numerous. Noise, depending on the decibel level and the length of exposure, can affect health, disturb sleep, affect learning ability and task performance, and decrease property values. In addition, extended loud noise levels cause general community annoyance.

Luke Air Force Base and Phoenix-Litchfield Airport are located northeast of the planning area. However, no noise contours extend into the planning area.

Hydrology:

a) Surface Water

Flood control projects, located within the Little Rainbow Valley Planning Area, include the Salt-Gila Clearing Project and the Rainbow Valley Area Drainage Master Study (ADMS).

The Salt-Gila Clearing Project includes the removal of vegetation within a 1,000-foot-wide corridor to provide a clear drainage channel.

The County Flood Control District has implemented an Area Drainage Master Study (ADMS) program to analyze watersheds for areas experiencing local flooding following rainstorms. The Little Rainbow Valley Planning Area will be analyzed through two studies: the White Tanks-Agua Fria ADMS and the Little Rainbow Valley ADMS. Of the two, only the White Tanks Agua-Fria ADMS is near completion. The Rainbow Valley ADMS is scheduled to begin sometime between 1995 and 1998.

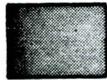
As illustrated on *Figure-3*, "Slope," the central and northern portions of the planning area are relatively flat with slopes between 0 and 2 percent. The eastern and southern portions of the planning area are hilly, with slopes ranging from 2 percent to greater than 15 percent, so periodic flooding occurs in washes.

One-hundred year floodplains, as designated by the Flood Insurance Administration and illustrated on *Figure-4*, "Surface Water," are limited to two areas. One area is along the Gila River in an approximate one-mile wide strip where the floodplain crosses the northern portion of the planning area. The second area is located along Waterman Wash in an approximate quarter mile wide strip where the floodplain crosses the planning area in a northwesterly direction to join the Gila River.

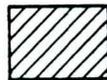
b) Groundwater

As illustrated on *Figure-5*, "Groundwater," the estimated amount of recoverable groundwater within the planning area ranges from less than 30,000 acre-feet per square mile (ac. ft./sq. mi.) to 60,000 ac ft./sq. mi. The overall relative amount of recoverable groundwater is comparable with most other areas of Maricopa County. Groundwater declines from 1964-1977 (as identified in the Phoenix Active Management Area management plan for 1980-1990) range from 25 to 35 feet. These declines are less than other decline zones within Maricopa County. Primary and secondary contaminates of local groundwater are illustrated on *Figure-6* and *Figure-7*.

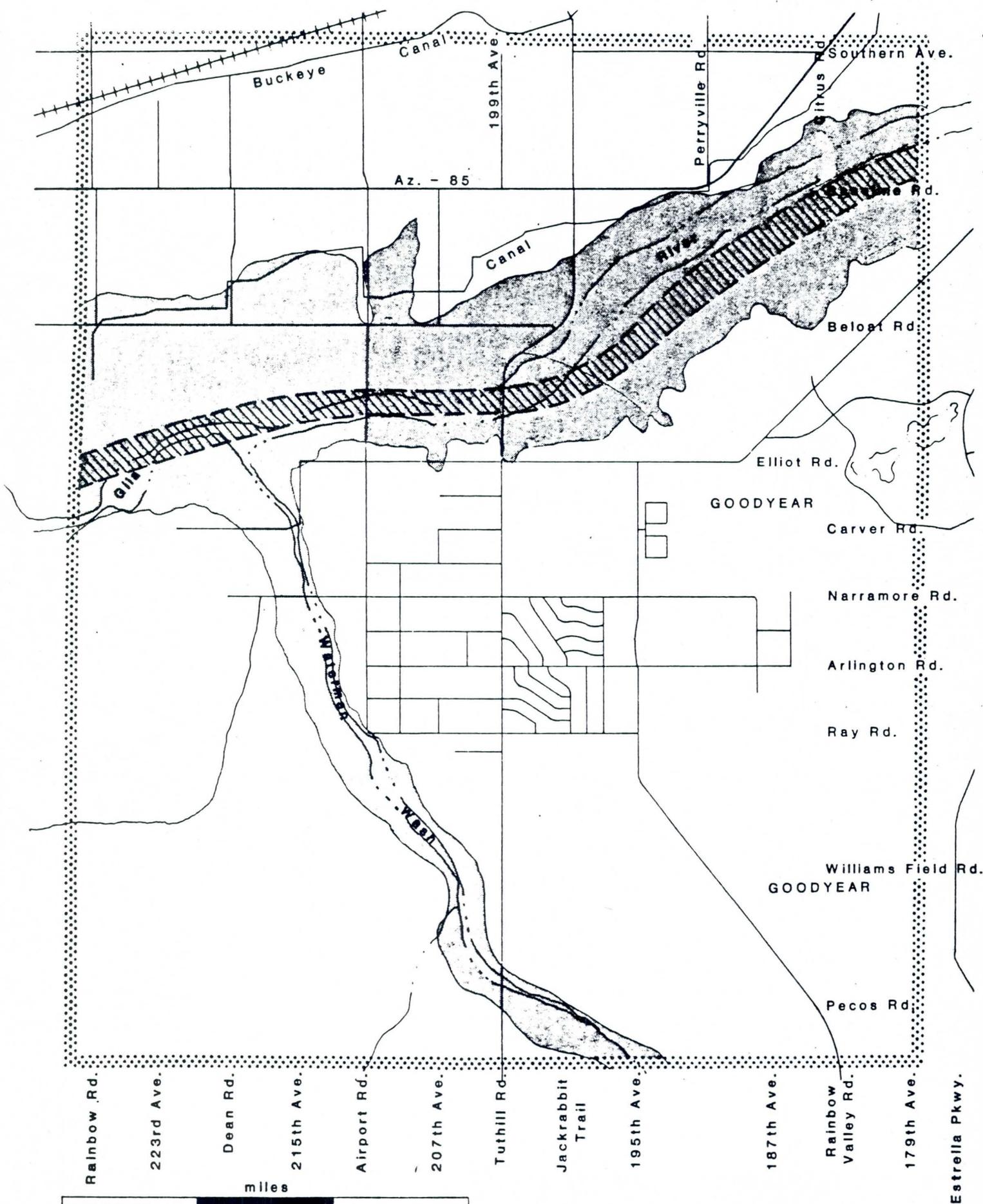
Categories



100 Year Floodplain



Flood Control Clearing

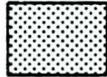


LITTLE RAINBOW VALLEY

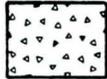
Recoverable Groundwater



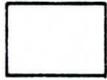
More than 60,000 Acre-Feet



30,000 - 60,000 Acre-Feet



Less than 30,000 Acre-Feet



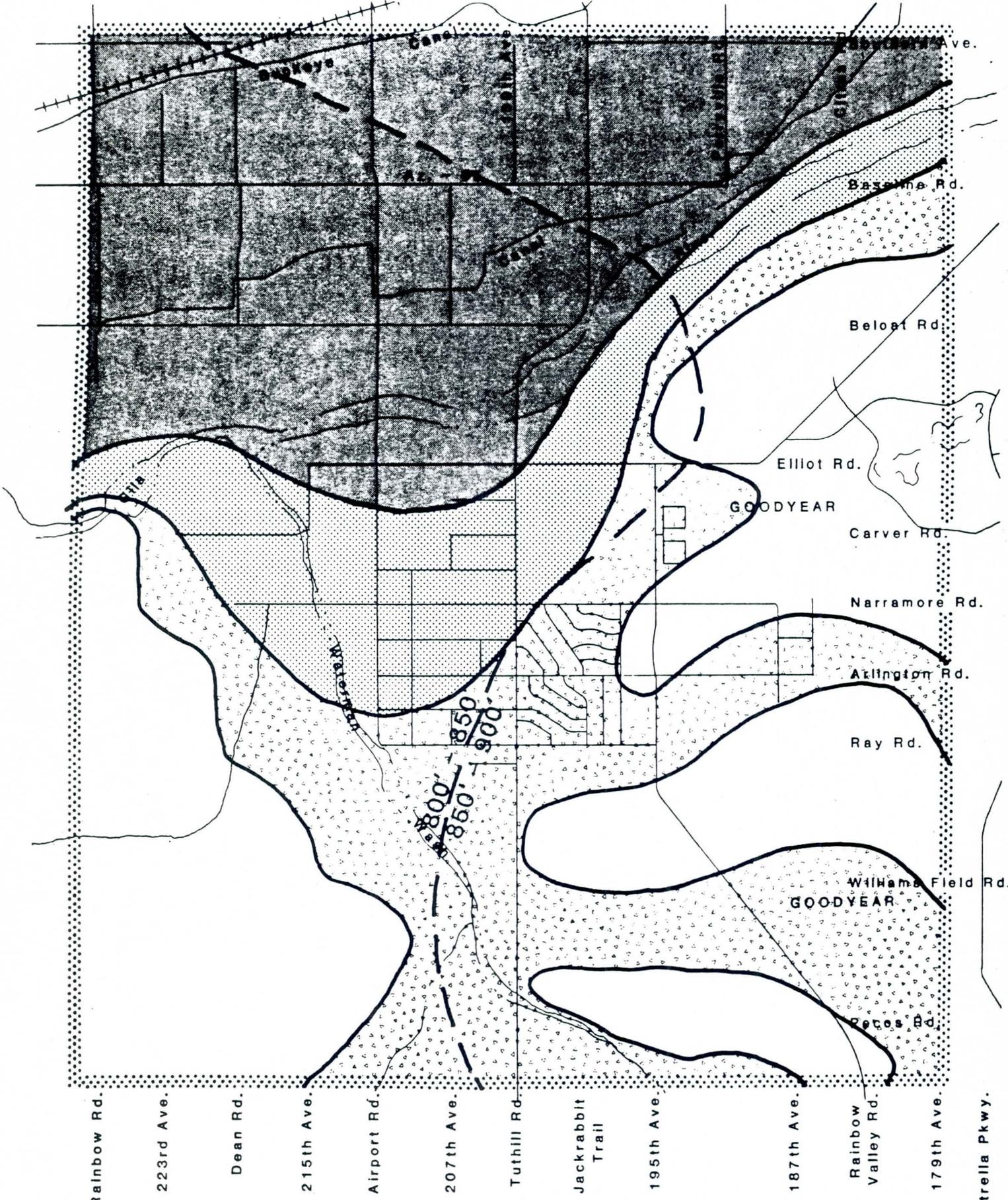
Rocks Containing Only Small Amounts

$\frac{800'}{850'} - \frac{850'}{900'}$

Depth to Water

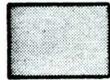
Little Rainbow Valley
Groundwater

5



LITTLE RAINBOW VALLEY

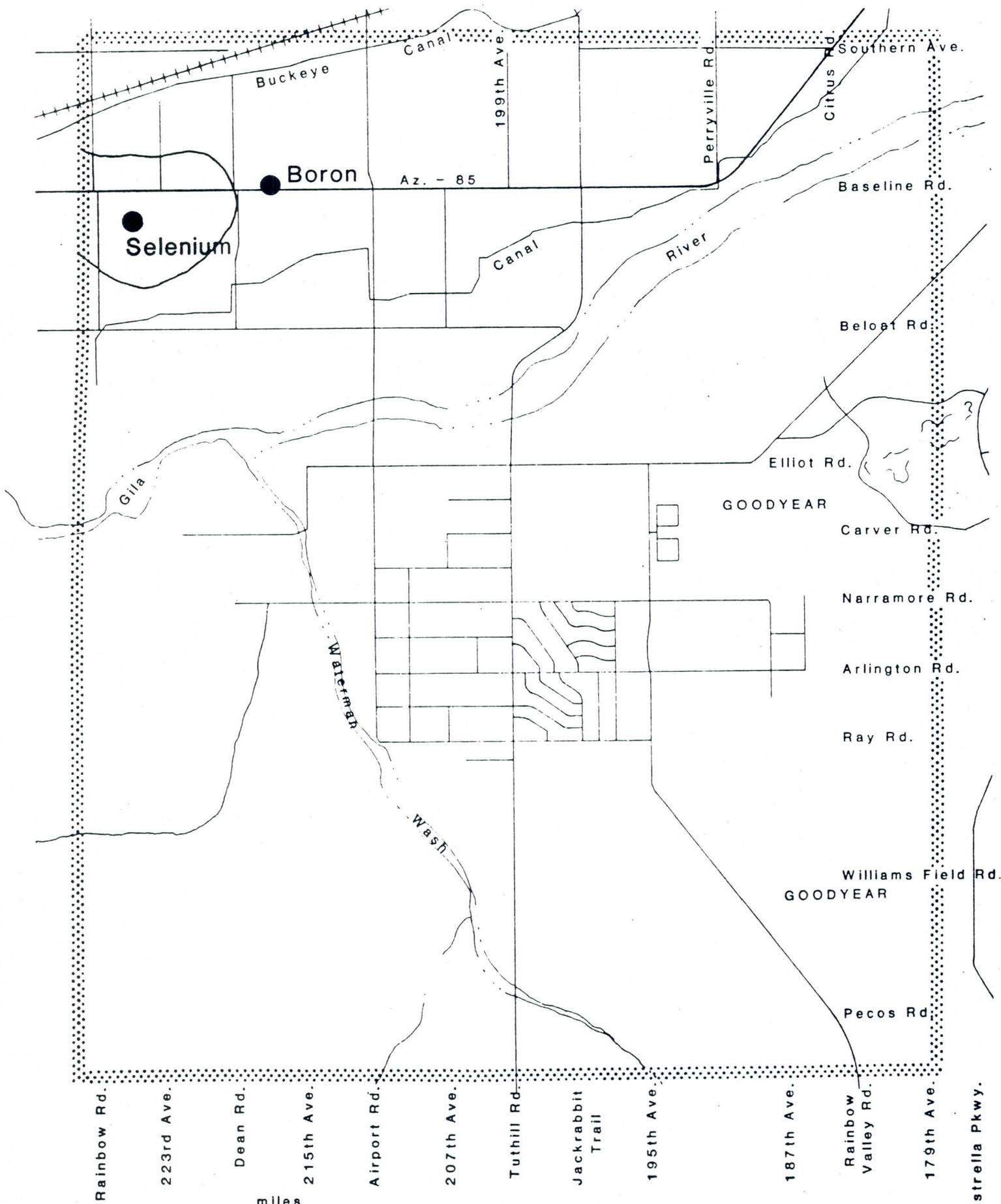
Categories



Nitrates Greater than 45mg/l

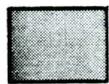


Metals

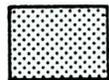


LITTLE RAINBOW VALLEY

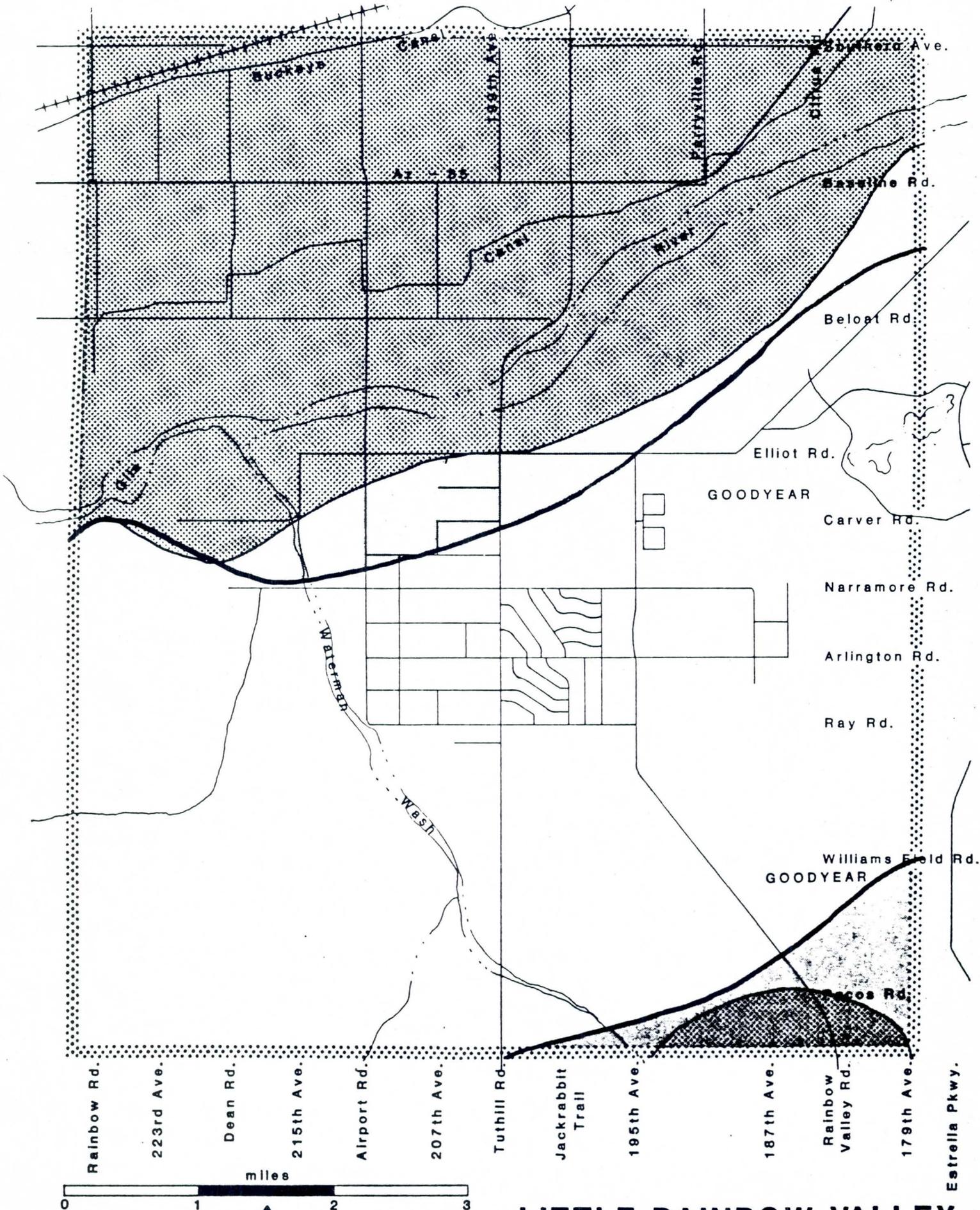
Categories



Total Dissolved Solids
Greater than 500mg/l



Sulfates
Greater than 250mg/l



LITTLE RAINBOW VALLEY

23

Vegetation and Wildlife:

This section of the Little Rainbow Valley Land Use Plan describes the natural vegetation and wildlife in the planning area.

a) Vegetation

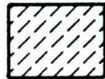
The Little Rainbow Valley Planning Area is located within the Sonoran Desert. Three native plant communities: Palo Verde-Saguaro, Creosote, and Deciduous Riparian, are found in the planning area. *Figure-8, "Vegetation,"* illustrates the locations of these three plant communities. The Palo Verde-Saguaro community is found in the undeveloped mountainous areas surrounding and within the planning area and is the most scenic of the Sonoran Desert Plant Communities. This community is composed of small trees such as the Palo Verde, Acacia, and Mesquite; shrubs such as Creosote, Bursage, and cacti including the Giant Saguaro, Fishhook, Hedgehog, Opuntia (Prickly Pear), and several other species.

Higher concentrations of trees and shrubs can be found along the local drainage ways of the area. As previously mentioned, the Palo Verde-Saguaro Community is the most scenic of the Sonoran Desert plant communities and highly popular for development. The soils, when disturbed, will usually be invaded by such plants as Desert Broom and some species of Mustard. Careful consideration should be given to all types of development so that their siting and design is consistent with the Palo Verde-Saguaro Plant Community in terms of building scale, density, and landscaping. If developed properly, the character of the Palo Verde-Saguaro Plant Community can be retained while allowing some development.

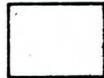
The Creosote Community is located in valleys and on the lower, more arid central portion of the planning area. The community is considered to be the least scenic of the Sonoran Desert plant communities. Creosote Bush is the dominant plant of this community which is transitional between the Palo Verde and Mesquite communities found along local drainage ways. This area is also moderately disturbed by development of mobile home lots, which predominate in this particular area of the plan.

The Riparian Community is found along the Gila River that bisects the northern portion of the planning area and Waterman Wash that runs north to the Gila River, bisecting the central western portion of the planning area. The highest concentration of Riparian habitat along Waterman Wash is found in the southernmost portion of the wash within the planning area. The Gila River drainage corridor and Waterman Wash drainage corridor areas are environmentally sensitive and should be considered for protection when development occurs. Also, some areas along these corridors should be designated for revegetation and habitat restoration.

Categories



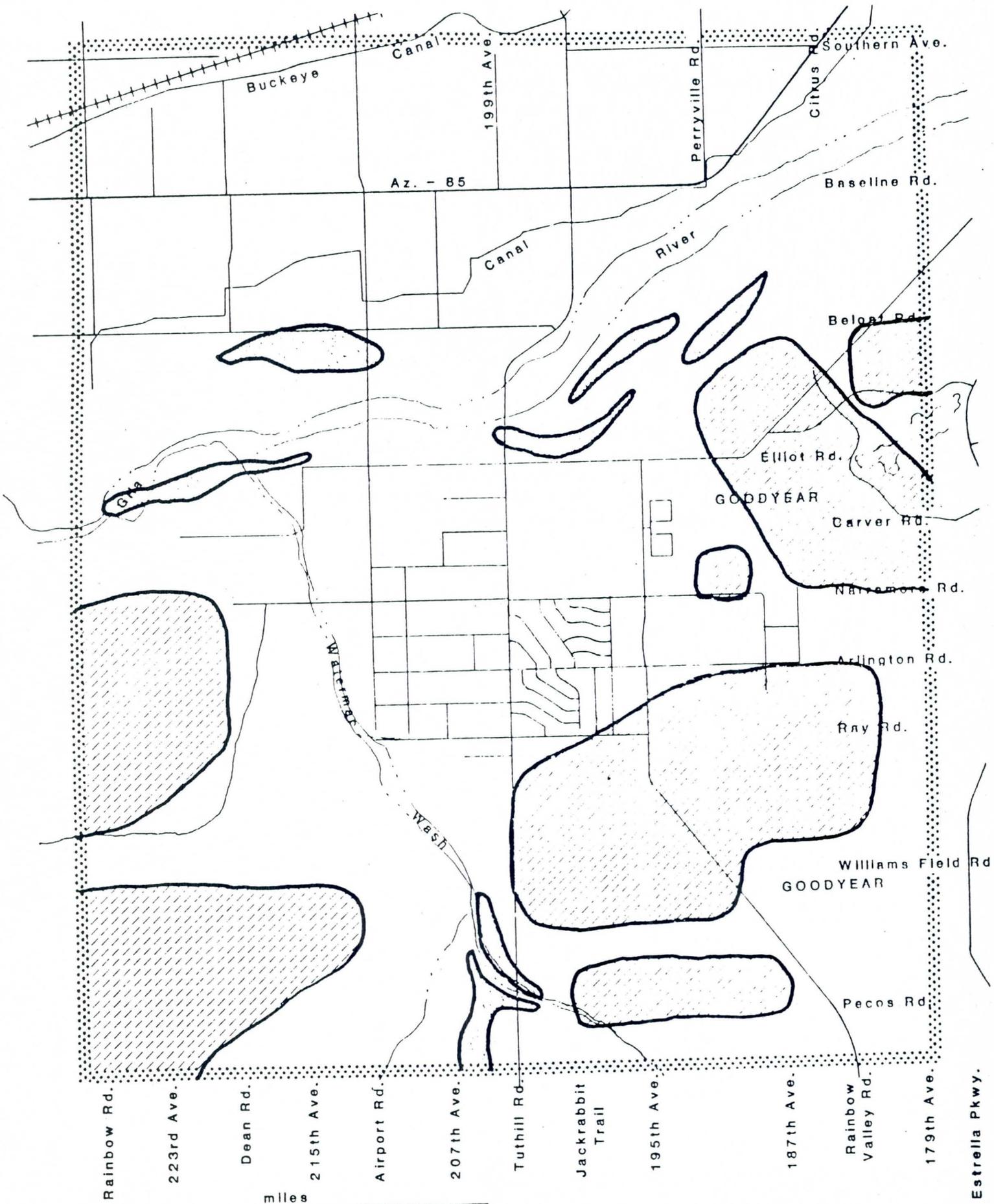
Palo Verde - Saguaro Community



Creosote Community



Riparian Forest



LITTLE RAINBOW VALLEY
26

The Riparian Community is concentrated along drainage channels and expands in areas of shallow groundwater. This community is generally composed of tall, dense stands of Mesquite, Catclaw, Desert Willow, Blue Palo Verde, changing to Walnut, Goodding Willow, Sycamore, Arizona Ash, Canyon Hackberry, and Cottonwood as soil moisture, content, elevation, and level of drainage increase. Salt Cedar, a historically introduced species, is also predominant in all areas of the Riparian Forest.

The Riparian Community is imbued with high scenic quality and is unique within the desert. These areas are especially important for the control of erosion and as habitat for wildlife that includes some endangered species. Due to the uniqueness of the Riparian Community, they should be preserved and not developed. Areas that have Riparian habitat should be revitalized.

There may be plants within these plant communities which, by law (Arizona Revised Statutes, Title 3, Chapter 7, Article 1), can only be moved from one location to another after applying for a state permit; regardless of ownership. For removal or destruction of protected species on private property, the Arizona State Agricultural and Horticultural Commission must be notified. The protected plants within this community are:

Cacti:

Barrel	Cholla	Saguaro	Mesa Verde
Beehive	Hedgehog	Prickly Pear (Opuntia)	
Night Blooming Cereus	Pin Cushion	Needle "Mulee"	

Trees and Shrubs:

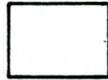
Agave (Century Plant)	Flannel Bush
Desert Holly	Ocotillo
Desert Spoon	Yucca

b) Wildlife

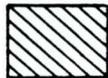
The Little Rainbow Valley Planning Area is composed of the typical Sonoran Desert habitat. The Sierra Estrella Mountains, Buckeye Hills, and the Gila River border the planning area. This encourages migration of larger animals from the unpopulated natural areas.

Three wildlife habitats, the Palo Verde-Saguaro, Creosote, and Riparian Communities, are found in the planning area. The Creosote and Palo Verde habitat compose the majority of the area. These are illustrated on *Figure-9 "Generalized Wildlife"*.

Categories



Gambel Quail – Primary Range



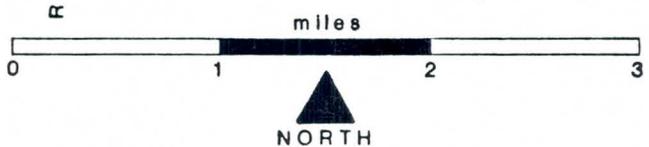
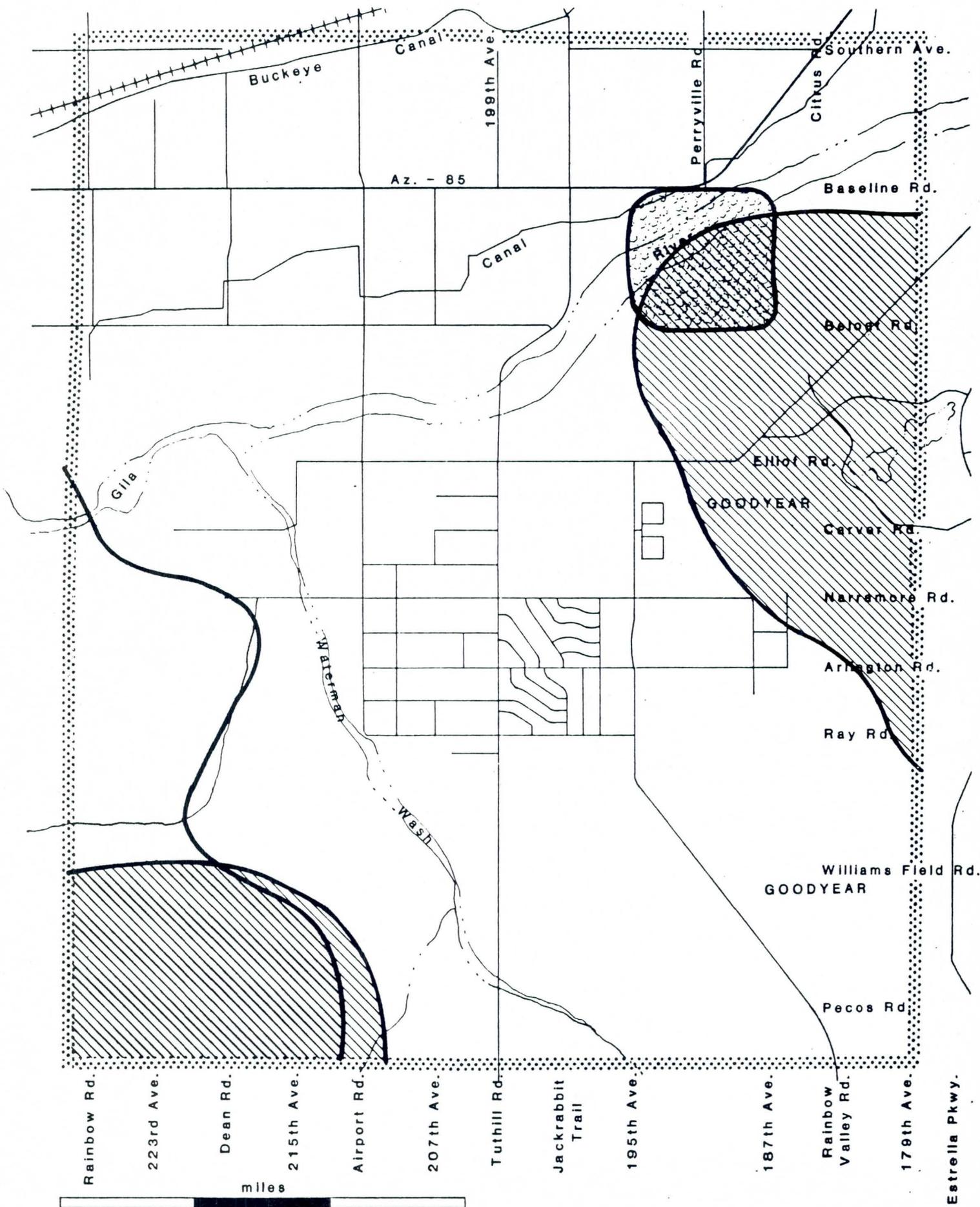
Gambel Quail – Secondary Range



Bighorn Sheep – 0.1–0.5/Square Mile



Desert Tortoise – Threatened Species Area



LITTLE RAINBOW VALLEY

In the southwest corner of the planning area is a sparse range of Desert Bighorn sheep with a density of 0.1 to 0.5 sheep per square mile. The entire planning area is considered a primary range for Gambel Quail, with the exception of the mountainous areas at the east central and southwestern corners of the planning area.

Within the desert habitats, higher concentrations of wildlife live along the local drainage ways and within the riparian habitats. These drainage corridors also function as movement corridors for the wildlife, including the larger animals such as mule deer.

Higher concentrations of birds live within the drainage ways. They include the White Wing Dove, Inca Dove, and the Peregrine Falcon. The riparian habitats are especially important breeding grounds within the desert. The Yuma Clapper Rail is state threatened and federally endangered. The Rail makes the Gila River its habitat and is very susceptible to channelization.

Many species of reptile are found within the Little Rainbow Valley Planning Area. Some of these desert species are the Whiptale Lizard, Gopher Snake, and Desert Horned Lizard. A unique community of Desert Tortoise has been surveyed and located by biologists of the Arizona Game and Fish Department with potential for finding additional populations within this planning area. This area is identified on *Figure-7*, as being south of Baseline Road at Perryville Road.

Several other rare or endangered wildlife species, such as the Bald Eagle, may be found in the planning area, especially within the riparian habitat.

High scenic quality, presence of endangered wildlife species and high sensitivity to development are characteristics of the Palo Verde-Saguaro habitat located in the mountainous areas bordering and within the planning area. To preserve this habitat, limited or no development should occur and limited recreational use and motor vehicle access should be considered for designated areas. Conservation and preservation of local drainage ways could also help provide some habitat preservation.

Additionally, the Gila River and Waterman Wash drainage corridors should be considered for protection from all development and portions of the area may be selected for revitalization including reforestation and habitat restoration.

Archaeology:

Arizona, and especially Maricopa County, has one of the highest concentrations of archaeological sites in the United States and possibly the world. *Figure-10*

summarizes known archaeological site frequency by U.S.G.S. quadrangles within and surrounding the study area. Detailed site locations are on file with the State Historic Preservation Office (SHPO) and may be confidentially examined on a project basis for the protection of the resource. To date, no systematic reconnaissance field survey of the County has been conducted; so we must assume that unreported cultural resources, including historic resources, exist within the study area.

Many prehistoric sites of Hohokam Indian Villages are located within the Little Rainbow Valley Planning Area. The largest and most important sites are the Van Liere site and the Morocco site. As formed at other important sites, numerous smaller villages are probably located around the larger villages.

Prior to development, an archaeological/historical review should be accomplished in order to determine the full archaeological potential.

Policy Implications:

This section, concerning natural resources, summarizes the key issues identified previously which should be addressed during the development of Little Rainbow Valley.

a) Physical Characteristics

Approximately 40 percent of the soils in the planning area are characterized by slow permeability which can limit the safe use of septic tanks.

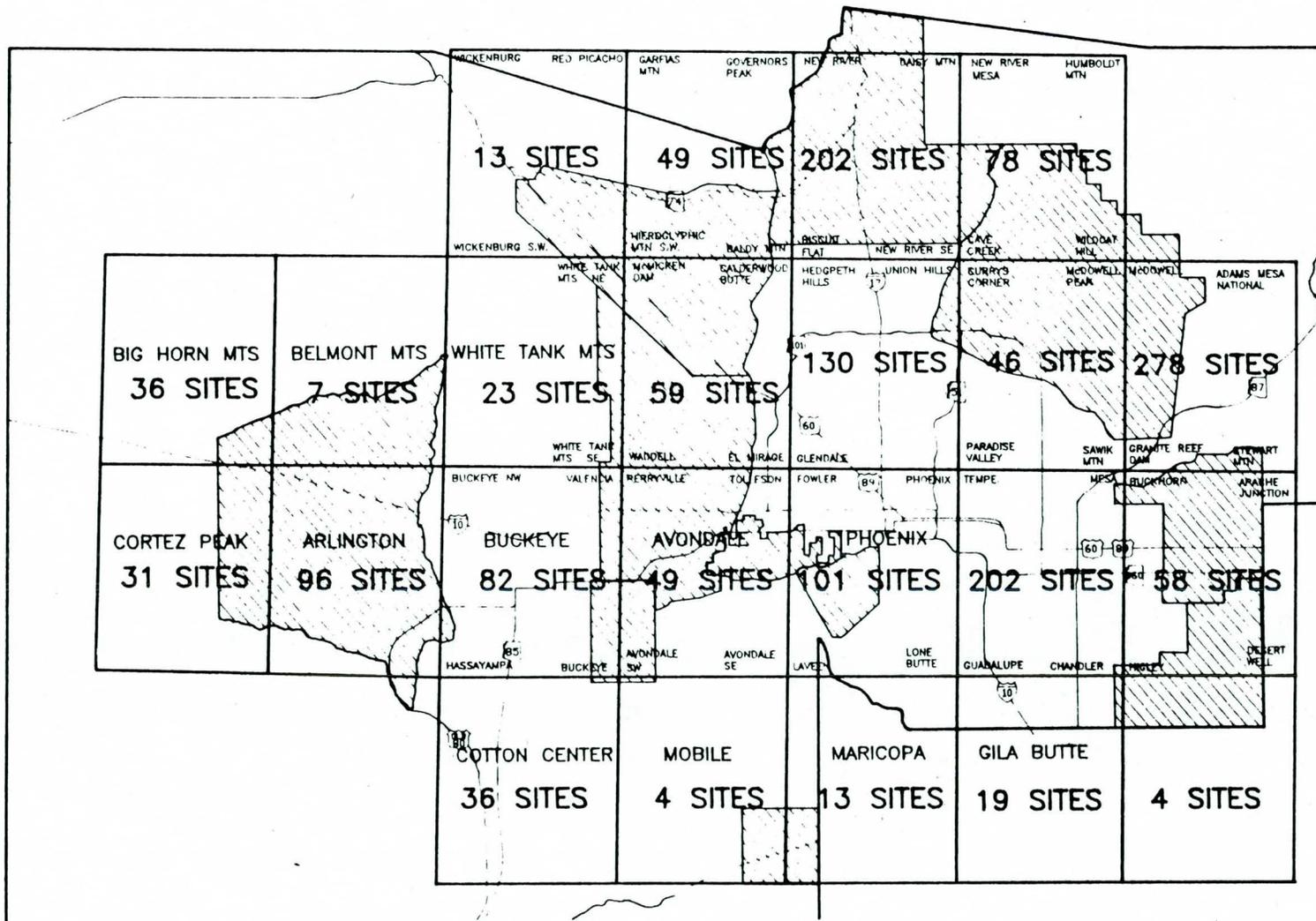
Slopes of greater than 15 percent exist in the Sierra Estrella Mountains to the east and in the Buckeye Hills to the west.

b) Hydrology

The Gila River and Waterman Wash are major drainage ways which run through the planning area. These should be preserved as open space.

c) Vegetation and Wildlife

Vegetation and wildlife habitats exist in the undeveloped areas of the Sierra Estrella Mountains to the east, the Buckeye Hills to the west, and along the Gila River. These habitats should be preserved.



Maricopa County
 Archaeological Site Frequency by U.S.G.S. Quadrangle

d) *Archaeology*

Several archaeological sites exist within the planning area. The two largest sites are the Van Liere site and the Morocco site. The historical value of these sites should be protected.

SOCIAL AND ECONOMIC CHARACTERISTICS

In describing the social and economic characteristics of the Little Rainbow Valley Planning Area, the following six sections are presented:

Population, Age, Sex, and Ethnic Composition;
Economic Characteristics;
Area-wide, Economy/Economic Base;
Residential, Commercial, and Industrial Demand;
Economic Base Potential; and
Policy Implications.

The purpose of this section of the Land Use Plan is to document population and economic characteristics, to examine existing economic conditions, and to present a population projection and associated development demands for the planning area.

Population, Age, Sex, and Ethnic Composition:

This section of the Little Rainbow Valley Land Use Plan highlights historic and projected population and housing unit data to the year 2010. Comparative 1985 and 1990 U.S. Census data is also reviewed for age, sex, and ethnic distributions for the planning area and Maricopa County populations.

The approximately 45-square mile Little Rainbow Valley Planning Area includes the unincorporated community of Little Rainbow Valley and portions of the City of Goodyear. (No population projections or land use designations are assigned to property not under County jurisdiction.) There are no other cities or towns in the planning area; except for a small amount of strip annexation by the Town of Buckeye.

Population projections for Little Rainbow Valley were based on linear regression models using 1970, 1980, 1985, and 1990 U. S. Census data for the planning area. Due to the relatively low population increase between those years and the overall decline in population growth for Maricopa County, a slight decrease of population for the planning area is shown on table 3 for the projected year 1995, as a result of this type of projection modeling.

In 1970, the planning area had an estimated population of 554. By 1980, the planning area population had increased by 38.8 percent to 769 persons. As shown in *Table-3*, the planning area's population increased 11.7 percent from 1980 to 859 in 1985. In 1990 the population increased 101 percent to 1,727 persons. Population is projected to increase from a 1990 base of 1,727 persons to 2,440 persons in 2010, an increase of 41 percent. In comparison, during the 1990-2010 period, Maricopa County's population is projected to increase by 54 percent.

In 1970, there were 168 households within the planning area, with an average of 3.3 persons per household. By 1990 there were 584 housing units with

2.95 persons per occupied unit. Housing unit data for resident population is provided in *Table-4* and *Table-5*.

Little Rainbow Valley has a greater number of persons per occupied housing unit than the County as a whole as noted in *Table-5*, and, also, a somewhat younger population as reflected in *Table-6*. The median age of the Little Rainbow Valley's population is 27.5, compared to a median age for the County of 29.7 years.

As illustrated in *Table-7*, the Little Rainbow Valley Planning Area has a higher concentration of non-white population than for Maricopa County as a whole.

Economic Characteristics:

Table-8 through *Table-10* provide income, education, and labor force characteristics of the planning area population in contrast to those of the County. As shown in *Table-8*, at \$14,714, median household income in the Little Rainbow Valley Planning Area is 17 percent less than the median income for Maricopa County. As would be expected with a lower household median income level, the planning area's median education level is also lower than the County average. This is illustrated in *Table-9*. As shown in *Table-10*, the Little Rainbow Valley Planning Area population has a lower labor force participation rate than for the County as a whole. *Table-11* indicates total employment in the Little Rainbow Valley Planning Area is projected to increase only slightly during the period 1985-2005.

Area-Wide Economy/Economic Base:

The economic base of this approximate 45-square mile planning area consists mainly of agricultural land use in the northern portion of the planning area. The remainder of the planning area consists of vast areas of vacant desert land. A large amount of this land is publicly owned by the government (Bureau of Land Management and the State).

Access to the planning area from the remainder of the Phoenix Metropolitan Area to the north and northeast is limited to an all weather bridge across the Gila River from Jackrabbit Trail to 203rd Avenue. In its far northern reaches, the planning area also contains small amounts of land strip annexed by the Town of Buckeye and the City of Goodyear. Along the eastern boundary, other areas have been completely annexed by the City of Goodyear.

At present, approximately 1,727 residents live in the Little Rainbow Valley Planning Area, of which it is estimated that 110 persons are employed by businesses within its boundaries. This employment is provided by a maximum of 12-15 businesses in the area, most of which are retail or agricultural related firms.

TABLE-3**Total Resident Population**

Area	Census 1985	Census 1990	1995	2000	2005	2010
Little Rainbow Valley	859	1,727	1,677	1,931	2,185	2,440
Maricopa County	1,837,954	2,122,101	2,504,254	2,693,024	2,981,794	3,270,564

TABLE-4**Total Resident Housing Units**

Area	Census 1985	Census 1990	1995	2000	2005	2010
Little Rainbow Valley	269	584	562	651	741	831
Maricopa County	866,186	952,041	1,194,944	1,398,585	1,602,226	1,805,867

TABLE-5**Persons Per Occupied Resident Housing Unit**

Area	Census 1985	Census 1990	1995	2000	2005	2010
Little Rainbow Valley	3.19	2.95	2.98	2.97	2.95	2.94
Maricopa County	2.12	2.23	2.01	1.93	1.86	1.81

Source: 1985 U.S. Special Census, 1990 U.S. Census and Maricopa County Department of Planning and Development.

TABLE-6

**Population Distribution by Age
and Sex in Percentages**

	Male	Female	Under 5	5-17	18-44	45-65	65+
Little Rainbow Valley	55.2	44.8	8.8	25.3	44.7	16.6	4.6
Maricopa County	49.6	50.4	7.8	21.3	41.5	17.4	12.0

Source: 1985 U.S. Special Census.

TABLE-7

Ethnic Composition in Percentages

Area	White	Black	Indian	Other	Spanish Heritage
Little Rainbow Valley	62.0	1.5	.5	15.1	20.8
Maricopa County	77.1	3.3	1.5	1.7	16.3

Source: 1990 U.S. Census.

TABLE-8

**Household Income Distribution
in Percentages and Median Income**

Area	Less Than \$7,500	\$7,500 14,999	15,000 24,999	25,000 34,000	35,000 & over	Median Income
Little Rainbow Valley	24.3	26.7	14.5	27.2	7.3	14,714
Maricopa County	17.4	24.1	27.9	16.8	13.8	17,728

Source: 1980 U.S. Census (Note: *Table-6* and table 8, 9 and 10 are based on data for one enumeration district which is somewhat larger than the planning area. The district had a population of 1,317 persons).

TABLE-9

**School Years Completed in Percentages
by Population 25 Years and Older, and by Median School Years**

Area	<u>Years Completed</u>					Median
	0-8	9-11	12	13-15	16+	
Little Rainbow Valley	23.8	23.3	28.3	13.6	11.0	12.1
Maricopa County	12.8	12.2	34.9	21.8	18.3	12.7

Source: 1980 U.S. Census

TABLE-10

Labor Force Characteristics of the Population

Area	Civilians 16 & Over	Civilian Labor Force	Employed	Unemployed Rate	Civilian Labor Force Partici- pation Rate
Little Rainbow Valley	914	523	478	6.8%	43.9%
Maricopa County	1,128,899	701,242	663,642	5.4%	62.1%

Source: 1980 U.S. Census.

TABLE-11**Total Employment and Retail Employment**

Area	Census 1985	Mid-Year 1990	Mid-Year 1995	Mid-Year 2000	Mid-Year 2005	Mid-Year 2010
TOTAL EMPLOYMENT						
Little Rainbow Valley	42	110	110	114	116	122
Maricopa County	905,786	1,027,007	1,219,907	1,453,731	1,667,757	1,893,732
RETAIL EMPLOYMENT						
Little Rainbow Valley	10	52	52	54	56	56
Maricopa County	164,366	239,720	283,273	339,456	422,847	472,607

Source: Maricopa Association of Governments' Transportation and Planning Office, 1989, for Maricopa County.

Residential, Commercial, and Industrial Demand:

Using County-wide averages and basing land use demand on projected population, the following calculations have been made for land absorption in the unincorporated portions of the Planning Area.

a) Residential Demand

Based on growth projections for the period 1985-2010, it is estimated that there will be demand for 831 housing units by the year 2010 (based on 1 dwelling unit per acre). Currently there is 760 acres of residential development within the Planning Area.

b) Commercial Demand

The prospects for commercial development within the Little Rainbow Valley Planning Area would appear to allow for additional commercial designation during the period 1985-2010. During this time, total population in the planning area is projected to increase to 2,440. This level of population growth would call for approximately 25 acres of commercial development. This is calculated using a ratio of 10.5 acres of commercial land use per 1,000 people. At present, approximately 5 acres of commercially zoned property exists in the planning area; however, only approximately 2 acres are being used commercially.

c) Industrial Demand

Based on the population projected for the planning area by the year 2010, 20 acres of industrial development will be required (using a ratio of 8 acres per 1,000 people). At present, there are about 45 acres of industrial with the remaining industrial uses under special use permits.

Economic Base Potential:

Because of its remoteness, the Little Rainbow Valley Planning Area's industrial economic base potential could remain largely unchanged. Its population is expected to increase by only 713 people over the period 1990-2010, and there is to be very slight growth in industrial land uses. However, in terms of commercial development, the potential exists for an increase. This, again, is based on ratios developed using County-wide data, and as such, may be optimistic.

Much of the development scenario depends upon what large landowners in the planning area choose to do. For example; American Continental Corporation, which controlled nearly 4,000 acres on the east edge of the planning area and another 8,000 acres adjacent to the planning area, prepared the Estrella Master Plan. Virtually every type of land use has been contemplated in this development (a variety of residential types, resort, retail commercial (mall), medical, office, and industrial).

Clearly, such a project would have major implications for the growth and development (the economic base) of the planning area. Planning projections prepared at this time would be dramatically altered. This area plan would also have to undergo revisions in the years ahead if such a major project is implemented.

Policy Implications:

In this section, social and economic issues are described and should be addressed as the County formulates the land use plan.

a) *Economic Base*

The County needs to determine the type, amount, and location of economic/employment growth.

b) *Residential Development*

Approximately 831 residential dwelling units are projected for the next 20 years. These dwelling units should comprise a wide range of differing residential types.

c) *Commercial and Industrial Development*

Twenty-five acres of commercial and 20 acres of industrial uses are projected to be required by the year 2010.

LAND USE AND ZONING

The description of the land use and zoning in the Little Rainbow Valley Planning Area is presented in the following six sections:

- General Pattern of Land Development
- Zoning
- Public Property Ownership
- Transportation
- Public Facilities and Utilities
- Policy Implications

The purpose of this section of the Little Rainbow Valley Land Use Plan is to document existing land uses and zoning regulations, to note public property ownership, and to describe transportation, public facilities, and utilities in the planning area.

General Pattern of Land Development:

Figure-11, "Generalized Existing Land Use," illustrates the generalized land use pattern within the planning area. As this map indicates, the majority of the area's developed land is located between Elliot Road and Ray Road. More than 50 percent of the entire planning area is either undeveloped or being used for agriculture. Several commercial activities are scattered throughout the planning area (principally along arterial streets; such as, Baseline Road and Rainbow Road) and serve immediate neighborhoods. Currently, one industrial development exists within the unincorporated area. This development is located at the southwest corner of Baseline Road and Airport Road. The northern portion of the planning area contains some of the prime agricultural land in the valley and has a long history of intensive agricultural use; predominately citrus, cotton, and alfalfa. The remaining portion of the planning area consists of undeveloped desert left in its natural state.

Zoning:

The majority of the Little Rainbow Valley Planning Area is zoned Rural-43, which allows one (1) dwelling unit per acre.

Maricopa County enforces a zoning ordinance to regulate land development. Established zones are described, in part, as follows and are distributed throughout the planning area as illustrated on **Figure-12, "Generalized Existing Zoning."**

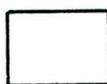
- | | |
|---------------------------------------|--|
| 1) Rural Zoning District (Rural-190): | Permitted Uses:

One dwelling unit per 190,000 square feet; agricultural activities |
| 2) Rural Zoning District (Rural-70): | Permitted Uses:

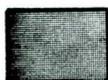
One dwelling unit per 70,000 square feet of site; agricultural activities |
| 3) Rural Zoning District (Rural-43): | Permitted Uses:

One dwelling unit per one (1) acre of site; agricultural activities |

Categories



Vacant



Agriculture



Developed



Incorporated

NORTH

44

LITTLE RAINBOW VALLEY



Rainbow Rd.
223rd Ave.
Dean Rd.
215th Ave.
Airport Rd.
207th Ave.
Tuthill Rd.
Jackrabbit Trail
195th Ave.
187th Ave.
Rainbow Valley Rd.
179th Ave.

Pecos Rd.

Williams Field Rd.
GOODYEAR

Ray Rd.

Arlington Rd.

Narramore Rd.

Carver Rd.

Elliot Rd.

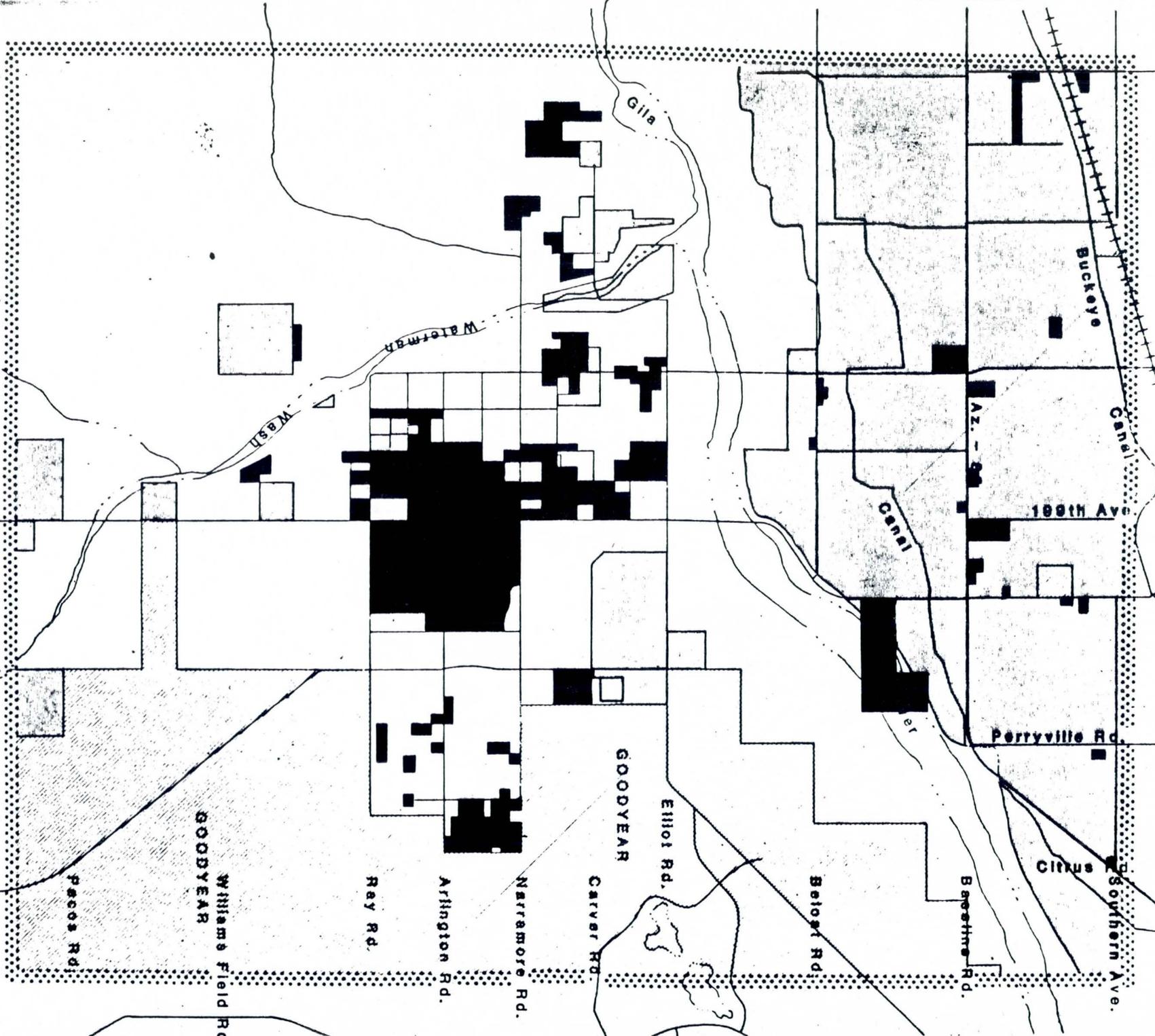
Belmont Rd.

Beehive Rd.

Perryville Rd.

Cirrus

Southern Ave.



Categories

 RR Rural Residential

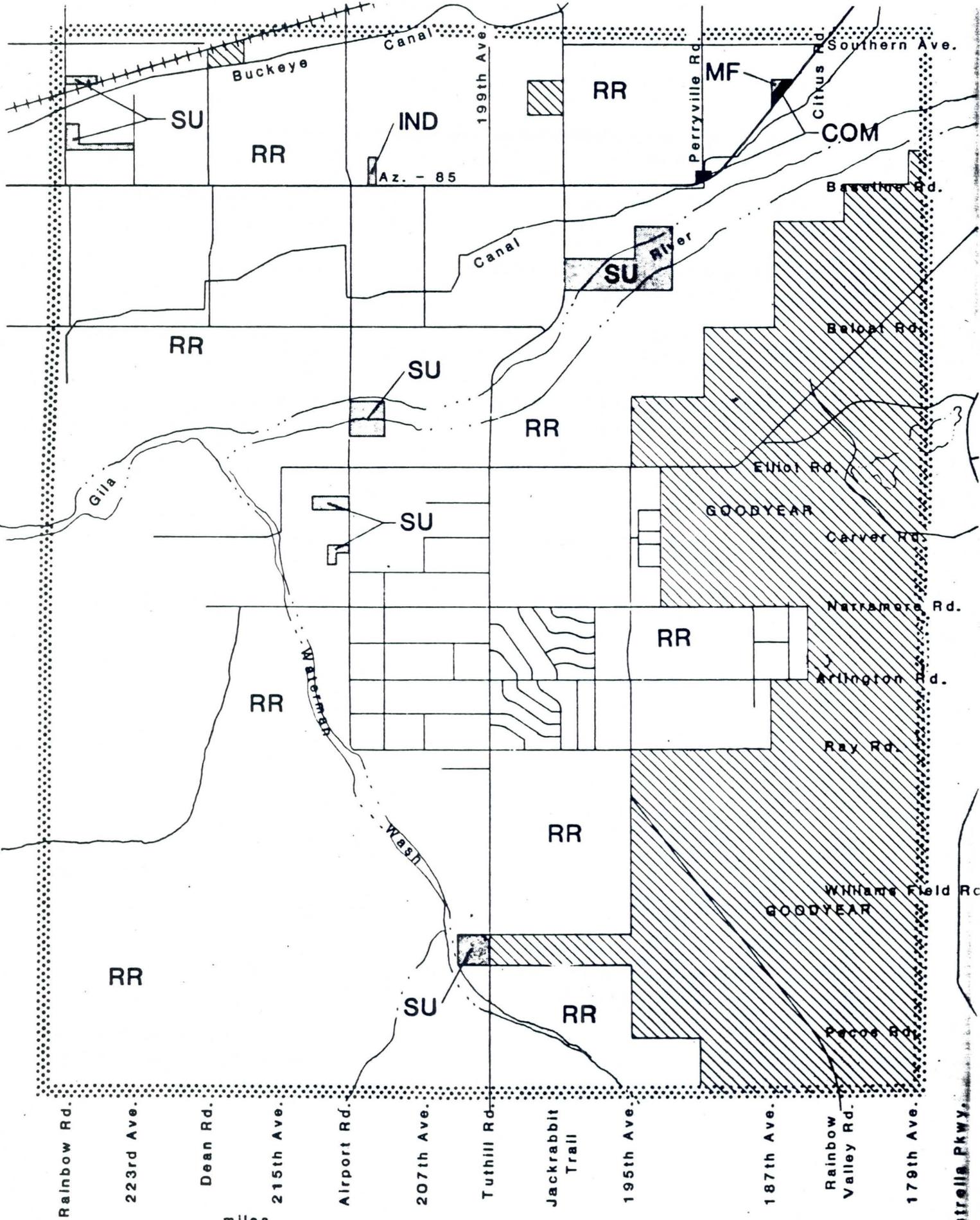
 MF Multi-Family

 COM Commercial

 IND Industrial

 SU Special Use

 Incorporated Areas



LITTLE RAINBOW VALLEY

- | | |
|---|--|
| 4) Single Family Residential Zoning District (R1-35): | Permitted Uses:

One dwelling unit per 35,000 square feet of site |
| 5) Single Family Residential Zoning District (R1-18): | Permitted Uses:

One dwelling unit per 18,000 square feet of site |
| 6) Single Family Residential Zoning District (R1-10): | Permitted Uses:

One dwelling unit per 10,000 square feet of site |
| 7) Single Family Residential Zoning District (R1-8): | Permitted Uses:

One dwelling unit per 8,000 square feet of site |
| 8) Single Family Residential Zoning District (R1-7): | Permitted Uses:

One dwelling unit per 7,000 square feet of site |
| 9) Single Family Residential Zoning District (R1-6): | Permitted Uses:

One dwelling unit per 6,000 square feet of site |
| 10) Limited Multi-Family Residential Zoning District (R-2): | Permitted Uses:

One dwelling unit per 4,000 square feet of site; multiple-family dwelling, two family dwellings |

- | | |
|--|---|
| 11) Multiple-Family Residential Zoning District (R-3): | Permitted Uses:

One dwelling unit per 3,000 square feet of site; multiple-family dwellings |
| 12) Multiple-Family Residential Zoning District (R-4): | Permitted Uses:

One dwelling unit per 2,000 square feet of site; multiple-family dwellings |
| 13) Multiple-Family Residential Zoning District (R-5): | Permitted Uses:

One dwelling unit per 1,000 square feet of site; multiple-family dwellings |
| 15) Commercial Office Zoning District (C-0): | Permitted Uses:

Professional, semi-professional and business office activities |
| 16) Neighborhood Commercial Zoning District (C-1): | Permitted Uses:

Food markets, drugstores and personal service shop activities |
| 17) Intermediate Commercial Zoning District (C-2): | Permitted Uses:

Hotels and motels, travel trailer parks, restaurants, and some commercial recreation and cultural facilities, such as movies and instruction art and music |
| 18) General Commercial Zoning District (C-3): | Permitted Uses:

Retail and wholesale commerce and commercial entertainment activities |

19) Planned Industrial Zoning District (Ind-1):

Permitted Uses:

Business and manufacturing activities with a development site plan approved by the Board of Supervisors

20) Light Industrial Zoning District (Ind-2):

Permitted Uses:

Light industrial activities with a development site plan approved by the Board of Supervisors

21) Heavy Industrial Zoning District (Ind-3):

Permitted Uses:

Heavy industrial activities with a developed site plan approved by the Board of Supervisors

In addition to the Zoning Districts listed above, Overlay Zoning Districts, Special Uses, and Unit Plans of Development are also established to allow development which protects the environment, provides alternative housing types, and promotes age specific residential areas. These include:

1) Hillside Development Standards (HD):

To allow the reasonable use and development of hillside areas while maintaining the character, identity, and image of the hillside area. These standards apply to development on slopes of 15 percent and greater.

2) Manufactured House Residential Overlay Zoning district (MHR):

To provide for housing which is similar to conventional on-site built housing in subdivisions or on individual lots where manufactured housing is appropriate.

3) Senior Citizen Overlay Zoning District (SC):

To provide for planned residential development designed specifically for residency by persons of advanced age.

4) Planned Development Overlay Zoning District (PD):

To establish a basic set of conceptual parameters for the development of land and supporting infrastructure, which is to be carried out and implemented by precise plans at the time of actual development.

5) Special Uses (SU)

To permit a class of uses that are otherwise prohibited by the Ordinance.

6) Unit Plans of Development (UPD)

To provide for large scale development where variations in lot size, dwelling type, and open space is warranted due to topographic or other considerations.

Public Land Ownership:

Figure-13, "Public Land Ownership," illustrates the public land ownership in the Little Rainbow Valley Planning Area. The public landowners in the area consist of:

Federal Government
State of Arizona
Maricopa County

Approximately 5,440 acres (8.5 square miles) of land located mostly in the southwest portion of the Little Rainbow Valley Planning Area is owned by the federal government (Bureau of Land Management). The majority of this land is undeveloped and is preserved in its natural state.

The Arizona State Land Department owns approximately 2,560 acres (four square miles) scattered throughout the Little Rainbow Valley Planning Area. The majority of the state land is located south of Ray Road. No proposed plans for future development of this land within this area exist.

Maricopa County owns approximately 5.53 acres in the planning area in which the former Arlington Park and the volunteer fire department are located.

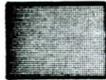
Transportation:

The existing and dedicated street/highway system is shown on **Figure-14**, "Existing Transportation Facilities." No major changes are anticipated to the

Categories



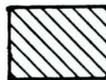
Federal



State



Maricopa County



Incorporated Areas



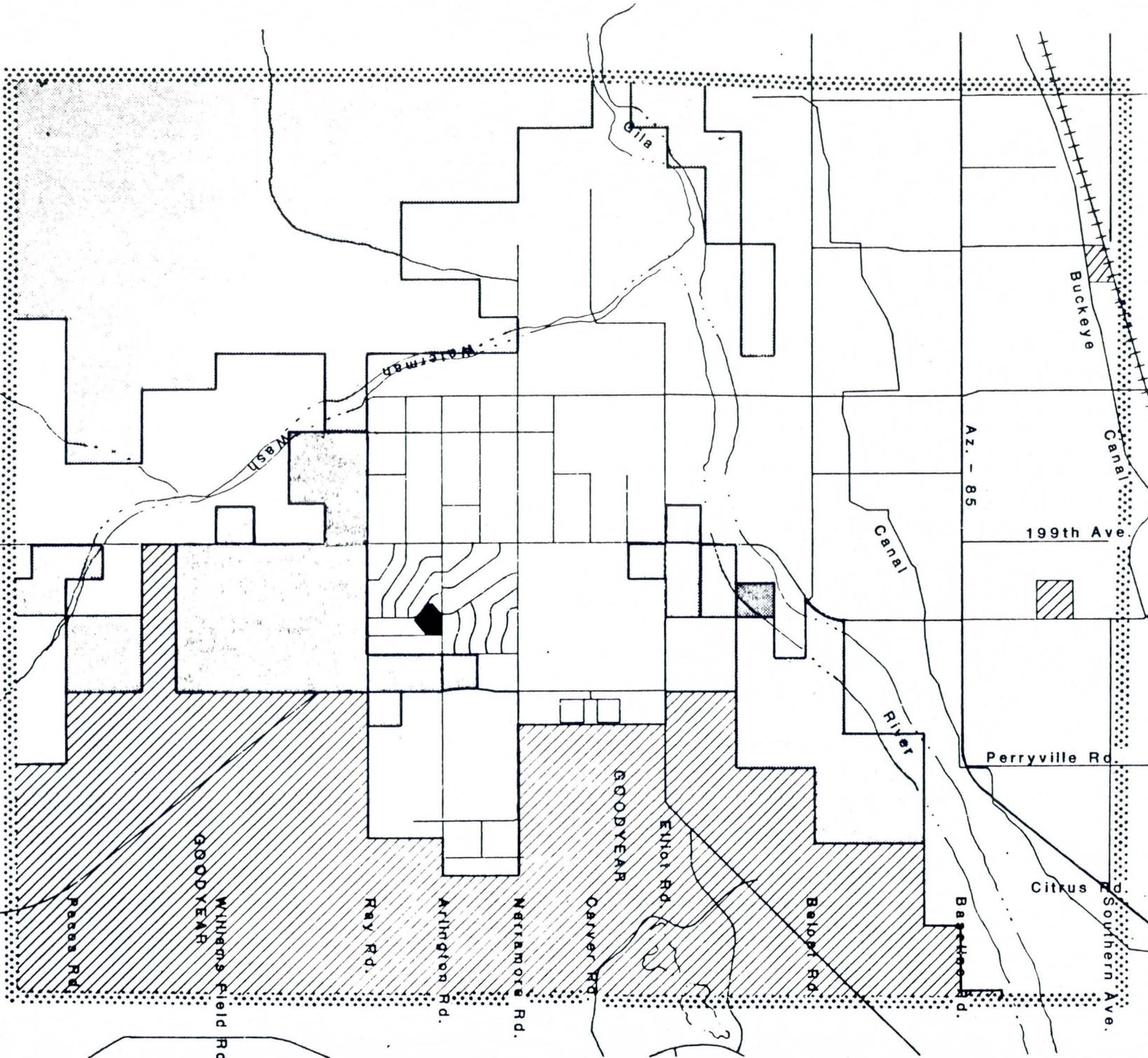
52

LITTLE RAINBOW VALLEY



Rainbow Rd.
223rd Ave.
Dean Rd.
215th Ave.
Airport Rd.
207th Ave.
Tuthill Rd.
Jackrabbit Trail
195th Ave.
187th Ave.
Rainbow Valley Rd.
179th Ave.

Estrella Pkwy.

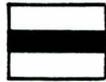


Az. - 85
199th Ave

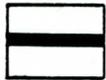
Perryville Rd.

Citrus
Southern Ave.

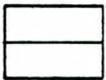
Categories



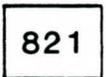
State Route



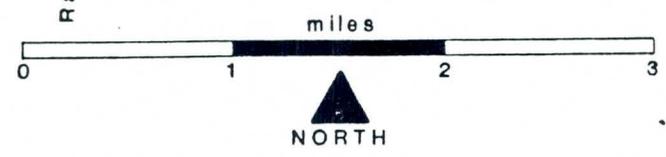
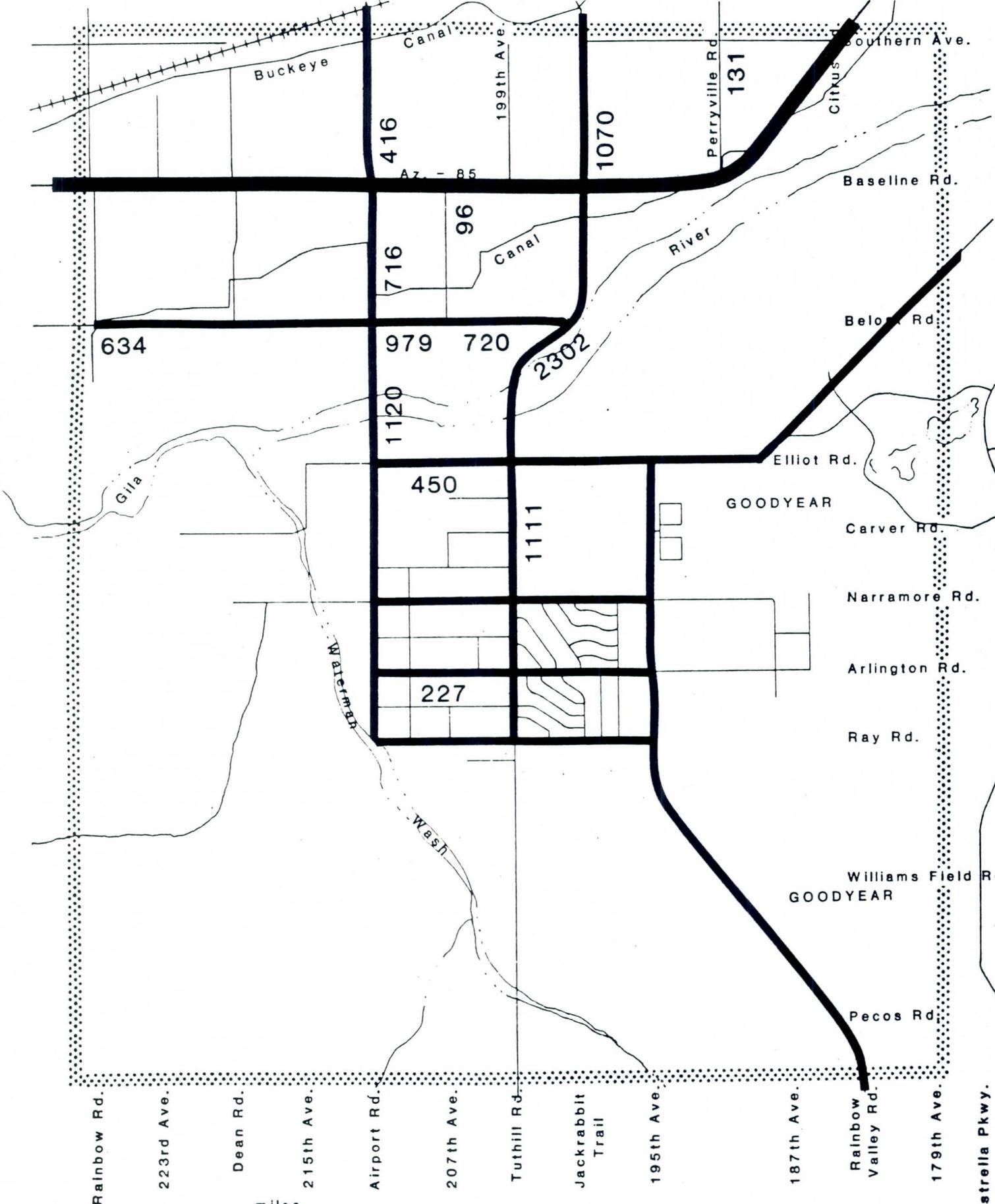
Arterial



County Road



Average Daily Traffic Count



LITTLE RAINBOW VALLEY

existing system in the Little Rainbow Valley Planning Area.

a) *Freeways/Expressways*

The nearest planned freeway route will be along Cotton Lane which is one mile north and east of the study area. Interstate-10 is located 5 miles north of the planning area.

b) *Principal Arterials and Arterial Streets*

Buckeye Road (State Route 85) is the principal arterial serving east-west traffic in the northern portion of the planning area. In the functional classification hierarchy of streets, principal arterials are at the top, serving through traffic for regional or inter-city travel. Buckeye Road is continuous to downtown Phoenix with connections to existing Freeways I-10 and I-17 and the proposed Cotton Lane, Outer Loop, and Southwest Loop freeway links. To the west, Buckeye Road serves the Town of Buckeye and to the south, Gila Bend and eventually connects with Interstate Highway 8.

Arterial streets provide traffic service for large areas. Access to adjacent property is a secondary function. The arterials shown on *Figure-14* include:

Rainbow Valley Road
Elliot Road
Tuthill Road/Jackrabbit Tail
Narramore Road

The first three of these roads provide access to communities beyond the planning area. When development occurs, additional arterials may be needed to provide adequate traffic service. Right-of-way is usually secured by Maricopa County by requiring adjacent property owners to dedicate 55 feet of their frontage from the centerline at the time of rezoning. This practice minimizes costly right-of-way purchases and, therefore, should be continued.

c) *Collector Streets*

Collector streets provide the connection between local streets (which provide property access) and arterial streets (which provide through traffic service). In the Little Rainbow Valley Planning Area, collectors include the rural roads at one-mile and half-mile intervals, such as 207th Avenue, Ray, Arlington, and Beloit Roads.

d) *Public Transit Service*

There is no public transit service to the planning area, due to low population density. However, car pool matching assistance is provided by Regional Ride-Share, a service of the Maricopa Association of Governments.

e) *Bicycle/Pedestrian Facilities*

There are no bicycle paths or sidewalks in this rural area. Adequate shoulder areas may be provided beyond the travel lanes of arterial and collector streets to safely accommodate bicycles and pedestrians until the area becomes urbanized. Narramore, Arlington, Rainbow Valley Roads, and 203rd Avenue are candidates for such shoulder treatments.

Public Facilities and Utilities:

The "Public Facilities and Utilities" section is an overview of the various public and semi-public utilities, public safety facilities, and semi-public facilities in the Little Rainbow Valley Planning Area. This section is presented in six sub-sections:

- Water Distribution System
- Sheriff's Department
- Fire Department
- Educational Facilities
- Public Safety
- Parks and Open Space

The purpose of this section is to inventory and document present conditions and use of the above community facilities and services. The assessment of the various community facilities and services presented is not intended to be an in-depth evaluation of their operations or programs; but, rather an overview of their physical plants in terms of how they can currently, and in the future, support increased development.

a) *Water Distribution System*

This section discusses the quality of water and its use, as well as the location of the water distribution system within the Little Rainbow Valley Planning Area.

Domestic Water Supply

Domestic water for portions of the Little Rainbow Valley Planning Area is supplied by the following water companies and is illustrated on *Figure-15*:

Grandview Rancheros Water Company, Inc.
Clearwater Utilities Company, Inc.

One hundred percent of the planning area's domestic water supply comes from the groundwater aquifers beneath the Little Rainbow Valley Planning Area and surrounding areas. The static water level in this area is approximately 45 feet with water being pumped from depths below 200 feet.

The quality of domestic water in the Little Rainbow Valley Planning Area appears to be very good and free of contamination according to water quality test results. Tests are run periodically, by the water companies, to test the quality of water being extracted from local wells. In addition to these tests, chemical analysis tests, as required by the State of Arizona, are conducted on a three-year basis.

Agricultural Water Supply

A limited amount of agricultural activity is located within the planning area. Most agricultural activity receives water distributed by the Buckeye Irrigation District, which purchases water from the City of Phoenix. Some agricultural areas in the northern portion of the planning area receive water distributed by the Roosevelt Irrigation District, which purchases water from Salt River Project.

Future Water Supply Alternatives

The water companies plan to activate unused wells and create new ones to provide a future water supply as the population grows.

b) Sanitary Sewer System

A sanitary sewer system does not exist.

c) Sheriff's Department

The Maricopa County Sheriff's Department main facility, located at 102 West Madison Street, in downtown Phoenix, serves the unincorporated areas in Maricopa County. Presently, the Buckeye substation, located at 612 West Monroe Street, Buckeye, serves the Little Rainbow Valley Planning Area. The substation is equipped with a holding facility for use until transportation is available to transfer prisoners to a jail.

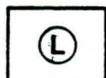
d) Fire Department

The fire department that provides service in the planning area is voluntary

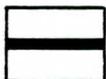
Categories



School



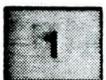
Solid Waste Treatment Facility



Major Utility Corridor



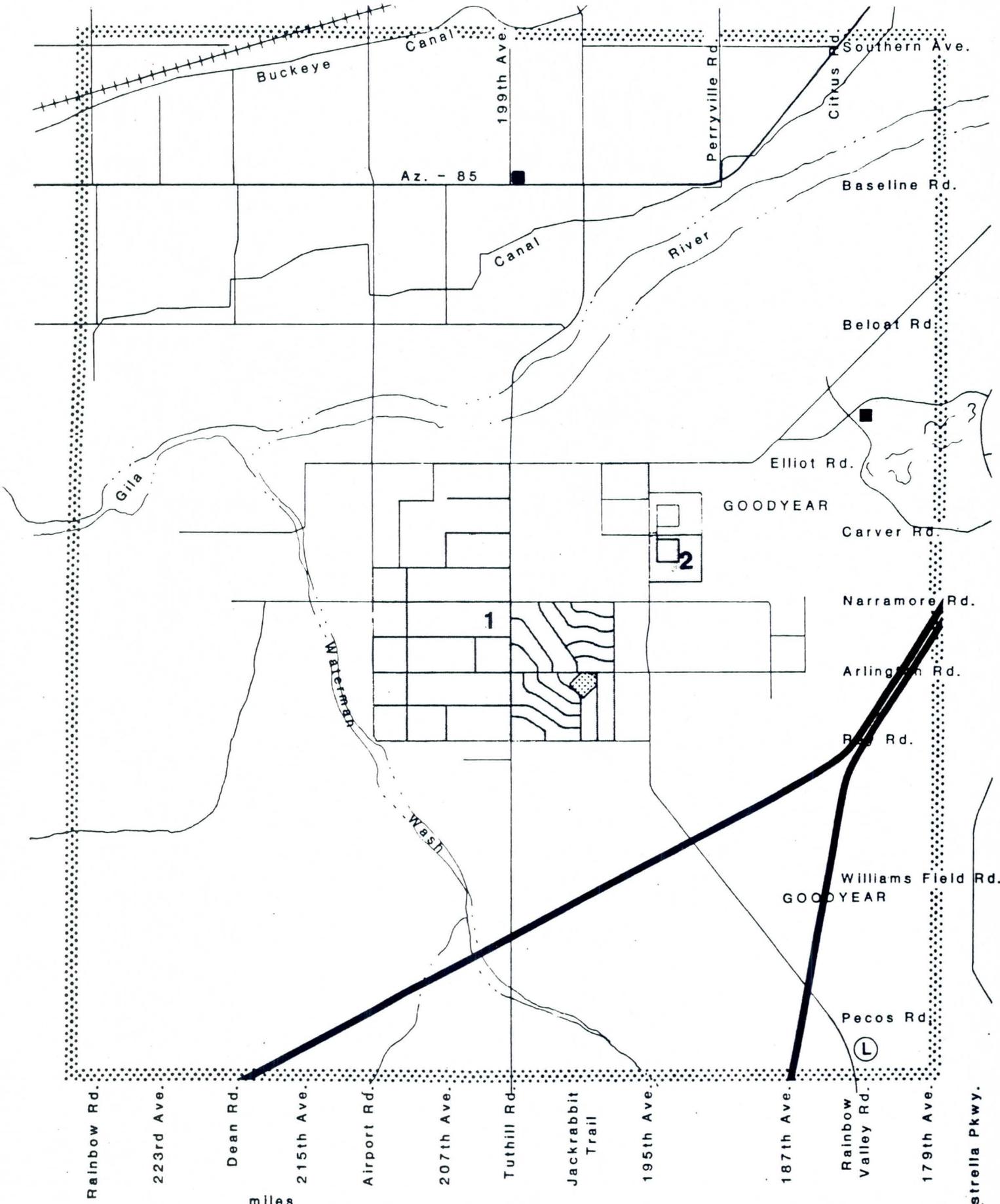
Park/Fire Department



Water Company Service Area

Water Companies

- 1 Clearwater Utilities Water Company, Inc.
- 2 Grandview Rancheros Water Company, Inc.



LITTLE RAINBOW VALLEY

and administered by the Buckeye Valley Volunteer Fire District. A facility is located at the southeast corner of Arlington Road and Hermit Road.

The fire station operates with a staff of seven volunteers. The facility is equipped with one (1) tanker. Six other fire departments (5 municipal departments and Rural/Metro Corp.) back up the fire department during a call, when necessary.

e) *Educational Facilities*

Liberty Elementary School District #25 operates two elementary schools, serving grades kindergarten through eighth grade in the Little Rainbow Valley Planning Area, as illustrated on *Figure-15*. Liberty Elementary, located at 199th Avenue and AZ-85, has a total enrollment of 650 students. In the future there will be a need for a third school due to the growth of the Estrella Community.

Liberty Elementary has been expanded with the construction of a new building which houses six classrooms and a science lab. Additional expansion is anticipated and there are plans for the purchase of additional land for another building. There are also long-range plans for the restoration of the original school building which was built in 1910. The Estrella Mountain Elementary School located at San Miguel and Elliott Road and is in its third year of operation has a total enrollment of 283 students.

The high school students in the planning area attend Buckeye Union High School in Buckeye.

f) *Public Safety*

The Arizona State Department of Public Safety operates out of the Phoenix Compound located at 2310 North 20th Avenue, Phoenix. The area office which serves the immediate Little Rainbow Valley Planning Area is located in Buckeye.

g) *Parks and Open Space*

Arlington Park, (also known as Dunivant Park), located near the southeast corner of Arlington Road and Kiva Road, is owned by the Maricopa County Parks Department. The park had extensive recreational facilities which have subsequently been destroyed by vandals. The Maricopa County Parks Department has removed the remnants for health and safety reasons and has decided to no longer maintain this site as a public park.

Location of Special Development Concerns:

There is only one area of special development concern. This area is along the Gila River and its tributaries. Special care must be taken to avoid having this area become over industrialized since most of the riverbank along the river is within the floodplain and not well suited to intense industrial use.

The consolidation of private parcels of land into large land holdings or the transfer of large holding of public land (state/federal) into private ownership will have serious impacts on land use plans and areas without land use plans. When such a holding is the subject of a Development Master Plan (DMP), population, housing, land use projections, and distribution for the area will change dramatically. The developer of such an area is going to have to demonstrate and verify how the DMP's projections will be attained and how they will impact the land use plan and the plan's projections set forth in the area plan. This type of holding is normally rural in nature, while a DMP is going to be urban in scale and use. To urbanize an area, a DMP will be required to establish urban level services; i.e., water, sewer, fire, and police protection and, if large enough, government. Water supply is the most restricting factor for a DMP. If an adequate water supply cannot be obtained, an urban project cannot be realized. Any owner/developer wishing to urbanize a rural area will have to address the aforementioned constraints before any large scale planning or development can occur.

Policy Implications:

a) General Pattern of Land Development

Development is most likely to occur along the eastern boundary of the planning area as the City of Goodyear continues to annex in this area. Development will also occur along the riverbed and Rainbow Valley Road.

b) Zoning

Maricopa County will enforce its zoning ordinance to regulate land development.

c) Public Property Ownership

The Bureau of Land Management and the Arizona State Land Department own over one-third of the planning area. State land can be developed through the Urban Lands Act.

d) **Transportation**

Once this area begins to grow, the transportation network will need to expand, using the existing grid system.

e) **Public Facilities and Utilities**

The County should discuss a plan for providing public facilities (fire, law enforcement, schools, parks, and open space, etc.) in certain areas and direct growth in those directions.

RESIDENT ISSUE IDENTIFICATION

The "Resident Identification" element of the *Little Rainbow Valley Land Use Plan* summarizes the major land development issues raised by the residents of the Little Rainbow Valley Planning Area.

LITTLE RAINBOW VALLEY ISSUE IDENTIFICATION WORKSHOP

On February 5, 1986, Little Rainbow Valley Community Issue Identification Workshops were held at Liberty Elementary School. Residents, business people, property owners, Maricopa County Planning and Zoning Commission members and the Maricopa County Board of Supervisors were invited to attend the workshops through the issuance of a workshop newsletter and coverage in the Buckeye Valley News prior to the workshop.

Approximately 50 people attended the workshop. Participants at the workshops identified specific issues and expressed general ideas they felt should be pursued to resolve their issues.

Twenty-nine total issues were identified in the areas of environment, land use, transportation, and public utilities. These issues were prioritized by the residents in terms of relative importance; each issue was rated as low, medium, or high. Twenty-one issues were rated as "high" in importance. These issues are shown in *Table-12*, "Little Rainbow Valley Resident Issue Identification."

On November 5, 1991 a public workshop was held at Liberty Elementary School to present the updated Little Rainbow Valley Land Use Plan. Public input on issues and concerns since the original adoption of the plan were received.

SUMMARY OF RESIDENT ISSUES

As the "Inventory and Analysis" document was prepared for the Little Rainbow Valley Land Use Plan, specific issues surfaced as a result of the extensive inventory documentation. Those issues correspond very closely to many issues identified at the Community Issue Identification Workshop. The issues include:

Environment

The residents of Little Rainbow Valley perceived the importance of preserving the natural environment, eliminating wood cutting (mesquite plants), and limiting the use of the public landfill to residents only.

Land Use

The residents of Little Rainbow Valley perceived maintaining the existing rural lifestyle by limiting residential development to one unit/acre density, maximum, and limiting industrial and commercial development to 5 acres,

Transportation

The residents of Little Rainbow Valley perceived that access to the Phoenix Valley across the Gila River by means of a bridge on Airport Road and Narramore Road is very important, along with paving heavily traveled dirt roads.

Public Utilities

The residents of Little Rainbow Valley perceived the need to improve the existing public utilities and services, but at the same time, decreasing the cost applied to the consumers and maintaining the use of septic tanks as their primary means of a sewer system.

Little Rainbow Valley Resident Issue Identification

Environment

Eliminate Wood Cutting (Mesquite)
Preserve Natural Environment
Use of Public Landfill by Residents Only

Land Use

No Industrial Development
No Commercial Development (Five acres on Master Plan only)
Major Commercial Located within Estrella
Maintain Existing Rural Lifestyle
No Annexation
Master Plan - Home Association
1 Unit/Acre Density, Maximum
Mobile Homes (West of Tuthill Road) 5 Acres Minimum
Preserve Agricultural Land (North of River)
No Hazardous Waste/Landfills
No Encroachment from Estrella Development (November 6, 1991)
No Use of property near Little Rainbow Valley as a landfill (November 6, 1991)

Transportation

Pave Dirt Roads
Keep Airport Road Open (Bridge)
Construct Bridge for Narramore Road

Public Utilities and Facilities

Improve Water Quality
Keep Septic Tanks
Need Better, Cheaper Utilities
Improve Law Enforcement
Closure of Arlington Park by Parks Department (November 6, 1991)
Relocate new park in planning area (November 6, 1991)

GOALS AND POLICIES

The formulation of a realistic and implementable land use plan for the *Little Rainbow Valley Planning Area* is predicated upon the definition of a set of comprehensive goals and policies. The land use "Goals and Policies" are presented in three subject areas:

Natural Resources
Socio-Economic Development
Land Use

The following are generalized definitions which should be referred to as a guide when reading this chapter of the Little Rainbow Valley Land Use Plan.

GOAL: A desired end which, if pursued over the long-term, will ultimately result in the attainment of a desired living environment.

POLICY A means to attain the established goals. Policies prescribe or represent a course of action.

The "Goals and Policies" are intended to set the stage for public and private actions geared to guide orderly and planned growth within the Little Rainbow Valley Planning Area and its fringe; promote high quality residential, commercial, and industrial development; and continue to improve and expand transportation and public facilities for the planning area.

Natural Resources

A. *Physical Characteristics*

GOAL: *Permit developments which are compatible with natural environmental features and which do not lead to their destruction.*

Policy A-1: Encourage compatible land use relationships with sources of excessive noise.

Policy A-2: Encourage land uses and development designs that are compatible with environmentally sensitive areas such as floodplains, hillsides, wildlife habitat, scenic areas, and unstable geologic and soil conditions.

Policy A-3: In order to minimize adverse impacts of hillside development, the submittal of land development applications which permit review on lands with slopes of 15 percent or greater should be encouraged.

B. Hydrology

GOAL: *Protect and preserve existing water resources and minimize flood hazards.*

Policy B-1: Encourage cooperation with the Flood Control District to minimize land development conflicts and achieve compatibility with the development and implementation of Area Drainage Master Studies and other relevant investigation.

Policy B-2: Limit the location of land uses, which rely on direct extraction of groundwater to where subsidence is neither an existing condition nor is projected to occur in the future.

Policy B-3: Support the regulation of land uses which are consistent with water conservation efforts mandated in the Arizona 1980 Groundwater Management Act or successor legislation.

Policy B-4: Encourage developments which maximize recharges of ground water supplies and utilize treated wastewater for water amenities and irrigation.

Policy B-5: Encourage the use of drought tolerant and low water consumptive landscape materials.

Policy B-6: Support Flood Control District policies and regulations on development within all floodplains of the County.

Policy B-7: Discourage the location of structures which would increase waterponding and sheetflow in areas of extremely flat land and areas susceptible to sheetflow.

C. Vegetation and Wildlife

GOAL: *Preserve existing habitat areas of threatened or endangered wildlife species.*

- Policy C-1: Encourage the protection of threatened and endangered species.
- Policy C-2: Support preservation practices in the Palo Verde-Saguaro Community.
- Policy C-3: Encourage the use of replacement vegetation that is primarily indigenous to the Palo Verde-Saguaro Community for land developments which disturb that community.
- Policy C-4: Encourage the preservation of riparian habitats.

D. Archaeology

GOAL: *Protect the County's historical and archaeological resources.*

- Policy D-1: Prior to development, excavation, or grading, require the submittal of a letter by the applicant from the Arizona Historical Preservation Office stating that the proposed land development will have no effect on historical and cultural resources.

Socio-Economic Development

A. Commercial/Industrial Development

GOAL: *Permit major commercial and job employment centers where the labor force and infrastructure exist or are expanding.*

GOAL: *In developments with densities greater than one dwelling unit per acre create a land use environment that generates a diversified economic base which fosters varied employment opportunities, and encourages business formation and expansion.*

- Policy A-1: Encourage commercial development when its demand can be justified and with the provision that construction will be completed on the proposed facilities within a specified time period.
- Policy A-2: Encourage industrial development on property zoned industrial prior to rezoning of additional property for industrial use.
- Policy A-3: Encourage commercial development in areas currently zoned for such activity, and in areas that are a portion of a large scale or planned development, provided that proposed acreage may be supported by on-site population.

- Policy A-4: In conjunction with any modification requiring building permit issuance, require existing industrial and commercial operations with salvage or storage yard activities to be screened from public view.
- Policy A-5: Require proposed industrial and commercial operations with salvage or storage yard activities to be screened from public view.
- Policy A-6: Discourage strip commercial development.

Land Use

A. Land Use

GOAL: *Create orderly, efficient, and functional development patterns.*

GOAL: *Create high quality residential, commercial, and industrial land developments that are compatible with adjacent land uses.*

- Policy A-1: Encourage residential developments within urban residential land use categories as a part of a planned community with a mixture of housing types and intensities.
- Policy A-2: Encourage the use of "planned developments" for suburban development projects which incorporate quality and cluster development.
- Policy A-3: Encourage the location of rural density residential development (less than one dwelling unit per acre) in areas where infrastructure to support higher density housing is lacking, and where natural environmental conditions suggest low intensity development.
- Policy A-4: Residential development at greater than one (1) unit per acre intensities are to be directed toward urbanizing portions of the County.
- Policy A-5: Encourage land developers to cooperate with residents, and homeowner's associations during any development review process for construction near the property holdings of those residents and homeowner's associations.
- Policy A-6: In addition to normal site plan review, development proposals along major streets, and adjacent to existing and approved land uses, will be reviewed to determine compatibility with those uses.

- Policy A-7: Discourage the location of commercial or industrial developments in locations specified for development with rural density land uses.
- Policy A-8: Encourage signage to be located on the site for which it pertains.
- Policy A-9: Large scale development applications which will greatly impact current population, housing, land use projections and distributions must be thoroughly considered with the effects noted on the current plan.

B. Transportation

GOAL: *Establish a circulation system that provides for the safe, convenient, and efficient movement of goods and people throughout Maricopa County.*

- Policy B-1: Support the Arizona Department of Transportation's efforts to improve existing regional transportation links and their planning and construction of new regional freeways and expressways.
- Policy B-2: Encourage the planning and construction of frontage roads adjacent to regional transportation links where needed to provide for safe, convenient and efficient movement of local traffic.
- Policy B-3: Support the continued maintenance of roadways and the paving of new and existing local roads consistent with adopted engineering and design standards.
- Policy B-4: Encourage the extension of local roadways only when needed to provide for the safe, convenient, and efficient movement of local traffic.
- Policy B-5: Support the County Highway Department's efforts to provide for all-weather travel over washes on County roads.
- Policy B-6: Encourage the location of drought tolerant landscaping along new and existing major roadways, thereby enhancing the visual character of public transportation routes.
- Policy B-7: Support the County Highway Department's efforts to obtain land dedications for roadways during rezoning and subdivision processes.

Policy B-8: Require the development of an arterial street system based upon the existing section line grid pattern unless, as part of approved developments, alternative arterial patterns are deemed superior or more appropriate.

C. Public Facilities and Utilities

GOAL: *Provide for a functional, efficient, and cost effective system of utilities, facilities, and services to serve County population and employment centers.*

Policy C-1: Continue to establish and maintain a system of park and recreational facilities to serve the residents of the County.

Policy C-2: Encourage the inclusion of private open space and recreational opportunities to meet the needs of occupants in new developments.

Policy C-3: Support public agency coordination to provide a balanced system of recreational opportunities in the County.

Policy C-4: Preserve natural drainageways as linear open space corridors leading to various water canals.

Policy C-5: Encourage canal utilization as multiple use trails for recreational purposes.

Policy C-6: Allow residential developments exceeding one-dwelling unit per acre only when a community water and sanitary sewer system can be provided.

D. GROWTH GUIDANCE

GOAL: *Provide sufficient public services for intensity of land use.*

GOAL: *Minimize conflicts between urban and rural land uses.*

Policy D-1: New urban land use development is to be in accordance with the Little Rainbow Valley Land Use Plan and respective land use categories.

Policy D-2: New urban development shall:

- 1) supply evidence of adequate supply of potable water,
- 2) provide for public wastewater treatment.

Policy D-3: New urban zoning shall be within one mile of existing urban development.

Policy D-4: New urban land use development shall identify sites for parks and schools. The following standards apply:

SPACE STANDARDS

<u>TYPE OF FACILITY</u>	<u>AMOUNT OF ACRES</u>
Neighborhood Park/Recreation Open Space Area	5 Acres\1000 People
Community Parks\Recreation Facilities	5 Acres\1000 People
Elementary School	3.1 Acres\1000 People
Junior High School	2.7 Acres\1000 People
Senior High School	1.9 Acres\1000 People

LOCATION STANDARD

<u>Neighborhood Park-</u>	To be located within 1\4 mile of all residential uses proposed for development (without arterial street bisecting).
<u>Community Park Recreation Facility-</u>	Should serve a population of approximately 20,000 people, be centrally located and within 1 to 1 1\2 miles of every home.
<u>Elementary School-</u>	To be located within 1\2 - 3\4 mile (without arterial street bisecting) of all residential uses proposed for development.
<u>Junior High School-</u>	To be located within 1 to 1 1\2 miles of all residential uses proposed for development.
<u>Senior High School-</u>	To be located within 5 miles of all residential uses proposed for development.

Policy D-5: New urban development shall provide evidence of adequate fire protection prior to rezoning the following standards apply:

- a) Four (4) minute response time
- b) 500 gallons per minute pressure rating
- c) Minimum two (2) engines able to respond

Policy D-6: New urban development shall have access to a four (4) lane improved arterial road (110 foot right-of-way)

LAND USE PLAN

This chapter of *Little Rainbow Valley Land Use Plan* identifies the intended use of the plan as a guide to future development. The plan's relationship to environmental protection, transportation, public facilities, and services is discussed. This discussion is presented in the following five sections:

Community Issues,
Planning Area Growth and Development Needs,
Land Use Plan,
Use of the Land Use Plan, and
Related Planning Elements.

COMMUNITY ISSUES

A number of land use issues were identified in the "Inventory and Analysis" section as a result of the data collection process and, most importantly, the community participation process. The major land use issues identified by the residents of the area included:

Prohibition of industrial development.
Placement of severe limitations on commercial development (keep most within the Estrella Community).
The desire to retain a rural lifestyle.
Maintenance of low density development.
Preservation of the natural environment.

A more detailed list of issues is presented in the "Inventory and Analysis" section.

PLANNING AREA GROWTH AND DEVELOPMENT NEEDS

Using the population projections presented in the "Inventory and Analysis" section, a reasonably accurate prediction of the amount of land needed for residential, commercial, and industrial development was prepared.

The estimated population of Little Rainbow Valley is expected to grow from a 1990 population of 1,727 persons in 584 housing units to a year 2010 population of 2440 persons in 831 housing units. As shown in *Table-13*, "Projected Resident Population and housing units, 1990-2010," this growth represents an average increase of over 40 percent in both population and housing units.

If residential development in Little Rainbow Valley takes place at an average density of one dwelling unit per acre (1 du/acre), approximately 831 acres of residentially developed land will be necessary by the year 2010. Approximately 760 acres of land have already been developed for residential use. Accordingly, 71 additional acres will be needed by the year 2010 to accommodate the anticipated demand.

In addition to the residential land needs, commercial and industrial land needs were calculated. As discussed in the "Inventory and Analysis" section and illustrated in *Table-14*, "Projected Land Use Demand," approximately 20 acres of additional commercial development is likely to be required to support the projected population. The amount of industrially zoned land appears sufficient to provide for the projected population.

TABLE-13**Projected Resident Population and Housing Units, 1990-2010**

	Census 1990	2000	2010	Total Increase	Percentage Increase
Population	1,727	1,931	2,440	713	41%
Housing Units	584	651	831	247	42%

TABLE-14**Projected Land Use Demand**

Land Use	Acres Needed	Acres Zoned/ Developed 1989	Additional Zoning Needed
Residential	831	760*	71
Commercial	25	5	20
Industrial	20	45	0

* Includes all residential zoning of greater density than Rural-43. Also includes all Rural-43 that has been subdivided.

LAND USE PLAN

The "Land Use Plan," illustrated in **Figure-16**, indicates the intended density and use of land for the different parts of the planning area. The plan does not reflect the intended zoning of individual parcels, but, generalizes desired future land uses.

The land use boundaries shown on the "Land Use Plan" are intended to represent natural or man-made demarcations where possible. Where such boundaries are not readily distinguishable, transitions may be allowed; provided the intent of the "Land Use Plan" is not violated. With proper buffering and site planning techniques, transitions may be allowed without diminishing the intended purpose of the "Land Use Plan."

Land Use Definitions

The following Land Use Definitions have been established to be used in understanding the "Land Use Plan." For each land use designated, the corresponding definition is to be used to assure consistent interpretation of the "Land Use Plan." (**NOTE: Definitions are only given for those Land Use Categories designated on the Little Rainbow Valley Land Use Plan.**)

Open Space, OS

The Open Space category denotes areas which would be best precluded from development except as open space and recreational areas. However, development of such environmentally sensitive areas as steep slopes and flood plains may be developed when in compliance with the Hillside Development Regulation Overlay District and Flood Plain Development Regulations. Additional uses in this category include parks, recreation areas, drainage ways, and scenic areas.

Residential

The "Land Use Categories" which permit residential development are divided into two areas based upon the availability of urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.). Those categories in which some or all of these services do not exist and are not anticipated to be provided have been defined as rural, while those categories in which these services exist, or are anticipated to be provided, have been defined as suburban and urban. Permitted uses in all residential use categories include schools and churches. Special attention to the location of these uses should be given with regard to access, traffic, and proximity to arterials.

Categories



OS

Open Space



RR

Rural Residential
(0-1 Dwelling Units/Acre)



CC

Convenience Commercial

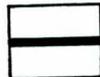


LIC

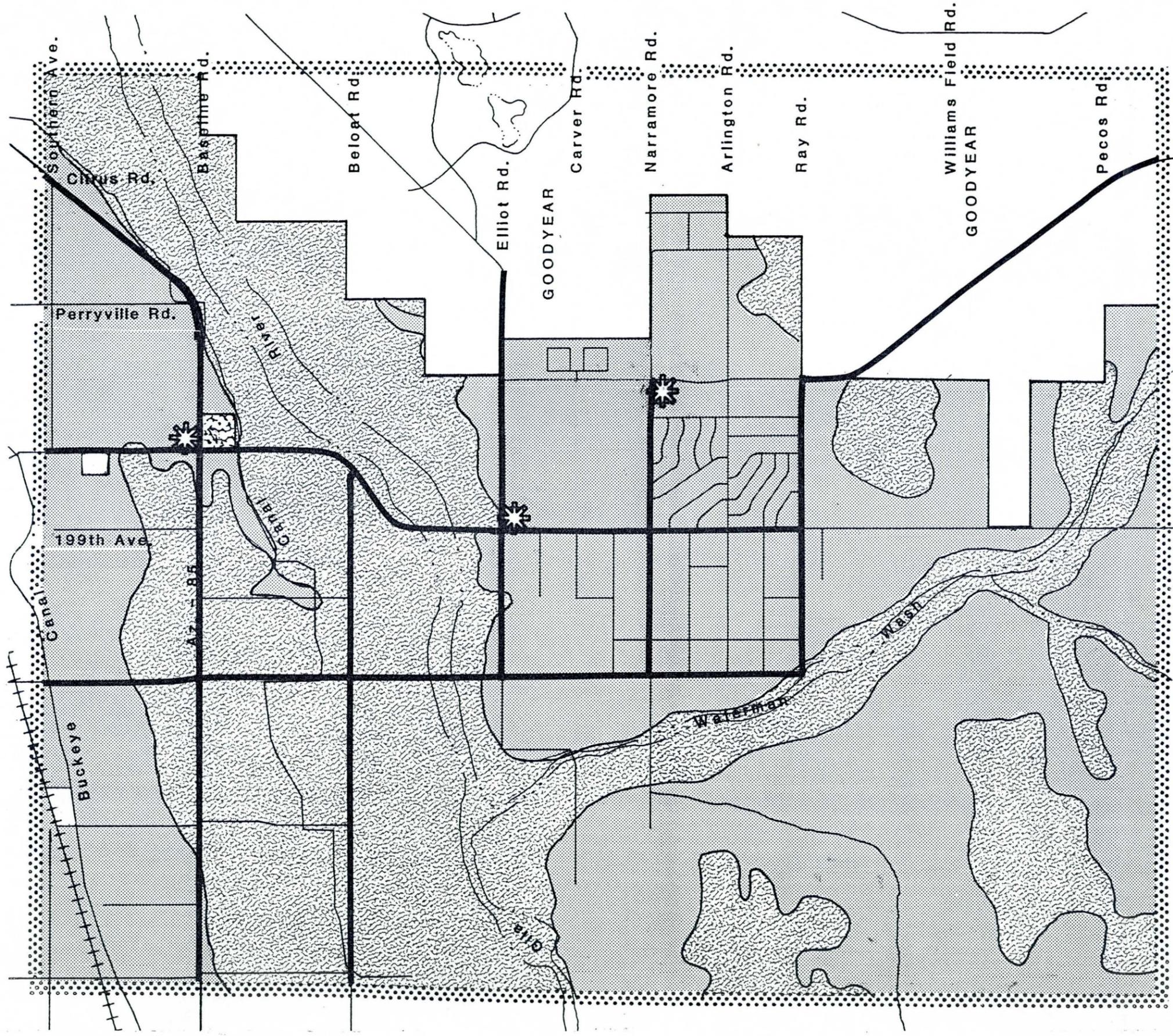
Light Industrial Center



Incorporated Areas



Principal Arterials



LITTLE RAINBOW VALLEY

79



- Estrella Pkwy.
- 179th Ave.
- Rainbow Valley Rd.
- 187th Ave.
- 195th Ave.
- Jackrabbit Trail
- Tuthill Rd.
- 207th Ave.
- Airport Rd.
- 215th Ave.
- Dean Rd.
- 223rd Ave
- Rainbow Rd.

Rural Residential/RR, (0-1.0 Dwelling Units per Acre)

The Rural Residential/High Density category denotes areas where single family residential development is desirable but urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.) are limited. Suitability is determined on the basis of location, access, existing land use patterns, and natural or man-made constraints. Within any particular development, densities greater than 1.0 du/acre may be permitted, but only if areas of lower densities off-set the increase such that an average of less than 1.0 du/acre is maintained. Uses in this category include agricultural and single family residential.

Commercial

Four "Land Use Categories" have been developed which permit different intensities of commercial activities. Direct frontage on arterial streets is an essential element for each category.

Convenience Commercial, CC

The Convenience Commercial category denotes areas for the location of small convenience shops and services for the benefit of local residents. This category permits developments of 1 acre or less. Convenience Commercial locations are designated in areas having a more rural character. Permitted uses in this category include gasoline stations, minor auto repair and maintenance, convenience food marts, barber shops, beauty shops, package liquor stores, laundromats, and eating and drinking establishments. Urban level services are not required; however, uses allowed should be appropriate for the services available.

Employment Centers

The Employment Center categories denote areas for the concentration of major employers. In recognition of the diverse nature of major employers, three categories have been developed which attempt to group uses by their impacts on the surrounding area.

Light Industrial Center, LIC

The Light Industrial Center category denotes areas for the location of major employment centers which would have greater impacts on surrounding areas than those uses in a Mixed Use Center. Uses permitted in this category would include warehousing, storage, wholesale distribution activities, limited manufacturing and assembly. Access to a principal arterial or freeway will be required. Very

limited noise, vibration, smoke, dust, odor, heat or glare will be permitted. Limited truck traffic will be allowed. Urban services are available or will be provided. A community sewer and water system will be required for development. All uses within this category are subject to plan review and approval.

TRANSPORTATION

Freeways and Principal Arterial Streets

Freeways and Principal Arterial Streets represent streets which will carry the majority of trips leaving and entering the planning area, represent the area's highest traffic volume corridors, and are the only streets designated on the future land use map. (Arterial and collector level streets may be developed, but are not illustrated on the plan.)

Land Use Development Patterns

Through the inventory and analysis of both natural and man-made features, the "Land Use Plan" was prepared. While the desired goals and policies formed the basis of the desired land use patterns for the area, the ultimate development pattern was tempered by recognition of existing development activities and patterns that had been established in the past. This included consideration for land uses and features outside the planning area which might positively or negatively impact the desired future development patterns within the planning area.

The following summarizes the "Land Use Plan" for the Little Rainbow Valley Planning Area, based upon eventual total development of the area.

Open Space

Much of the Little Rainbow Valley Planning Area is designated for use as open space. In an effort to emphasize the importance of promoting preservation of the area's scenic beauty and the existing rural lifestyle desired by the County, some lands held in public trusteeship are retained as open space. For much of the planning area this open space category is intended to protect the area's many mountain-sides where slopes exceed 15 percent as well as the areas' floodplains.

The "Land Use Plan's" intent is to encourage the maintenance of these areas as permanent open space due to the physical constraints. In the event, however, that development is allowed in these areas, the permitted uses should be in conformance with the underlying zoning (Rural 43). In addition, specific requests should be reviewed by the County to insure that adequate safeguards are implemented to mitigate any negative impacts associated with the proposed development.

Residential Development

The population projection for Little Rainbow Valley over the next 20 years shows a 713 person increase. Development activity in the nearby City of Goodyear may create pressure for increased development. This is particularly evident on the eastern edge of Little Rainbow Valley where a large master planned development (8,700 acres; 100,000 projected population) is being promoted.

Non-Residential Development

There is little likelihood that additional industrial development will occur in the planning area. Commercial and service oriented development will be needed and several designations for Convenience Commercial are shown.

Use of the Land Use Plan

Consistency in zoning for specific areas or parcels of land within the Little Rainbow Valley Planning Area must be evaluated in terms of overall furtherance of plan goals and policies. The following guidelines have been formulated to help insure that the intent and integrity of the "Land Use Plan" is retained over the life of its use. The "Land Use Guidelines" are presented in the following categories:

- Development Master Plans
- Residential Land Use Guidelines
- Commercial Land Use Guidelines
- Industrial Land Use Guidelines
- Buffering and Transitional Land Use Guidelines
- Amendments to the Land Use Plan

Development Master Plans

The use of Development Master Plans (DMP's) should be promoted by the County as a means of implementing the generalized land use identified on the *Land Use Plan Map*. The use of DMP's is intended to allow flexibility in the master planning of large tracts of land located outside of municipal boundaries. Master plans may be initiated by property owners and should have the following features:

Mixed-use development.

A separation of vehicular and pedestrian traffic which promote open space networks.

Dispersal of through traffic when practical and desirable.

A high level of integrated development design.

A mix of intensities which are transitional with spatial, structural, and visual buffers.

Residential Land Use Guidelines

The following guidelines shall aid in governing the development of land designated as residential in the "Land Use Plan."

1. Allowable Residential Densities:

Rural Residential/Low Density	0-0.2 du/acre
Rural Residential/High Density	0-1.0 du/acre
Suburban Residential	0-2.0 du/acre
Urban Residential/Very Low Density	0-4.0 du/acre
Urban Residential/Low Density	0-6.0 du/acre
Urban Residential/Medium Density	0-12.0 du/acre
Urban Residential/High Density	0-25.0 du/acre

Note: Residential densities within any given development project will be calculated based upon the gross acreage of the project.

2. Commercial uses are allowed by most of the residential categories.

In an effort to create quality neighborhoods in the Little Rainbow Valley Planning Area, retail and service commercial uses will be permitted as part of the planned development pattern. However, any commercial development must be sited and designed such that the activities present will not detrimentally affect adjacent residential neighborhoods. To this end, the following guidelines will influence the siting of commercial uses:

- a. Commercial uses will be located at the intersections of arterial streets. It is the County's intent not to permit the proliferation of commercial development at every arterial intersection; therefore, only major intersections will be considered for commercial development.

- b. Professional offices, retail, and service commercial uses may be permitted in neighborhood commercial centers, but only at a development scale compatible with adjacent residential development.

Commercial Land Use Guidelines

The following guidelines shall aid in governing all land use planning pertaining to the development of land designated as commercial:

1. Commercial activities in designated areas include appropriate service, retail, and professional office uses.
2. All commercial development should be landscaped utilizing consistent landscaping themes that will tie adjacent projects together. Landscaped easements along public right-of-ways using shrubs, trees, and/or earth berming will be provided and installed at the time of street construction. Signage should be controlled in terms of placement and maximum size.

Employment Center Land Use Guidelines

The following guidelines shall aid in governing all land use planning pertaining to the development of land designated as employment center on the "Land Use Plan."

1. Proposed uses must be appropriate for the type of employment center in which it is located.
2. Heavy industrial uses and warehousing activities should be located away from arterial streets, allowing garden-type light industrial and business park uses to buffer the general view of heavy industrial activities. Industrial development may also be required to landscape and/or to screen unattractive uses from public view.

Buffering and Transitional Land Use Guidelines

When any two different land use types are shown on the "Land Use Plan" or are approved as part of a Development Master Plan, buffering or a transitional land use between the two uses may be necessary. Buffering may consist of the placement of open space between two incompatible uses and will be required of the more intensive use where a less intensive use already exists, or where the "Land Use Plan" shows that a less intensive use is intended adjacent to the more intensive use. The use of transitional land uses consists of placing uses of intermediate intensity between two incompatible uses.

Situations necessitating transitional land uses may include:

- Low density, single family development adjacent to multi-family development.
- Single family development adjacent to commercial.

In cases where buffering is proposed, the following examples may be considered:

- Areas consisting of landscaped open space,
- Arterial and collector streets with landscaping,
- Major transmission line easements, if landscaped,
- Block walls, landscaping, earth berms, or
- Combinations of the above.

Amendments to the Land Use Plan

An amendment to this adopted plan may be filed with or without a rezoning request or Development Master Plan application. According to Article 28, Section 2809 of the Maricopa County Zoning Ordinance, "all applications for changes of Zoning District boundaries that include property which totals 40 acres or more in size must be in compliance with the County's Comprehensive Plan and/or adopted area plan".

Amendments to the plan should never be allowed to occur in a haphazard manner. Amendments should only occur after careful review of the request, findings of fact in support of the revision, and a public hearing. The statutory requirements which guided the adoption of the "Land Use Plan" will be followed for all amendments as they pertain to public hearings and otherwise. The term amendment will apply to both text and map revisions.

The findings of fact shall conclude that:

1. The amendment constitutes an overall improvement to the "Land Use Plan" and is not solely for the good or benefit of a particular landowner or owners at a particular point in time.
2. The amendment will not adversely impact the planning area as a whole or a portion of the planning area by:
 - a) Significantly altering acceptable land use patterns to the detriment of the plan.

- b) Requiring public expenditures for larger and more expensive public improvements to roads, sewer, or water systems than are needed to support the planned land uses.
 - c) Adversely impacting planned uses because of increased traffic.
 - d) Affecting the livability of the area or the health or safety of the residents.
 - e) Adversely impacting the natural environment or scenic quality of the area in contradiction to the plan.
3. The amendment is consistent with the overall intent of this "Land Use Plan."
 4. The extent to which the amendment is consistent with the specific goals and policies contained within the plan.

Amendments to the "Land Use Plan" may be initiated by the County or may be requested by private individuals or agencies. It shall be the burden of the party requesting the amendment to prove that the change constitutes an improvement to the plan. Conversely, it shall not be the burden of the County to prove that an amendment should be denied.

Related Planning Elements

Closely related to land use planning are the concerns for the protection of the natural environment and for facilities to support the desired land use patterns. This section briefly addresses the following elements as they relate to the "Land Use Plan."

Environmental Conservation
Transportation
Facilities and Services

Environmental Conservation

There are four general conditions within Maricopa County which deserve consideration of the application of environmental protection measures. These include floodplains and drainageways, mountainsides where slopes exceed 15 percent, areas within the Palo Verde-Saguaro Community and areas impacted by airport operations. Floodplains and drainageways require protection or restrictive development standards to minimize destruction of property during periods of flooding. Areas of steep slopes (greater than 15 percent) should be subjected to minimal development due to the potentially destructive nature of cut and fill operations that are often necessary for providing property access and building pads.

The Palo Verde-Saguaro Community represents the stereotypical desert environment and the natural beauty associated with arid landscapes. Although development can be compatible with Palo Verde-Saguaro Communities, it must usually be maintained at relatively low densities (not greater than 2.0 du/acre), and the developments must be sensitively designed so that the image of the Palo Verde-Saguaro Community is retained.

In many instances within Maricopa County, the Palo Verde-Saguaro Community exists in or near areas of steep slopes. Therefore, development restraints that are intended for either steep slope or Palo Verde-Saguaro Communities will be compatible with the other situation.

Many of the areas of steep slopes within the Little Rainbow Valley area exist on publicly owned land. As the first step in the process of preserving the scenic natural environment of Maricopa County, some lands in public ownership have been designated as open space. As such, the lands will either be retained as open space or, if there is pressure for development of certain lands, amendments to the "Land Use Plans" must be made prior to approving development. The amendment process can then include preparation of a Development Master Plan which can be approved under terms that will assure environmentally sensitive design.

Transportation

The Little Rainbow Valley Land Use Plan illustrates several principal arterial streets, including Jackrabbit Trail, Tuthill Road, Rainbow Valley Road, Baseline Road, and Elliot Road. The principal arterial streets will carry the majority of trips into and out of the area. Other streets will certainly be necessary as the area develops. Although minor level arterial streets are not depicted, the County will continue its policy of requiring the standard 110-foot right-of-way for all section line (arterial) roadways; unless, as part of a planned development, an equally efficient transportation system is adopted. In such a case, the County will require 110 feet of right-of-way or greater for the street or streets that were approved to substitute for the section line roads.

Collector and local level streets will make up the remainder of the vehicular transportation system, with collector streets being generally located on or near the half-section lines. An adequate collector system will be necessary to help relieve potential congestion on the arterial streets. In the Little Rainbow Valley Planning Area, if the densities established on the "Land Use Plan" west of Tuthill Road and south of the Gila River are maintained, most streets, other than arterials, can be developed as local streets.

In addition to providing collector streets to relieve arterial street congestion, careful consideration should be given to access onto arterial streets. Arterial streets should be intended to primarily move traffic. A multitude of access points along an arterial street, particularly in commercial areas, will severely restrict traffic flow and traffic volumes. *Table-15* illustrates the general design principles of the arterial-collector-local street system. When reviewing development requests, each street's intended function and the function's relationship to access control should be considered. *Table-16* provides recommended minimum driveway spacing to insure proper street function. The driveway spacings do represent minimums, and additional spacing may be necessary under certain circumstances.

Serious consideration should be given to minimizing the proliferation of commercial intersections. Linear or "strip" commercial development along arterial streets should be prohibited; unless, extreme control over access is obtained (and design of the individual enterprises is compatible). For arterial streets adjacent to residential development, reverse fronting lots should be provided, so that direct access to arterial streets, from individual driveways, is eliminated.

Facilities and Services

For much of the development within the Little Rainbow Valley Planning Area, a full compliment of facilities and services will not be required and is usually not expected by the prospective resident, with the exception of park and recreation, law enforcement, and fire protection services. This situation will generally apply to developments where densities remain less than 1.0 du/acre as in the Rural Residential categories. However, the County will be faced with reviewing major developments where densities exceed 1.0 du/acre and are more urban in nature. In these situations, community sewer and water service is required and other facilities expected, depending upon the actual character and magnitude of the development. Although each development must be considered on its own merits, *Table-17* should be used as a reference when determining and sizing necessary facilities for a given development.

TABLE-15**Functional Classification Definitions**

Category	Primary Function	Degree of Private Access Control
Freeways	Traffic Mobility	Total Control
Expressways	Traffic Mobility	Very High
Principal Arterial St.	Traffic Mobility	High
Arterial Streets	Traffic Mobility	Moderate
Collector Streets	Mobility/Accessibility Transition	Moderate
Local Streets	Accessibility	None

TABLE-16**Minimum Driveway Spacing
(Centerline to Centerline)**

Facility	Land Use	Minimum Spacing (Feet)
Principal Arterial	Commercial, High Density/Activity	200
	Industrial/Office Park, Low to Moderate Activity	275
Arterial	Commercial, High Density/Activity	150
	Industrial/Office Park, Low to Moderate Activity	230
	Multi-Family Residential, Low to Moderate Activity	150

Source: Adapted from "Guidelines for Control of Direct Access to Arterial Highways," FHWA.

TABLE-17
Facilities Space Standards

<u>Type</u>	<u>Space Requirements</u>	<u>Source</u>
<u>PARKS AND RECREATION FACILITIES:</u>		
General Recreational Standard	10 Acres*/1,000 persons (Does not include regional parks)	National Parks and Recreation
Individual Park Type Standards		
Playgrounds	1.5 acres/1,000 persons	
Neighborhood Parks	2.0 acres/1,000 persons	
Playfields	1.5 acres/1,000 persons	
Community Parks	3.5 acres/1,000 persons	
Indoor Recreation Center	1.5 acres/1,000 persons	
Golfing	1 18-hole course/50,000 persons	
Swimming	1 outdoor pool/25,000 persons	
<u>PUBLIC SAFETY FACILITIES:</u>		
Law Enforcement	400 s.f./1,000 persons Does not include garage space)	Colorado Division Impact Assistance
Fire	800-1,000 s.f./1,000 persons (Four-minute response time)**	Colorado Division Impact Assistance
<u>GENERAL SERVICE FACILITIES:</u>		
Administrative (Branch County Offices)	800 s.f./1,000 persons Impact Assistance	Colorado Division
Library	700 s.f./1,000 persons (1,000 s.f. minimum) Association	National Library
<u>EDUCATION FACILITIES:</u>		
Elementary School	8-12 acres, 1 school/1,500-5,000 persons	U.S. Department of Health Education And Welfare; <u>Urban Planning and Design Criteria</u> , 3rd Edition
Junior High School	20-25 acres, 1 school/1,000-16,000 persons	
Senior High School	30-45 acres, 1 school/14,000-25,000 persons	

* Standard is highly variable and dependent upon community values.

** Dependent upon factors of water availability, storage, and flow; trained personnel; equipment response time; building types and codes.

GLOSSARY

acre feet: The amount of water required to cover one acre of land one foot deep; or 325,851 gallons.

affordable housing: Housing whose cost (rent or mortgage plus tax and insurance) is not more than 25 percent of the occupant's gross income.

air pollutant emission: Discharges into the atmosphere, usually specified in terms of weight per unit of time for a given pollutant from a given source.

alluvial: A general term for the sediments laid down in river beds, floodplains, lakes, fans at the foot of the mountain slopes, and estuaries during relatively recent geologic times.

annex: To incorporate an area/territory into a city, service district, etc.

aquifer: A geologic formation that stores, transmits, and yields significant quantities of water to wells and springs.

area plan: Plans adopted by Maricopa County which cover specific subareas of the unincorporated County. These plans provide basic information on the natural features, resources and physical constraints that affect the development of the planning area. They also specified detailed land use designations which are then used to review specific development proposals and the plan services and facilities.

arterial: A street providing traffic service for large areas. Access to adjacent property is incidental to serving major traffic movements.

artifact: A simple object (such as a tool or ornament) showing early human workmanship or modifications.

available water supply: The amount of water a soil can hold which is available for plants.

average daily traffic (ADT): The amount of traffic that passes any given intersection within a 24-hour time frame.

candidate species: Those species or subspecies for which threats are known or suspected, but for which substantial population declines from historical levels have not been documented (though they appear likely to have occurred).

carbon monoxide (CO): A colorless odorless very toxic gas that burns to carbon dioxide with a blue flame and is formed as a product of the incomplete combustion of oxygen.

Comprehensive Plan: A master or general plan containing guidelines for growth and development of the land within a jurisdiction, and coordinating policies affecting public services, benefits and regulations.

corrosivity: A soil's capacity to induce chemical reactions that will corrode or weaken metals and concrete.

critical habitat: Key land areas used by wildlife for forage, reproduction or cover.

cultural resource: Cultural resources are the tangible and intangible aspects of cultural systems, living and dead, that are valued by a given culture or contain information about the culture. Cultural resources include, but are not limited to, sites, structures, buildings, districts and objects associated with or representative of people, cultures and human activities and events.

decibel (dB): A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

dependent species: A species for which a habitat element (e.g. snags, vegetative type) is deemed essential for the species to occur regularly to produce.

developed recreation site: Distinctly defined area where facilities are provided for concentrated public use (e.g. campgrounds, picnic areas, boating sites, and interpretive facilities).

dwelling unit: Any building or portion thereof, including a mobile home or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and sanitation as required by the Development Code and Uniform Building Code, for not more than one family.

endangered species: Any species listed as such in the Federal Register which is in danger of extinction throughout all or a significant portion of its range unless conservation efforts are undertaken soon.

flood hazard areas: Areas in an identified floodplain.

floodplain: The lowland and relatively flat areas that are subject to a 1 percent (100-year recurrence) or greater chance of flooding in any given year.

game species: Any species of wildlife or fish for which seasons and bag limits have been prescribed and which are normally harvested by hunters, trappers, and fishermen under state or federal laws, codes and regulations.

goal: A goal describes a desired state of affairs. It is the broad public purpose toward which policies and programs are directed. Since it is a general statement, more than one set of actions could be taken in achieving the goal.

groundwater: Water beneath the earth's surface and stored in aquifers, accumulating as a result of recharge and serving as the source of springs, wells, etc.

habitat: The sum of environmental conditions of a specific place that is occupied by an organism, a population or a community.

household: The person or persons occupying a housing unit.

housing unit: A house, apartment, mobile home or trailer, group of rooms, or single room occupied as a separate living quarter or, if vacant, intended for occupancy as a separate living quarter. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.

incorporated city: Area(s)/neighborhood(s) joined together for the purpose of self-government.

infilling: Development of vacant or underutilized parcels within urban areas.

infrastructure: The basic facilities on which the continuance and growth of a community depends such as roads, schools, power plants, transmission lines, transportation and communication systems.

ISO rating: A numerical value published by the Insurance Services Office (ISO) which classifies fire suppression agencies and districts throughout the United States for the purpose of establishing the basis for fire insurance rates. The point scale ranges from 1 to 10, with one representing the best rating for lower insurance rates.

landfill: A disposal site which disposes of solid wastes on land. Wastes are deposited and compacted. At specific intervals, a layer of soil covers the waste and the process of deposit and compaction is repeated without creating nuisances or hazards to public health or safety. The purpose is to confine the

wastes to the smallest practical area, to reduce them to the smallest practical volume.

land use: The primary or secondary use(s) of land such as family residential, multi-family residential, commercial, industrial, agriculture, etc. The description of a particular land use should convey the dominant character of a geographic area, and thereby establish the types of activities which are appropriate and compatible with primary use(s).

manufactured housing: A dwelling unit installed at the building site by connecting one or more segments which have been made in a manufacturing facility located off of the site. A manufactured home is built in compliance with the federal Manufactured Housing Construction and Safety Standards Act of 1974.

median: The mid-point in a range of numbers.

mobile home: A movable, factory-built home, built prior to the 1974 federal Manufactured Housing Construction and Safety Standards Act.

National Register of Historic Places: A listing maintained by the U.S. National Park Service of areas which have been designated as historically significant. The Register includes places of local and state significance, as well as those of value to the nation in general.

neighborhood park: A recreation site developed for active and passive activities which is designed to serve one or a few neighborhoods within a short walking or driving distance to the park site. Typical equipment and facilities in a neighborhood park can include a mix of playground equipment, playing fields, picnic tables, landscaping and on-site parking. Neighborhood parks are generally smaller than a community park, and they lack the variety of recreation experiences available in a larger park.

nongame: Species of animals which are not managed for sport hunting.

nonmotorized recreation: Recreational opportunities provided without the use of any motorized vehicle. Participation in these activities travel by foot, or horseback, etc. Bicycle riding is generally included under nonmotorized recreation, but some land management agencies may restrict their use.

objective: An objective is a specific statement of the desired result of public action. An objective should be measurable, or precise enough so the community can determine when they have reached the objective. Objectives

may define intermediate steps toward a goal or may address a single aspect of the goal.

open space/open space use: Open space use means the current employment of land, the preservation of which conserves and enhances natural or scenic resources, protects streams and water supplies or preserves sites designated as historic pursuant to law.

park and ride: A voluntary system where participants drive to a central location in order to carpool or gain access to public transportation to another location.

particulates: Small particles suspended in the air and generally considered pollutants.

permeability: Rate at which water runs through soil.

policy: A policy is a statement of government intent against which individual actions and decisions are evaluated. The wording of policies conveys the level of commitment to action: policies which use the word "shall" are mandatory directives, while those using the word "should" are statements of direction to be followed unless there are compelling reasons to do otherwise.

population density: The number of people in a given area. The number may be obtained by multiplying the number of dwellings per acre by the number of residents per dwelling.

potable: Water suitable for drinking.

protected species: Any species or subspecies subject to excessive taking and with significant threats or declining populations making it illegal to take them under the auspices of a hunting or fishing license.

raptor: A bird of prey such as eagle, hawk or owl.

rare species: One that, although not presently threatened with extinction, is in such small numbers throughout its range that it may be endangered if its environment worsens.

regional park: A recreation site, typically larger than 100 acres, developed for diversified use by large numbers of people. Regional parks are intended to serve all residents of the County as compared to neighborhoods or smaller communities. Regional parks can accommodate active and passive activities, and special facilities including boat ramps, shooting ranges, zoos, etc.

response time: The time interval between the receipt of a request for public service or assistance, and the arrival of the service provider. Typically,

response time measures the ability to get emergency service to a specific location, with delays attributed to dispatch time, driving distance, traffic conditions, ability to find the specific location, and the backlog of service requests.

rideshare: A techniques employed in traffic reduction programs which encourages commuters to carpool to work or other designations (e.g. shopping, medical visits, etc.).

right-of-way: The width of publicly dedicated streets, including the pavement, sidewalks, and planting area; the width between the property lines on either side of the street.

rural: When used in the context of this Plan, rural areas shall be those areas intended for residential development on no greater than one acre lots, with limited supporting nonresidential uses.

scenic area: An area of outstanding or unique visual quality.

scenic corridor: A roadway with recognized high quality visual amenities that include background vistas of mountains, open country, or city.

shrink-swell potential: Capacity of a soil to expand or shrink as the moisture is increased or decreased.

subdivision: Any land, vacant or improved, which is divided or proposed to be divided into five or more lots, parcels, sites, units or plots, for the purpose of any transfer, development or any proposed transfer or development of the original parcel.

subsidence: The gradual, settling or sinking of the earth's surface with little or no horizontal motion. Subsidence is usually the result of water extraction from underground supplies, compaction, and not the result of a landslide or slope failure.

suburban: When used in the context of a Maricopa County Land Use Plan, suburban includes residential uses at generally two to three single family units per acre, and supportive nonresidential and public development.

threatened species: Any species or subspecies which is likely to become endangered within the foreseeable future because serious threats have been identified and populations are (a) lower than they are historically or (b) extremely local and small.

total suspended particulates (TSP): Total amount of solid material suspended in the air.

total suspended particulates (TSP): Total amount of solid material suspended in the air.

Traffic Analysis Zones (TAZ): A small geographic area within a municipal planning area designated by the Maricopa Association of Governments for the purpose of estimating and projecting population.

trip: A one-way vehicle movement that either begins or ends at the location being considered; thus, a vehicle leaves a home and later returns to it would account for two trips under this designation.

urban: When used in the context of a Maricopa County Land Use Plan, urban includes development of three or more residential units per acre and comparable nonresidential and public development.

visual resource: The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

wastewater: Includes sewage and all other liquid waste substances associated with human habitation, or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature.

watershed: The entire area that contributes water to a drainage system or stream.

zoning: A local ordinance that divides a community into districts to guide, control and regulate the future growth and development in order to promote orderly and appropriate use of the land.