

CITY OF ALBUQUERQUE MAJOR PUBLIC OPEN SPACE FACILITY PLAN

January 1999



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Bernalillo County Commission on January 26, 1999
Albuquerque City Council on December 14, 1998

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EXECUTIVE SUMMARY

Purpose of the Plan

The purpose of the Major Public Open Space Facility Plan is to establish guidelines for implementation of the MPOS Network goals contained in the Albuquerque/Bernalillo County Comprehensive Plan (1975, 1988). Open space is relatively undeveloped City or County owned land dedicated to conservation, preservation, outdoor education and low impact recreation. The MPOS Network provides visual relief from urbanization and offers opportunities for education, recreation, cultural activities and conservation of natural resources. This plan is a Rank II Facility Plan that establishes policy for planning, land use decisions and management for the acquisition and management of the MPOS Network.

Background

The Albuquerque/Bernalillo County Comprehensive Plan, adopted 1975 and amended 1988, identifies potential open space in Bernalillo County. Many of the areas designated as Major Public Open Space have physical properties that limit their potential for urban development. Constraints include steep slopes, unstable soils, susceptibility to flooding and greater depths to groundwater. The public costs involved in developing such areas may be considerably greater than those associated with lands without these physical limitations. On the other hand, these open space areas are the County's key visual, environmental and recreational resources. The Albuquerque Open Space Division was established in 1984 to manage the City's MPOS Program. The Division now manages approximately 27,500 acres of City-owned open space and additional lands that are owned by other agencies. The City funds acquisition and management of the MPOS Network through a variety of sources, including a permanent Open Space Trust Fund, gross receipts taxes, the City's general fund and the City's capital implementation program. A state constitutional amendment passed in November 1996 enabled Bernalillo County to finance open space acquisition through issuance of general obligation bonds. With this financing capability in place, it is anticipated that Bernalillo County will become more involved in the acquisition and protection of open space resources.

The Facility Plan

This Facility Plan defines the purposes of Major Public Open Space based on the characteristics of each open space area. The City's MPOS Network and the locations of the various open space categories are shown in the map in the end pocket.

General policies for the MPOS Program take into account public attitudes and perceptions and issues identified by key staff from the Open Space Division and related public agencies. General policies will guide planning and management of the MPOS Program. Key components of the facility plan are an expanded planning process that mandates long range resource planning prior to major changes in the Network, zoning that regulates open space land use decisions within the Network, and general management policies. In addition, the Facility Plan establishes more specific planning, land use and management policies for each major open space area, including:

- Sandia Foothills

- West Side Open Space
- Rio Grande Bosque and adjacent open space
- Arroyos
- East Mountain Open Space
- Easement areas
- Out of County properties

Policies for the Petroglyph National Monument are guided by the Petroglyph National Monument General Management Plan.

SECTION ONE

INTRODUCTION

The concept of “open space” may have had its origins in principles underlying Spanish and Pueblo land grants of the late 1600s through the early 1800s. Portions of no less than 13 land grants are found in Bernalillo County alone’ some of the major grants contained in their entirety in the central part of the County include the Elena Gallegos Grant, the Town of Alameda Grant, the Town of Albuquerque Grant, the Town of Atrisco Grant, the Town of Pajarito Grant, the Isleta Pueblo Grant and the Canon de Carnue Grant. A unifying basis for these grants was the notion of “common lands” to be used by the community as a whole but to be owned by no one in particular. Usually these common lands held some shared valuable resource such as timber, water or grazing areas, but often the simple knowledge that the lands were part of the community holdings bestowed a certain importance of its own.

European concepts of parklands and early urban planning translated into “greens” or “commons” in eastern American cities. These two parallel notions of common grant lands and city greens seems to have given rise to more modern notions of what “open space” means in the west. The love of landscape, vistas, horizons and scenery in the western U.S. has also contributed to the evolution of this idea. Certainly, Albuquerque’s historical basis of grant lands in and around the City has given rise to a fairly traditional shared community value for its own version of common lands combined with scenic beauty, owned by all and referred to by many simply as our “open space.”

A. The Definition and Purposes of Major Public Open Space

Albuquerque’s Major Public Open Space (MPOS) Network, first designated by the Albuquerque/Bernalillo County Comprehensive Plan in 1975, surrounds urban Albuquerque with commonly owned open lands and provides pockets of open land in rural portions of the County.

The Comprehensive Plan defines Major Public Open Space as “an integrated system of lands and waters that have been designated as such in the Comprehensive Plan. These lands and waters or interests therein have been or shall be acquired, developed, used, and maintained to retain their natural character to benefit people throughout the metropolitan area by conserving resources related to the natural environment, providing opportunities for outdoor education and recreation, or defining the boundaries of the urban environment.” The MPOS Network is part of a larger system of public open spaces, trails and parks managed by a number of City, County, State and Federal agencies.

The purposes of Major Public Open Space as outlined in the Albuquerque/Bernalillo County Comprehensive Plan are as follows:

- Conservation of natural resources and environmental features
- Provision of opportunities for outdoor education and recreation
- Shaping of the urban form
- Conservation of archaeological resources
- Provision of trail corridors
- Protection of the public from natural hazards

Properties within the MPOS Network meet these purposes in different ways base on the characteristics of a specific area. Chapters Three through Nine of this plan describe the public purposes specific to each area.

Small, isolated parcels dedicated to the City of Albuquerque to meet the detached open space requirements of the City Zoning Code are not necessarily part of the MPOS Network. Detached open space must meet the definition above and be accepted into the Network according to the acquisition policies. Otherwise, these isolated parcels are not covered by the Major Public Open Space Facility Plan.

The term Open Space throughout this document refers to Major Public Open Space.

B. History of the Major Public Open Space Program

The City of Albuquerque MPOS Program began with the 1969 City goals program and the efforts of numerous volunteers. Early efforts to preserve Major Public Open Space included "Save the Volcanoes," the Rio Grande Bosque Society and the volunteer Open Space Task Force.

The Albuquerque/Bernalillo County Comprehensive Plan, adopted in 1975 and amended in 1988, identifies more than 40,000 acres of land as Major Public Open Space, just over half which is under public ownership. The current Comprehensive Plan establishes three categories of Major Public Open Space: Major Public Open Space (Larger Areas), Major Public Open Space (Arroyos and Open Space Links) and Easement Areas. These land areas comprise the existing and proposed MPOS Network. A map of the existing and proposed MPOS Network is contained in the map pocket.

As the City expanded to the East, suburban development began to encroach upon the Sandia Mountain foothills, sparking a public effort to preserve the foothill Major Public Open Space west of the Cibola National Forest.

In 1982, the City passed a 1/4 cent gross receipts tax to fund the purchase of a 7,640 acre portion of the Elena Gallegos land grant that extended to the crest of the Sandia Mountains. A subsequent trade with the US Forest Service put 7,000 acres within the Cibola National Forest. The City retained a 640-acre parcel as Major Public Open Space and obtained nearly 17,000 acres of surplus federal land as part of the trade. The City will sell, lease or trade these "Exchange Lands", and deposit the proceeds into an Open Space Trust Fund. The City Council Bill that set up the fund provided that the first \$500,000 in income from the fund each year be used for program management. The City may use revenues above that amount for either acquisition or management. An inventory of lands acquired to date is contained in Appendix A.

In 1996, Bernalillo County became eligible to issue bonds for the purpose of acquiring open space. With this financial capability in place, Bernalillo County can become more involved in open space preservation.

Albuquerque residents passed a new 1/4 cent gross receipts tax in January 1997 to fund the acquisition and/or development of nearly 9,700 acres for parks and Major Public Open Space. The new City tax provides for acquisition of approximately 8,800 acres of land designated Major Public Open Space. An additional 515 acres are potential future Major Public Open Space, primarily serving as access points or buffers for existing Major Public Open Space Areas. Three parcels, encompassing 241 acres, are likely to become parks in the future; and two parcels will be jointly acquired with other agencies, with primary responsibility for management by another jurisdiction.

The Open Space Division was established in 1984. Since 1984, the staff has expanded from five people to 34 permanent and 12 temporary employees as of FY 1997. The City has acquired approximately 22,000 acres of Major Public Open Space and has joint management of 5,000 additional acres that are owned by other State and Federal entities. The City will continue to acquire designated Major Public Open Space to complete the Network.

Albuquerque's MPOS Program is one of the finest in the United States. Since the implementation of funding sources and management, The Open Space Division has adopted criteria for the acquisition and management of Major Public Open Space. This facility plan compiles existing policy, with recommended modifications based on a decade of experience with the program.

To provide citizen oversight to the MPOS Program, the City established the Open Space Advisory Board (OSAB) in 1983. The OSAB is an appointed citizen board that, along with staff, is charged with reviewing and recommending acquisition priorities and additions to the Network. The OSAB makes recommendations regarding extraordinary facilities to the City's Environmental Planning Commission (EPC). The OSAB also makes recommendations to the EPC, Mayor and City Council as to appropriate policies, implementation of adopted Open Space plans, proposed development adjacent to Major Public Open Space and proposals to sell, lease or exchange trust lands.

Bernalillo County's role in Major Public Open Space acquisition is expected to increase with the county's ability to issue general obligation bonds for open space acquisition and with the collection of open space impact fees. To provide appropriate County input into the selection of lands on the Open Space Acquisition/Protection Priority List, it is proposed that the City of Albuquerque and the County of Bernalillo enter into an Open Space Joint Powers Agreement, which could, among other stipulations, provide for County representation on the OSAB.

C. Purpose of the Facility Plan

The purpose of the Major Public Open Space Facility Plan is to establish guidelines and policies for implementing the Open Space goals of the Comprehensive Plan and to address other issues of concern to the program. This document consolidates information, policies and procedures into a coherent program for the protection and effective management of all City Major Public Open Space resources. For the purposes of the plan, the MPOS Program refers to the administration and management of Major Public Open Space. The MPOS Network is existing or proposed Major Public Open Space land and physical improvements, such as trails, fences or facilities. Definitions of terms are contained in Appendix C.

The Facility Plan is a part of a larger planning effort for all recreational resources in the City, including Parks, Open Space and Trails (POST). The POST Network is a major public asset that will be enhanced through coordinated planning and allocation of public resources.

Public opinions expressed through a survey conducted in 1989 and through regional meetings held in 1990 and 1992 overwhelmingly indicate an appreciation of Albuquerque's natural setting and the recreational opportunities available within Major Public Open Space.

Specific goals of the Major Public Open Space Facility Plan are:

1. Create an inventory of existing conditions within the City of Albuquerque MPOS Network;
2. Encourage and promote citizen participation in determining the direction of the MPOS Program;
3. Identify community needs and desires related to Major Public Open Space;
4. Develop a strategy to meet community needs and identify necessary resources to meet those needs; and
5. Identify management and maintenance needs based on community needs, existing public uses and resources.

This plan contains general management policies that apply to the overall Network. Uses and resources in specific areas may be similar, and yet unique to each area. Specific policies for each MPOS area follow the general policies.

D. Current Funding

Both operating and capital funds are required to effectively implement Albuquerque's MPOS Program. Operating funds are needed to administer programs and manage the lands and facilities in the MPOS "Network". Capital funds are required to develop facilities for public use within the MPOS Network and for land acquisition. The MPOS Program has been very effective in encouraging and absorbing dramatic increases in use of the network. Public expectations for facility development, programs, and maintenance of the network have grown over the years. As the network has expanded the funding required to meet public demand for service has also increased. However, acquisition of Major Public Open Space may not be keeping pace with urban growth.

The MPOS Program consists of a physical "Network" of land and facilities and an ongoing "Program" of use regulations, educational programs, operating policies, a maintenance program, law enforcement and program staff. If one component of the system is removed, the entire system breaks down. It is important, therefore, that all components be fully functional.

The cost of operations and maintenance is related to the MPOS Network's proximity to an urban area, intended uses, and resource characteristics. Ongoing resource protection, enforcement of public safety regulations and visitor management are essential because of the Network's proximity to a user population of over a half million. On average, the annual cost in 1997 dollars to manage one acre of protected, undeveloped open space is about \$40. Facilities, such as parking, trails, trash receptacle, picnic shelters, tables and grills, increase the cost of operation and maintenance.

The MPOS Program receives funding from several sources to pay for management, capital improvements and land acquisition, as shown in Table 2-1. The primary sources of funds for acquisition have been the 1/4 cent for Open Space (1982), Federal grants, general obligation bonds, the City's General Fund, the "Quality of Life" Tax (1987) and the 1/4 cent tax for parks and open space approved in January 1997. The MPOS Program's operating budget is nearly \$2.0 million per year. The City currently funds the program operating budget through Open Space Trust Fund revenues and the City's General Fund.

Open Space Trust Fund

In 1982, the City acquired 7,000 acres within the Elena Gallegos Grant and traded these lands to the United States for inclusion in the Cibola National Forest. The City acquired lands throughout the State of New Mexico in exchange. The City has initiated a program to sell, lease and/or exchange these trade lands. The principal from such sales, leases or exchanges is placed in an Open Space Trust Fund while interest from these sales goes to an expendable account. The City of Albuquerque's Open Space Trust Fund and Land Administration Ordinance govern the administration of this fund.

The principal of the Open Space Trust Fund is maintained as a permanent fund. The interest earned on the principal and other income generated by the Trust Lands can be used for management and acquisition as follows:

- The initial \$500,000 in interest earned in any fiscal year is used for the management, improvement and maintenance of City-owned and managed Major Public Open Space lands.

- Interest in excess of \$700,000 earned in any fiscal year may be used for the acquisition of land designated as Major Public Open Space or for public easement or rights, management and operating expenses of the MPOS Program, or repayment of loans from the general fund.

TABLE 1-1.
MAJOR PUBLIC OPEN SPACE PROGRAM FUNDING SOURCES

Fund	Source	Use
General Fund	General City Revenues	Operations
Open Space Permanent Fund (850)	Trust Land Sales	Permanent fund; interest is used for operations and maintenance
Open Space Income Fund (851)	Trust Land Sales and interest from Permanent Fund	Operations and Maintenance
Capital Implementation Program	G.O. Bonds	Capital projects -- planning design and construction; land acquisition.
Bernalillo County G.O. Bonds	G.O. Bonds	Capital projects -- planning design and construction; land acquisition.
Quarter Cent Quality of Life Tax	Gross Receipts Tax	Capital projects -- planning, design and construction; land acquisition. Tax has expired and new taxes must be approved by City Council
Quarter Cent Parks and Open Space Tax	Gross Receipts	Capital projects -- planning, design and construction; land acquisition. City voters approved the tax in January 1997. It will be collected for two years, through June 30, 1999.
Bernalillo County Open Space Impact Fee	Development Impact Fee	Land acquisition
City of Albuquerque Detached Open Space Dedication	Zoning Requirement	Land acquisition
User Fees	User Fees	User fees go to the General Fund to off-set General Fund operations expenditures

Quality of Life Tax, 1988-1992

Acquisition of Major Public Open Space is one of a number of "Quality of Life" projects being funded through a temporary increase in the City's gross receipts tax. This tax went into effect on January 1, 1987, and has ended. The initial revenue projection was over \$200 million in current dollars, to be collected for a number of different projects over the life of the tax. The MPOS Program's share of the Quality of Life

funds was distributed in the first five years of the tax (1988-1992), with a total of \$28 million, or 18 percent of the funds, allocated to Major Public Open Space acquisition and capital projects.

Open Space and Parks Tax, 1997-1999

In January 1997, Albuquerque voters approved a 1/4 cent gross receipts tax for acquisition and development of specified parks and open space. The City will collect the tax for two years from July 1, 1997, to June 30, 1999. Nearly 8,800 acres of designated Major Public Open Space and 515 adjacent acres for parking, access and buffers are proposed for acquisition with these revenues.

Bernalillo County Impact Fees

The County assesses a fee of \$434 for each new single family dwelling unit and \$237 for each unit in a multifamily structure constructed in the unincorporated County within an impact fee service area of the City's five mile extra-territorial jurisdiction. This fee is based on the full incremental cost of maintaining the existing level of service as population grows through new development. Because there are a number of funding mechanisms for open space acquisition and maintenance, only a portion of the assessed open space impact fee is collected. Prior to July 1, 1997, the County will collect ten percent of the assessed fee. Between July 1, 1997 and June 30, 1998, twenty percent of the assessed fee will be collected; and beginning on July 1, 1998, 30 percent of the assessed fee will be collected.

Funds collected are programmed for purchase of lands on the Albuquerque Open Space Acquisition/Protection Priority List that lie within the City's five mile extra-territorial jurisdiction.

County General Obligation Bonds

A 1996 amendment to the State constitution enables counties to use general obligation bonds funding for open space acquisition, an option previously unavailable to counties. This funding mechanism will allow Bernalillo County to purchase lands of particular importance to County residents.

Capital Improvement Program

The City funds most of its capital improvements through issuing general obligation and revenue bonds. Major Public Open Space acquisition has been partially funded through G.O. Bonds. G.O. Bonds are voted on every two years and planned for ten years into the future. Approximately \$500,000 per bond cycle is proposed for land acquisition, fencing and protection of Major Public Open Space through the 2001 cycle. This represents an average of \$250,000 per year for each of the next ten years.

General Fund

A portion of the Open Space Division's operations and maintenance costs are funded through the City's general fund. The City's general fund meets the general operating expenses of the City.

User Fees

The Open Space Division collects parking and/or reservation fees for the use of three of its facilities:

- Elena Gallegos Picnic Area
- Petroglyph State Park
- Carolino Canyon Park

The Open Space Division deposits revenues of approximately \$60,000 in facility revenues per year into the City general fund to help offset operating expenses. User fees generated by MPOS facilities go into the City's general fund and are not directly available to the MPOS Program.

Grants

Grants are a potential funding source for special projects. The MPOS Program has received grants from multiple sources including the United States Fish and Wildlife Service, State of New Mexico grants, and the Youth Conservation Corps. Grants have been used for small projects, including \$45,000 for bosque tree planting, \$10,000 for the Simms Park wildlife blind and \$15,000 for the Elena Gallegos picnic area. Neighborhood groups have contributed some funds for acquisition of adjacent property for Major Public Open Space. In the future, the MPOS Program will continue to pursue grant funding for special projects.

Cooperative Agreements

Cooperative agreements with other public agencies that manage Major Public Open Space do not directly affect the City's Major Public Open Space budget. However, these agreements can provide additional resources for management of the City's MPOS Network.

E. Major Public Open Space Goals and Policies

The goals and policies that influence the MPOS Program are guided by the Albuquerque/Bernalillo County Comprehensive Plan, City ordinances and adopted Rank II and Rank III plans. Each of these is summarized below.

Comprehensive Plan

The Comprehensive Plan contains goals and policies for all development in Bernalillo County and a land use framework for the entire urban area. The Comprehensive Plan defines the MPOS Network and sets goals for protection and preservation of archaeological resources. The goal, as stated in the Comprehensive Plan, is to "provide visual relief from urbanization and to offer opportunities for education, recreation, cultural activities, and conservation of natural resources by setting aside Major Public Open Space, parks, trail corridors, and open areas throughout the Comprehensive Plan area."

The City's MPOS Network provides an opportunity for environmental protection and heritage conservation. The goal for protection of archaeological resources is to identify and manage or acquire significant archaeological and paleontological sites for research, education, and/or interpretive use.

Policies related to these broad Major Public Open Space goals are contained in Appendix B.

Rank II and Rank III Plans

Area plans, facility plans and sector development plans establish more specific policies for geographic areas or for particular types of facilities to implement the Comprehensive Plan. Any of these documents could have policies related to the MPOS Network. Policies in these documents are typically specific to a particular Major Public Open Space area. An annotated bibliography is contained in Appendix C.

Rank II Area Plan

- North Valley Area Plan
- Southwest Area Plan
- Northwest Area Plan
- East Mountain Area Plan
- Sandia Foothills Area Plan
- West Side Strategic Plan (Draft)

Rank II Facility Plan

- Facility Plan for Arroyos
- Trails and Bikeways Facilities Plan
- Bosque Action Plan
- Parks Facility Plan (in process 4/97)
- Plan for Electric Service
- Transportation Program for the Albuquerque Metropolitan Area (includes long range plans for major streets, bikeways and transit)
- Water Master Plan
- Wastewater Master Plan
- Drainage Management Plans (multiple)
- Bernalillo County Parks and Recreation Master Plan

Rank III Sector Development Plan

- Riverview Sector Development Plan
- High Desert Sector Development Plan

Rank III Corridor Plan

- Amole Arroyo Corridor Plan
- Bear Canyon Arroyo Corridor Plan
- San Antonio Arroyo Corridor Plan
- Pajarito Arroyo Corridor Plan
- Coors Corridor Plan
- Unser Boulevard Corridor Plan
- Paseo del Norte Corridor Plan
- Northwest Mesa Escarpment Plan

Unranked Plans

- Master Plan for Volcano Park
- Biological Park Master Plan

Plans in Process

- Tijeras Arroyo Corridor Plan
- Calabacillas Arroyo Corridor Plan
- Mesa del Sol Planned Community Plan

Park System Facility Plan (PSFP)
Westland Sector Development Plan

Local Operations and Management Policies

Numerous ordinances affect the operations of the MPOS Program, as summarized below.

City of Albuquerque Open Space Management Ordinance. (Section 5-6 R.O. 1974, multiple enactments.)
This ordinance lays out management policies for the MPOS Program.

Bernalillo County Open Space Management Ordinance. (Ordinance No. 85-17, May 7, 1985.)
This ordinance allows the City to manage Major Public Open Space within the County according to the Comprehensive Plan.

The Impact Fees Ordinance of the County of Bernalillo. Ordinance No. 95-16, in effect July 1, 1996)
This ordinance established a development fee for residential development in the unincorporated county within the City of Albuquerque's five mile extra-territorial jurisdiction. Funds collected under this ordinance are programmed for purchase of lands on the Albuquerque Open Space Acquisition/Protection Priority List that lie within the City's five mile extra-territorial jurisdiction.

Extraordinary Facilities in Open Space. (Section 7-15-6, R.O. 1974; Enactment No. 79-1989, November 27, 1989.)
This document defines the current procedures for obtaining approval for facilities within Major Public Open Space that are not parking lots, trails or other minor facilities typical to Major Public Open Space.

Open Space Advisory Board. (Section 7-15-6, R.O. 1974; Enactment No. 10-1983, February 17, 1983.)
This sets up the Open Space Advisory Board and defines its responsibilities and powers.

Open Space Trust Fund and Land Administration Ordinance.
This ordinance establishes the Open Space Trust Fund and defines use of these funds.

City of Albuquerque Comprehensive City Zoning Code. (Article XIV, Chapter 7, RO 1974.)
Section 40.H., Detached Open Space Regulations. The zoning code allows required open space in RA-1, R-D, and other zones in areas designated by the Comprehensive Plan as "Developing Urban" or "Semi-Urban" to be on lots separate from the dwellings for which the open space is required. However, a minimum amount is required on site. The "detached" open space must be dedicated to the City.

In practice, the Detached Open Space Regulation has been an ineffective tool for acquiring Major Public Open Space. A developer can almost always meet the open space requirement on site. Detached open space dedicated through this ordinance has often been small parcels that are not useable as part of the MPOS Network. As of January 1996, the City is revising its system of exactions to comply with the New Mexico Impact Fees Act.

Federal Regulations

The MPOS Program must also comply with Federal regulations as listed below. Many of these regulations apply to all MPOS projects. Lands acquired as Major Public Open Space with Federal funds through the National Recreation Public Purposes Act (RPPA) and the Land and Water Conservation Fund (LWCF) have special restrictions. As noted below, these lands must be used for recreational purposes unless congressional approval is obtained for another use. Converted lands must be replaced by the agency requesting conversion. These requirements apply if, for example, portions of the RPPA or LWCF lands are used for roads, utility structures or other non-recreation uses. Parcels acquired with RPPA and LWCF funds are identified in Appendix A.

Americans with Disabilities Acts of 1990. (United States Code Annotated Title 42, The Public Health and Welfare, Section 12101.)

This Federal legislation mandates that facilities be developed for people with disabilities and sets criteria for accomplishing this.

National Environmental Policy Act of 1969 as amended. (United States Code Annotated Title 42, the Public Health and Welfare, Sections 4321, 4331-4335, 4341-4347.)

This Federal legislation mandates that environmental impacts be considered in Federal projects and sets criteria for evaluating environmental impacts.

National Recreation Public Purposes Act. (United States Code Annotated Title 43, Public Lands, Section 869.)

This act allowed Federal agencies to deed Federal lands to local agencies for recreational use. These lands cannot be used for another purpose without congressional approval. Converted lands must be replaced by the agency requesting conversion.

Land and Water Conservation Fund Act of 1965. (United States Code Annotated Title 16, Conservation, Sections 460d, 4601-4 to 4601-11.)

This act provides Federal funds for parks projects, allocated through the State. Properties purchased or facilities constructed with these funds cannot be used for another purpose unless the facility is replaced with an equivalent facility. Replacement must be approved by Congress.

Endangered Species Act of 1973. (United States Code Annotated Title 16, Conservation Sections 4601-9 and 460k-1.)

This act authorized federal agencies to acquire land that will help conserve endangered species or threatened species. Land adjacent to a conservation area becomes part of that conservation area.

Archaeological Resource Protection Act of 1979. (16 USC 470aa-470mm) Consists of Public Law 96-96 (10/31/79) and amendments thereto.

This Act provides for criminal penalties for acts harming cultural resource on public lands and Indian land (i.e. "pothunting") and trafficking in artifacts.

Section 4(f) of the Department of Transportation Act. (United States Code Title 49, Section 303 and 23 U.S.C. 138.)

States that Federal Agencies cannot approve any road that will use land from a "significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site" unless there is no other feasible alternative. If there is no other feasible alternative, a concerted effort must be made to minimize the road caused damage.

National Historic Preservation Act

Mandates that Federal Agencies preserve federally owned lands that contain objects of historical, architectural or archaeological significance and assist in the presentation and enhancement of non-federally owned sites. Any affected properties that are included in the National Register of Historic Places must be submitted to the Advisory Council on Historic Preservation for review and comment before any action can be taken.

Intermodal Surface Transportation Efficiency Act, (ISTEA) passed in 1991.

Funds enhancements to a multi-modal transportation system. ISTEA moneys can be used to expand and enhance trails, greenways, bicycle paths and walks. Each state can use this money to enhance linkages to and within Major Public Open Space.

State Regulations

The MPOS Program must also comply with State regulations as follows:

Cultural Properties Act [18-6-1 to 18-6-17 NMSA 1978]

Provides for the preservation, protection and enhancement of structures, sites and objects of historical significance within the State, in a manner conforming with but not limited by, the provisions of the National Historic Preservation Act.

Chapter 16 of New Mexico State Acts, Parks, Recreation and Fairs

Regulates State Parks including the purchase of lands, permitting of vendors, provision of law enforcement and enumeration of criminal offenses.

Chapter 17 of New Mexico State Acts, Game and Fish

Article 2 defines protected wildlife species and game fish. Article 3 enacts hunting and fishing regulations. Article 4 is the Wildlife Conservation Act, which contains regulation to protect endangered species. Article 6 contains regulation for habitat protection.

F. Mission of the Open Space Division

The Open Space Division has adopted the following mission statement:

The mission of the Open Space Division is to acquire and protect the natural character of land designated as Major Public Open Space in the City of Albuquerque/ Bernalillo County Comprehensive Plan. These lands are managed to conserve natural and archaeological resources, provide opportunities for outdoor education and low impact recreation, and define the edges of the urban environment.

SECTION TWO

ISSUES AND GENERAL POLICIES

The Facility Plan includes policies and implementation recommendations that are intended to further the goals and policies of the Comprehensive Plan and respond to more detailed issues identified by the public and City staff. This section of the Facility Plan contains general policies that apply throughout the MPOS Network. The following sections of the plan contain policies that are specific to a particular area.

Planning

Types of Major Public Open Space

This plan defines seven types of Major Public Open Space based on general resource and use characteristics. These types apply to either of the two categories of Major Public Open Space identified in the Comprehensive plan for public ownership (larger areas and arroyos and open space links). These types may also apply to easement areas, which are intended to remain in private ownership, if they are acquired and/or managed by the City MPOS Program in the future.

Policy A.1.A. *Resource Management Plans and Master Development Plans shall designate types of Major Public Open Space for all land within their boundaries. Parcels enter the Network as Protected, Undeveloped Open Space.*

Major Public Open Space types are as follows:

Open Space Preserve -- An area that is set aside for its exceptional natural, cultural or scenic value. Resources are fragile, and protection is the primary management objective. An Open Space Preserve provides protection of views, native vegetation and wildlife habitat, geological features and/or archaeological, historical, or cultural features. Management emphasis is on restoring, preserving and enhancing the characteristics of the area. Development is limited to the minimum required for public safety and resource protection and enhancement. Public access is only allowed under the supervision of staff and by permit. Open Space Preserves may be closed to public access to protect habitat and historic, cultural and archaeological resources.

Policy A.1.B. *This MPOS type shall be conserved and protected for its intrinsic value as a significant visual, natural or environmental resource. Trails shall be limited to those necessary for research, maintenance, policing and scientific study. Protection of these resources should include natural barriers, fencing, signage, control of use, and patrol by rangers.*

Protected, Undeveloped Open Space -- Significant undeveloped or conserved area with outstanding natural features or scenic qualities suitable for low impact recreational activities with no substantial facilities or improvements.

Policy A.1.C. *This type of Major Public Open Space shall be protected from excessive public use and shall be conserved for its unique features, natural resources and overall visual significance. Trails can be paved or unpaved, however, alignments*

should be a part of a resource management plan, master development plan or site plan. Protection of these areas should include fencing, signage, natural barriers, controlled use, and patrol by rangers.

Open Space Facility -- Land area with outstanding natural features and outdoor recreation opportunities. Some active recreational activities are appropriate, along with facilities to support compatible uses within Major Public Open Space. There are five classes of facilities, Class I through Class V, as defined in Appendix E.

Policy A.1.D.

MPOS facilities are the primary locations of developed facilities such as parking lots, picnic shelters, restrooms and other structures. This Major Public Open Space type shall be protected and conserved while allowing for primary public use, but only where the consistent impacts of use on the environment can be mitigated. Facilities shall be designed for minimal impact on Major Public Open Space resources. Some low impact recreational facilities are allowable, but only where appropriate, and where urban and rural form is not affected. Unpaved or paved trails can be utilized as links to more sensitive trails and areas. Protection of these areas should include signage, natural barriers, fencing, walls, and patrol by rangers.

Open Space Trail -- A linear corridor within Major Public Open Space or linking Major Public Open Space to other facilities. Open Space trails include Major Public Open Space arroyos and Major Public Open Space links. Trails will be developed for pedestrian, equestrian and bicycling uses as appropriate and as defined in an adopted Rank II, Rank III, Resource Management or Master Development Plan.

Policy A.1.E.

Existing trails shall be utilized whenever possible and new trails shall be developed and sited to meet the goals and requirements of this plan.

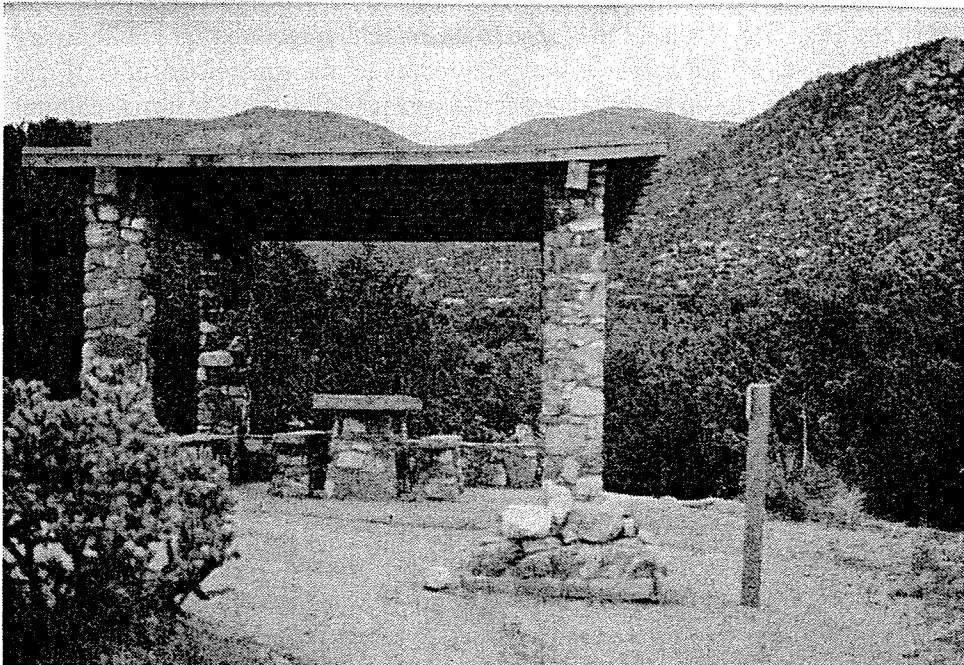


Figure 2-1: Picnic shelter in Elena Gallegos

Special Use Area -- Parcel within the MPOS Network that serves a unique function and is developed with facilities that are unique in the POST Network. These facilities contribute to the inventory of recreation opportunities in the metropolitan area but are not commonly found in the MPOS Network. These facilities generally require special programming or management. Existing special use areas are Shooting Range State Park; the Maloof Model Airplane Park; the Horsemen's Complex; and Montesa Park.

Policy A.1.F.

Special use areas must serve an open space purpose. These areas shall include facilities that are not allowable in other MPOS types but that contribute to overall network needs. Management policies applicable in other types shall be applicable in this type. However, more specialized uses may require specific policies. Special use areas may be developed and managed by governmental and private entities other than the City of Albuquerque Open Space Division, if:

- *The proposed uses comply with the Extraordinary Facilities Ordinance,*
- *A site development plan, resource inventory and management plan are provided to the City Open Space Division demonstrating that the proposed uses do not negatively impact adjacent Major Public Open Space,*
- *Limits are placed on the allowable uses in the Special Use Area, and*
- *Maintenance requirements and development limitations are incorporated in the lease to the outside entity.*

Asset Lands -- Parcels that are suitable for revenue producing facilities. These properties may or may not serve Major Public Open Space purposes. Their primary value to the network is revenue potential. Asset lands will be retained by the City. Asset lands are not part of the MPOS Network.

Policy A.1.G

Asset lands shall be managed by the Open Space Division to produce revenue for the Major Public MPOS Program. For zoning purposes, asset lands shall not be considered Major Public Open Space.

Land Bank -- Parcels that generally do not serve a Major Public Open Space purpose and are intended for sale or trade. These lands are not part of the MPOS Network. Land Bank lands includes Elena Gallegos Trust Lands, donations or gifts of land that are not suitable for inclusion in the MPOS Network, or which may financially benefit other property in the MPOS Program through sale, lease or trade.

Policy A.1.H

Land Bank lands shall be managed, leased, sold or traded by the Open Space Division to produce revenue for acquisition or management of Major Public Open Space. For zoning purposes, land bank land shall not be considered Major Public Open Space.

Table 2-1 shows how Major Public Open Space lands meet the purposes set forth in the Comprehensive Plan and provides guidance in determining the appropriate type for each area.

TABLE 2-1.
OPEN SPACE TYPES AND COMPREHENSIVE PLAN PURPOSES

Type	OPEN SPACE PURPOSE					
	Conservation of Natural Resources & Environmental Features	Provision of Opportunities for Outdoor Education & Recreation	Shaping of Urban Form	Conservation of Cultural/ Archaeological Resources	Provision of Trail Corridors	Protection of the Public from Natural Hazards
Protected, Undeveloped Open Space	Protects significant and/or unique natural resources. Primary purpose is conservation of these resources. Public use will be accommodated up to the level the area can support (carrying capacity) while sustaining the resource. Effects of public use can be mitigated. Opportunity to experience isolation from urban development, proximity to natural environment. Somewhat higher level of facility development than preserve.	Opportunity for outdoor education, interpretation of natural resources, controlled or low impact recreation, limited to Class I recreational facilities.	Opportunity for protecting features which play a significant role in shaping urban form. Controlled, low impact recreational use would not harm resource or views.	Opportunity to conserve archaeological resources in an accessible setting suitable for interpretation. Observation is supervised and controlled. Resource protection through directing public use away from sensitive areas.	Variety of trails are appropriate, opportunity for links to urban area trails. Visitor parking facilities should be identified.	Opportunity to protect public through controlled use, facility development and design help to protect public and resource.
Open Space Preserve	Protects highly significant and/or unique natural resources and/or features. Primary purpose is conservation of these resources. Opportunity to experience natural environment and isolation from urban development	Outdoor education is limited to scientific study or limited interpretation of resource. Limited access is preferred. Area is not suitable for developed recreation.	Opportunity to protect features which play a significant role in shaping urban form. Development for recreational purposes would cause irreparable damage.	Archaeological resources which should be protected; limited public access for scientific study of interpretation.	Unpaved, limited access trails only	Opportunity to protect public through controlled use, limited access and restriction of development.
Open Space Facility	Resource conservation is equal to opportunity for public use and appreciation of natural environment. Impacts of concentrated public use can be mitigated. Developed facilities contribute to conservation mission by directing and controlling the impacts of heavy human use.	Provides a focus for concentrated recreational use of open space and staging area for access to more protected open space, opportunity for outdoor education and interpretation, some recreational facilities.	Opportunity for shaping urban form. Low impact recreational development and concentrated public use does not affect views.	Archaeological resources may not be present or need not be protected in context. Archaeological resources on site will be mitigated or public access will be controlled if archaeological resources are present.	Opportunity for links to urban and open space trails; staging area for trail use, including parking, restrooms, kiosks.	Natural hazards do not affect public use. Hazards are not present or can be controlled. Development for public recreation does not constitute a hazard.

TABLE 2-1.
OPEN SPACE CATEGORIES AND COMPREHENSIVE PLAN PURPOSES
(Continued)

Type	OPEN SPACE PURPOSE					
	Conservation of Natural Resources & Environmental Features	Provision of Opportunities for Outdoor Education & Recreation	Shaping of Urban Form	Conservation of Cultural/ Archaeological Resources	Provision of Trail Corridors	Protection of the Public from Natural Hazards
Open Space Trail	Trails serve to concentrate and control public use in designated areas, reducing the impact on other land resources. Trails can direct use to or away from points of interest.	Opportunity for interpretive trail; education regarding arroyo system, drainage patterns; historical links; opportunity for pedestrian, equestrian and mountain biking trails. Bicycle trails may be appropriate in developed areas of open space arroyo and along open space links.	Contribute to urban open space, visual connection between urban development and major public open space, preservation of major arroyos in natural state.	Archaeological resources are not present or need not be protected in context. Archaeological resources on site will not be mitigated or access will be controlled if archaeological resources are present.	Opportunity for development as open space arroyo corridor or open space link. Direct links to urban trail system and trails within open space and open space facilities, including parking and rest stops.	Development near or adjoining natural arroyo must be designed with the hazards associated with unlined arroyos in mind. Potential hazard will be identified, and trail design will minimize hazards.
Special Use Area	Opportunity for unique facility which contributes to overall system opportunities. Conservation of natural resources and environmental features is not compromised by special use; Special use focuses activities which could negatively impact natural resources and environmental features if located elsewhere.	Opportunity for unique education and recreational facilities which contribute to open space system and purpose, does not compromise other open space values; visitor center, amphitheater, equestrian center.	Opportunity to provide unique facilities which contribute to urban area without affecting open space contribution to urban form; opportunity to focus activities which could negatively impact views if located elsewhere.	Opportunity for unique interpretive facilities which are not typically found in open space; visitor center; museum.	Opportunity for links to other open space and urban trails; opportunity for trails related to special use, equestrian, mountain biking, bicycle and ORV trails.	Protection from hazards is not a factor.
Asset Lands	Opportunity for revenue producing activities within the Open Space System, consistent with overall resource management objectives.	Value for outdoor education or recreation is not impaired by revenue producing activities, or value for outdoor education or recreation is less than revenue opportunity.	Use as revenue producing asset does not reduce importance of the system in shaping urban form.	Archaeological, cultural or historical resources are not damaged by activities or by sale.	Trail system is not impaired by activities or by sale.	Does not protect public from natural hazards, parcel is suitable for asset development.
Land Bank	Land may not be suitable for conservation of resources or environmental features. Value to the open space system is as an asset for trade or sale.	Value for outdoor education or recreation is less than value as asset to be sold or traded; site is not located in Albuquerque urban area.	Contribution to urban form is less than potential contribution as asset.	Archaeological, cultural or historical resources may not be present and will not be protected through the open space program.	No opportunity for trail links.	Does not protect public from natural hazards, parcel is suitable for private development.

Planning Process

The purpose of a formal planning process is to (a) ensure that a logical sequence is followed from identification of a potential Major Public Open Space property through its incorporation into the MPOS Network, (b) ensure that network wide and area wide concerns are addressed and (c) to monitor the use of the MPOS Network in order to protect its resources.

Policy A.2.A. *A planning process shall be established to ensure implementation and protection of all of the functions identified in the Comprehensive Plan and in this plan.*

There are two types of planning for the MPOS Network -- (a) acquisition evaluation, and (b) management of holdings. A summary of the planning process is contained in Table 2-2.

Acquisition evaluation

Policy A.2.B. *Steps in the planning and acquisition process are described below:*

- *Site Evaluation and Open Space Register Nomination (Existing process modified by this plan. See Section 3.C.1 Acquisition/Financing). The 1988 update of the Comprehensive Plan identified the MPOS Network as of the date of that document. From time to time significant properties that meet Major Public Open Space purposes have become available for City purchase. Although some of these properties were not designated Major Public Open Space in the Comprehensive Plan, the City has added them to the network.*

The City currently considers additions to the MPOS Network through a process of nominating sites to the Open Space register. Each property requires that a nomination form be completed which details the site's relevant characteristics. The Open Space Advisory Board (OSAB) evaluates nominations and determines whether to recommend adding a parcel to the MPOS Network. The site evaluation includes a cursory assessment of the natural resource and environmental characteristics of the site. The information contained in the nomination form will be used to evaluate the property for acquisition and/or protection and to determine the appropriate planning process for the property.

All land will come into the Network as Protected, Undeveloped Open Space, with other designations following completion of a Resource Management Plan or Master Development Plan. Any lands which have undergone disturbance or which are otherwise in a disturbed or erodable condition shall be stabilized/re-seeded by the owner/donor prior to acceptance by the City.

When possible, future utility and transportation corridors should be identified prior to acquisition. If corridor locations are specific enough in Rank II Facility Plans or corridor studies, it may be prudent to exclude major corridors from MPOS acquisition.

Comprehensive Plan Amendment (Existing process). *The MPOS Network is identified in the Comprehensive Plan and is subject to the policies of that plan. Any additions to the network that are not currently designated as Major Public Open Space must be so designated when updates of the Comprehensive Plan are made. Deletions to the network must be accomplished through a Comprehensive Plan amendment initiated by the property owner or the City of Albuquerque.*

Table 2-2
Major Public Open Space Network Planning Process

Process	New, Existing or Modified by Plan	Responsibilities			
		Staff/Administration	Open Space Advisory Board (OSAB)	EPC/CPC	City Council/BCC
Evaluation and Acquisition					
• Site Evaluation and Open Space Register Nomination (p. 19)	Existing	OS staff evaluates site and prepares nomination form	Evaluates site, reviews staff recommendations and approves or denies nomination		
• Open Space Acquisition/ Protection Priority List (p. 19)	Existing	OS staff prepares report to OSAB	Reviews staff recommendations and approves priorities		
• Comprehensive Plan Amendment (p. 19)	Existing	Additions - Through evaluation and acquisition process			
• Acquisition request	Existing	Deletions - Applicant submits application, staff review Administrative approval - final	Makes recommendation to EPC/CPC Requests administrative approval	Public hearing; recommendation to City Council/BCC	Final Action
• Acquisition (p. 20)	Existing	City Real Property or County staff responsibility			
• Survey, Protection (p. 20)	Modified	OS staff responsibility			
Management Planning					
• Resource Management Plan (RMP) - applies to large MPOS areas (p. 20)	New	OS staff responsible for RMP	Reviews RMP and makes recommendation to EPC and/or CPC	Reviews document, hold public hearing, and makes recommendations to the City Council/BCC for final action	Final Action
• Master Development Plan - applies to smaller areas or properties of 100+ acres w/no RMP (p. 21)	New	OS staff responsible for Master Development Plan	Reviews Master Development Plan and makes recommendation to EPC and/or CPC	EPC - final action for MDPs within the City; CPC reviews document, hold public hearing, and makes recommendations to the BCC	County only - BCC for final action
• Site Plan and Vegetation Management Plan (p. 21)	New	OS staff responsible for site plan and vegetation management plan	Reviews site, vegetation management plans. Final action on plans w/permissive uses in MPOS (p. 24). Makes recommendation to EPC / CPC if plans propose uses other than permissive	Final action on plans that propose uses other than those permissive in MPOS.	
• Design & Construction (p. 21)	Existing	OS/CIP staff responsibility			
Public Involvement (p. 21)	Modified	OS staff responsible for public meetings, scheduling public hearings	Provides opportunity for public comment at monthly meetings	Key opportunity for public input into MPOS plans and proposed development	Key opportunity for public input into MPOS plans

- *Open Space Acquisition/Protection Priority List (Existing process modified by this plan. See section 3.C.1). The OSAB sets acquisition priorities, with planning and zoning information and recommendations provided in preliminary and final reports on the properties being considered. Three priority levels are included in the list. When the OSAB adds a site to the acquisition list, it assigns it a priority level and sets the priority for acquisition and protection.*
- *Acquisition: The OSAB recommends proceeding with acquisition of a parcel. The Mayor and Council review and approve these actions if land is to be acquired by the City. Bernalillo County staff is responsible for acquisition of Major Public Open Space by the County.*
- *Survey, Protection (Existing process modified by this plan see section 3.C.1). Once a parcel is acquired, survey and protection of the area will take place within six months. The costs of a land survey, title search, documentation of the property in a data base, fencing and signage are part of the acquisition cost. Patrols by open space rangers and enforcement of City ordinances will begin immediately upon acquisition by the City. Once parcels are surveyed, a digital file of the plat should be provided to the City's GIS to allow accurate mapping of the Network.*

Management Planning

Policy A.2.C

Resource Management Plans should be developed for the Sandia Foothills, West Side Open Space, Candelaria Farms, the Montesa ORV park, Placitas Open Space, Calabacillas Arroyo, East Mountain Open Space and Tijeras Arroyo. Resource management planning has been completed for the Rio Grande Bosque.

As a preliminary step in Resource Management Plans for each MPOS area, detailed baseline studies shall be conducted to inventory the following:

- *archeological sites,*
- *wildlife and vegetation (particularly rare, threatened and endangered species and endangered habitats),*
- *visual resources, opportunities for open space experiences, and*
- *other opportunities for satisfying MPOS purposes.*

The Resource Management Plan shall:

- *Identify land use "carrying capacity";*
- *identify access points;*
- *identify facility locations, including utility and transportation corridors;*
- *identify areas to be monitored and develop a monitoring and management plan;*
- *establish policies for resource management, access and parking, facility management, staffing, fees, interagency cooperation and enforcement;*
- *classify the parcels within the Resource Management Plan area according to MPOS type according to the criteria contained in Table 2-1;*
- *evaluate impacts of proposed development within the Major Public Open Space on adjacent areas; and*

- *evaluate reasonable alternative development scheme.*

The Resource Management Plan may include specific zoning overlays within and/or adjacent to the Major Public Open Space. Resource Management plans shall be reviewed by the Open Space Advisory Board (OSAB). The OSAB will make recommendations to the Environmental Planning Commission (EPC) and/or Bernalillo County Planning Commission (CPC). For plans within the City, the EPC makes recommendation to the City Council for final action. The CPC makes recommendations to the Bernalillo County Commission, which acts on plans within the County. An assessment of the potential impacts and/or benefits of the development and management alternatives on natural resources and environmental features shall be conducted by the Open Space Division or the Capital Implementation Program.

Funding for additional staff and/or for contract research and planning is needed to prepare, implement and monitor these Resource Management Plans (see section 3.C.2. Staffing).

Policy A.2.D

Master Development Plans shall be prepared for contiguous Major Public Open Space parcels of 100 or more acres that are not covered by the Resource Management Plans required above. Master Development Plans shall:

- *Identify land use "carrying capacity";*
- *identify access points;*
- *identify facility locations, including utility and transportation corridors;*
- *inventory visual, cultural, archeological and ecosystem resources;*
- *classify areas by MPOS type;*
- *establish areas to be monitored;*
- *prepare reasonable alternative development schemes;*
- *develop policies for resource management, access, facility management, staffing, fees, interagency cooperation and enforcement; and*
- *evaluate impacts of proposed development within the Major Public Open Space on adjacent areas.*

Master Development Plans shall be reviewed by the OSAB. The decision of the EPC shall be final for Master Development Plans within the City. The Bernalillo County Planning Commission shall review plans for areas within the unincorporated County, with final County action by the Bernalillo County Commission. The appropriate board identified in joint powers agreements will review and act on Master Development Plans for lands outside of Bernalillo County.

Policy A.2.E

Site Plan and Vegetation Management Plan. Site specific plans for development and landscaping shall be prepared for any improvement constructed in Major Public Open Space. Any improvement which is not permissive according to Table 3-2 shall be reviewed and approved by the Open Space Advisory Board prior to submittal to the Environmental Planning Commission, Bernalillo County Commission or other board having jurisdiction for approval. The site plan review shall include approval of measures to mitigate impacts of construction and facility use. The mitigation plan shall identify methods of minimizing the impacts of construction and human use, including restoration of natural resources and environmental features. The plan

shall also identify conditions to be noted during ongoing monitoring which could eventually need more intensive management, i.e. revegetation, closing areas to public use, species inventory, revegetation methods etc.

Policy A.2.F

Design and Construction. Project design plans and construction drawings are the final design step prior to construction. Schematic design plans shall be approved by the OSAB before construction drawings are prepared and submitted for a building permit.

General

Policy A.2.G

Public Involvement. Public involvement shall occur throughout the planning process. Land use and facility planning shall be done in consultation with adjacent landowners (both private landowners and public agencies) and community planning area partnerships.

At a minimum, public meetings will be held at points of initial scoping, draft report and final draft of Resource Management, Master Plans and site plans for conditional uses. Minimum notification for these meetings shall be: posting at major entrances to the site, legal published notice in a local newspaper, written notification to the parks, open space, trails community planner, a certified mailing to recognized City and County neighborhood associations, and a mailing to persons attending previous meetings for a plan. These notifications shall be made at least two weeks prior to the meeting.

Policy A.2.H.

Permanent files shall be established or updated for each Resource Management Plan, master plan and conditional use site plan with the most current or the final approved product of each step of the planning process.

Policy A.2.I.

The Major Public Open Space Facility Plan shall be reviewed bi-annually after the adoption of this plan to keep facility plan recommendations current. The OSAB will submit recommended changes to the Environmental Planning Commission and the Bernalillo County Planning Commission. The EPC and BCC shall hold a public hearing regarding the changes and make recommendations to the City Council and Bernalillo County Commission for final action.

Monitoring

Ongoing monitoring of the impacts of public use is required in protected, undeveloped open space and preserve areas with natural resource value as identified in the Resource Management Plan. A monitoring schedule and management plan will be established in the Resource Management Plan and as part of site plan development.

Zoning

Major Public Open Space should be zoned in a manner which is compatible with the policies of this plan and best insures its continued use as Major Public Open Space without placing duplicative or unnecessary regulation on the operations of the Open Space Division. Land uses that are permitted in Major Public Open Space are listed in Table 2-3.

Policy A.4.A. Properties within the City of Albuquerque should be zoned SU-1 for Major Public Open Space with the condition that uses listed as permissive in Table 2-3 will not require a site development plan or site development plan amendment. Properties should be rezoned when acquired, and properties currently owned should be rezoned as part of the approval process for resource management plans and site plans.

Policy A.4.B For properties within the jurisdiction of Bernalillo County, the Open Space Division should evaluate the appropriate zoning according to the MPOS type proposed for the property. In most cases zoning will be A-1, with special use permits for some facilities.

Appendix D contains proposed text amendments to City of Albuquerque Comprehensive Zoning Code and the Bernalillo County Zoning Ordinance which clarifies how uses may be approved on Major Public Open Space lands. For zoning purposes, Asset Lands and Land Bank properties are not considered to be Major Public Open Space.

Open Space Advisory Board

The Open Space Advisory Board (OSAB) is an appointed citizens board which, along with staff, is charged with reviewing and recommending acquisition priorities and additions to the network. The OSAB makes recommendations regarding extraordinary facilities to the City's Environmental Planning Commission (E.P.C.). The OSAB also advises the E.P.C., Mayor and City Council as to appropriate policies, management activities and programs; implementation of adopted MPOS plans, and proposals to sell, lease or exchange of land bank lands and lands to be acquired with open space funds or by dedication or other means.

The Open Space Advisory Board ordinance requires that "members shall be citizens with a demonstrated commitment to the accomplishment of the Albuquerque/ Bernalillo County Comprehensive Plan" and "Members shall be knowledgeable as to open space, ecology, the real estate market, urban and regional planning and/or related law."

Staff of both the City and County are currently working together to draft an open space joint powers agreement that will define City and County roles relative to the MPOS Network. The makeup and responsibilities of the OSAB should be expanded to include the County, consistent with the joint powers agreement.

Policy A.5.A. When joint powers agreements are established between the City of Albuquerque and other jurisdictions regarding Major Public Open Space consideration should be given to expanding the number of Board members.

TABLE 2-3.
PERMISSIVE AND CONDITIONAL USES IN MAJOR PUBLIC OPEN SPACE

	Open Space Preserve	Protected, Undeveloped Open Space	Open Space Facility	Open Space Trail	Special Use Area
Purpose	Protection of critical habitat and cultural resources from impact of human development; scientific study and education.	Protection of natural resources while providing back country recreational experience.	Serves regional need for environmental education and informal recreation in a natural setting; provides access areas for open space. Protects resources by concentrating use.	Links to urban hiking, bike and equestrian trail system; linear open space.	Unique function within network
Permissive Uses	Fencing up to 6' high Active management for benefit of wildlife and vegetation. Primitive trails Drainage structures necessary for resource protection, management of on-site or historic flows.	Fencing up to 6' high Active management for benefit of wildlife and vegetation. Primitive trails Trails - Unpaved Hiking, equestrian and mountain biking Wheelchair accessible Unimproved service roads Max. 25 space parking lot Paved access to parking Bus stop shelters, Bike shelters Drainage structures necessary for resource protection, management of on-site or historic flows.	Fencing up to 6' high Active management for benefit of wildlife and vegetation. Primitive trails Trails - Unpaved Hiking, equestrian and mountain biking Wheelchair accessible Trails - Paved Bicycle, wheelchair accessible Interpretive Trail Picnic areas (Tables) Drinking water, restrooms Trash receptacles Max. 25 space parking lot Paved access to parking Bus stop shelters, Bike shelters Drainage structures necessary for resource protection, management of on-site or historic flows.	Fencing up to 6' high Active management for benefit of wildlife and vegetation. Primitive trails Trails - Unpaved Hiking, equestrian and mountain biking Wheelchair accessible Trails - Paved Bicycle, wheelchair accessible Interpretive trail Max. 25 space parking lot, Paved access to parking Picnic areas Bus stop shelters, Bike shelters Drainage structures necessary for resource protection, management of on-site or historic flows.	None
Conditional Uses Requiring Site Development Plan Approval	None	Public utility structure, existing utility easement pursuant to an approved Resource Management Plan, Master Development Plan and/or Site Development Plan. Roads other than unimproved service roads. Drainage structures other than those necessary for resource protection.	Natural amphitheater Visitor center Interpretive center Public utility structure, pursuant to an approved Resource Management plan and site development plan. Parking lot with more than 25 spaces. Non-permissive uses defined in Resource Management Plans, Master Development Plans and/or Site Development Plans. Drainage structures other than those necessary for resource protection.	Interpretive center	Uses defined in Resource Management Plans, Master Development Plans and/or Site Development Plans.

* Conditional uses that are not related to an MPOS purpose are considered to remove land from the MPOS Network. To mitigate this loss, the requesting agency must replace the land lost to the MPOS Network with land equal in area to that removed from the network. Land to replace lands acquired through the National Recreation Public Purposes Act and the Land and Water Conservation Fund are subject to Federal requirements. All other replacement lands must be approved by the OSAB and planning commissions as part of site development plan approval.

Out of County Property

The Open Space Division manages properties outside of Bernalillo County as Major Public Open Space. These include two types of land (a) land bank and asset lands throughout New Mexico obtained through trades of other asset or land bank lands, and (b) two parcels in Sandoval Country acquired prior to the establishment of the MPOS Network. There are a set of issues which must be addressed for the second set of properties to become an active part of the MPOS Network including policing of the properties, formal coordination between Sandoval County and the City of Albuquerque, and possible development of a regional open space plan.

Policy A.6.A *Land Bank lands, whether in or outside Bernalillo County, shall be managed, sold or traded for the financial benefit of the MPOS Network.*

Policy A.6.B *A study (or separate studies for each parcel) should be conducted to determine and plan for the appropriate use of types of MPOS lands other than land bank lands outside of Bernalillo County. The study should evaluate issues of joint powers agreements, regional open space needs, cross-deputization, and management.*

Land Use

Appropriate Use of Major Public Open Space

The MPOS Network serves a variety of recreational needs. The locations and intensity of activities are directed through development of trails and other facilities. Appropriate facility locations and mitigation of impacts are critical to the equitable access and enjoyment of the MPOS Network by all users. In most areas, a variety of users must be accommodated. Facility design and public education regarding user etiquette and sharing of trails can help mitigate conflicts, which were noted as a concern at public meetings and in surveys.

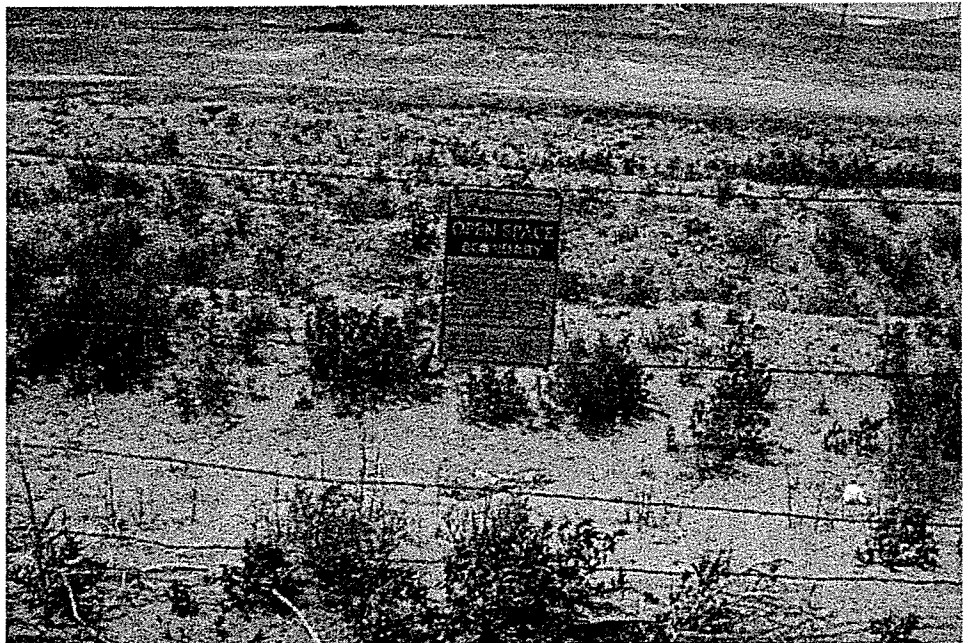


Figure 2-2: Open Space Signage, Tijeras Arroyo

Policy B.1.A. *Appropriate use of Major Public Open Space shall be consistent with each area's MPOS type. Permissive and conditional uses in Major Public Open Space are defined in Table 2-3. The following descriptions further define and clarify the use issues for each land use type.*

Policy B.1. B. *Open Space Preserve. Open space preserves are intended to remain in a natural state and be actively managed for the benefit of wildlife, resource protection and resource restoration. Preserve areas are to remain spatially, visually and acoustically isolated from urban development. Land use policies are consistent with these objectives.*

- *Open space preserves should be protected from urban development and the impacts of human use. Only those uses which benefit wildlife and support scientific study or educational purposes should be allowed.*
- *A 500' buffer should be established adjacent to open space preserves, when possible, to protect the areas from the impacts of human use. If a buffer is not feasible, the impact of adjacent use should be mitigated.*

Policy B.1. C. *Protected, Undeveloped Open Space. Protected, undeveloped open space areas comprise the largest proportion of the MPOS Network. These areas provide resource protection, visual relief from urban development, shaping of the urban form, and back country recreational opportunities for residents and visitors. These areas provide a transition from urban development to wilderness areas and contain opportunities to experience isolation from urban development.*

- *Protected, undeveloped open space should be fenced and posted, with access points placed to control visitor use patterns.*
- *Protected, undeveloped open space should be predominantly undeveloped with only those facilities needed for dispersed informal recreation. Facilities will be primarily unpaved trails, with associated signage.*
- *Protected, undeveloped open space should be free of public roads, except for unimproved service roads, when possible; however, roads are allowed as a conditional use with approval of a site development plan. Transportation corridors in the Long Range Major Street Plan should be identified prior to open space acquisition, and excluded from acquisition as Major Public Open Space, if possible. When corridors traverse Major Public Open Space, Resource Management Plans and Master Development Plans should indicate the roadway locations within the corridor that best protect the area's resources. Federal law requires Congressional approval of non-recreational use of lands acquired with RPPA and LWCF funds. Replacement lands equivalent to the area committed to another use must be provided by the agency requesting the non-recreational use and approved through the Federal process.*
- *Protected, undeveloped open space areas should be protected from concentrated public use through placement of MPOS facilities at areas of easy access and heavy use.*

- *Public utility structures are allowed in protected, undeveloped open space as a conditional use with site development plan approval. Colocation with MPOS facilities is preferred. The Federal restrictions described for road corridors above apply to public facilities that are unrelated to open space.*
- *Protected, undeveloped open space areas may include trails at varying levels of accessibility including trails which range from usable to challenging for users with disabilities.*

Policy B.1.D. *Open Space Facilities. Open space facilities are intended to concentrate low impact recreational use of open space in areas that can accommodate heavy use, while protecting natural and cultural resources.*

- *Open space facilities should be located at the edges of MPOS areas in locations with access to urban streets.*
- *No new facilities shall be developed in areas with archeological sites or which are likely habitats for threatened or endangered plant or animal species. All new facilities, expansion of existing facilities and trails shall be designed to avoid these areas and to direct people away from these areas.*
- *Open space facilities may include a variety of low impact recreational opportunities. Facilities for organized recreation or turf game fields are not appropriate.*

Policy B.1.E. *Open Space Trails. Open space trails link open space with the urban trail system and can provide linear open space which visually extends into developed areas.*

- *A variety of paved and unpaved trails at varying levels of challenge, including hiking, equestrian and bicycle trails, will be provided within designated MPOS in appropriate areas. Preferred trail locations will be identified in Resource Management Plans, Master Development Plans and site development plans.*
- *Interpretive trails are appropriate at accessible points of interest, particularly along major arroyos, along links between areas of cultural or historical significance, at facilities located in areas of educational value, or at the fringes of open space preserves.*

Policy B.1.F. *Special Use Areas. Special use areas serve a unique function within the MPOS Network. Developed facilities contribute to the Network's inventory of specific recreational opportunities.*

- *Special use areas must be located so that they do not reduce the ability of the MPOS Network to meet the goals of the Comprehensive Plan or diminish the quality of recreational and/or educational experiences available within the MPOS Network.*
- *Special use areas should complement or enhance recreational and/or educational opportunities already offered by the MPOS Network.*

- *All special use facilities shall be evaluated for consistency with the Facility Plan. If special uses are not appropriate in their current location, then the use should cease at the site.*
- *Special use facilities must be permitted by the Open Space Division. Facilities that are generally incompatible with Major Public Open Space shall be permitted only if their location in one MPOS area enhances City wide efforts to change use patterns in other MPOS areas.*
- *Private facilities shall be operated at no cost to the City. The facility operator shall be responsible for mitigation of impacts outside the site designated for the facility and shall be responsible for restoration of the site when it is vacated. A bond insuring sufficient funds for restoration shall be posted by the operator. Other methods to ensure proper restoration may be used in lieu of a bond if acceptable to the Open Space Division.*

Facility Location and Design

Facilities within Major Public Open Space vary widely in the quality of their design and materials used to build them. Some areas, like the Boca Negra Unit of the Petroglyph National Monument, have facilities which need to be upgraded. In other areas, salvaged materials have been used as a money saving measure. Still others, like the Elena Gallegos picnic area, are the MPOS Network's models of outstanding facility design.

General design standards are found in Appendix H.

Policy B.2.A. *Facilities within Major Public Open Space shall be designed to minimize their impact on natural processes or natural, visual or cultural resources.*

Policy B.2.B. *Archaeological surveys and mitigation shall be conducted prior to facility development. Facilities shall not be located in a manner that will cover, undermine or otherwise damage archaeological or cultural sites. Sites should be preserved in place or avoided whenever possible. If appropriate, information about archaeological sites will be integrated into interpretive facilities.*

Policy B.2.C. *Facilities within Major Public Open Space shall be located and designed to protect the public from natural hazards such as unstable slopes and flood prone areas. No facilities shall be developed on areas with slopes exceeding 25 percent.*

Policy B.2.D. *High risk uses shall not be allowed in any instance where the possibility of damage to the resource is anticipated. High risk activities may include rock climbing, hang gliding, shooting ranges and others.*

Policy B.2.E. *Facilities intended for public use shall be designed to facilitate fee collection. This may include the installation of access control devices, entry kiosks and, when possible, visitor centers and buildings.*

Policy B.2.F. *Recycled and salvaged materials should be used when possible. However, the cost savings must be balanced against aesthetics and long term maintenance in overall site design.*

Access and Parking

Public access to Major Public Open Space is important throughout the network. Access can be managed to ensure that areas of intensive use are adequately protected and that sensitive areas are appropriately monitored. Access for people with disabilities and equitable geographic distribution of access points are important considerations in facility design. Degree of access to each type of Major Public Open Space should be addressed - access can range from extremely limited pedestrian access to equestrian and bicycle access. Motorized vehicular access by other than emergency and maintenance personnel is prohibited except where specifically allowed by permit.

Policy B.2.G. *Public access trails and easements are recommended as an integral part of private development adjacent to Major Public Open Space. The locations of trails and access points should be coordinated with Open Space staff.*

Policy B.2.H. *Access to open space preserves should be by primitive trails. Access should be restricted to protect vegetation, wildlife habitat, and other fragile resources.*

Parking is a major concern to neighborhoods adjacent to access points. Each MPOS area should be evaluated for number of users and that adequate parking is provided. When there is a shortage of parking spaces, users of Major Public Open Space park on the streets of the adjacent neighborhoods which results in a negative impact on the residents of those neighborhoods.

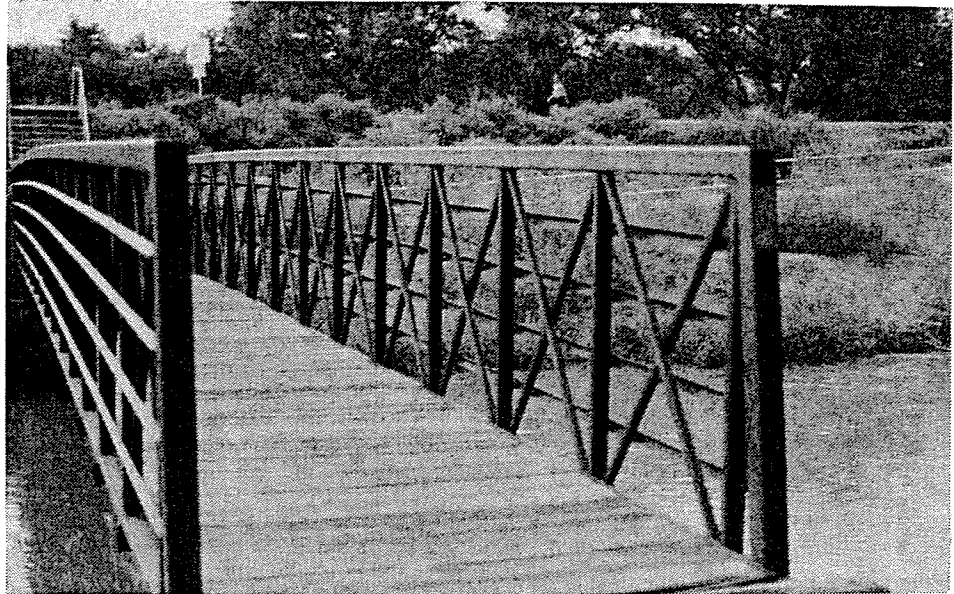
Policy B.2.I. *Parking lots shall be designed to fit with the MPOS type, facility needs and the landscape where they are sited. Parking lots should provide access to Major Public Open Space for a full range of user, arriving to the site in multiple transportation modes (pedestrians, bikes, buses etc.).*

Trails

Public comments indicate strong support for an expanded trail system, including trail linkages to and within Major Public Open Space. Interpretive trails were suggested, including self guided trails. Clearly marked trails are needed for all purposes. Signage should be unobtrusive, while informative and accessible. Some conflict was expressed between those who prefer paved trails and those who feel that unpaved trails are more consistent with a natural setting. Trails should include wheelchair accessible trails at different challenge levels.

Policy B.2.J. *The Open Space trail system shall accommodate a variety of users on single- and multi-purpose trails. Trails should be designed, as much as possible, to meet the requirements and intents of the Americans with Disabilities Act and should accommodate a range of ability levels. Multiple use of trails is encouraged, but in some areas, designated trails may be developed to minimize resource damage. Public information regarding trail etiquette shall be provided at manned facilities.*

Figure 2-3: Bridge and ramp, Rio Grande Nature Center



Policy B.2.K

The location of access points, parking and trail heads will be coordinated with the sidewalk system, existing and proposed trails identified in the Bikeways and Trails Facility Plan and on adjacent Federal lands.

Policy B.2.L

Trails shall be designed and managed to minimize environmental damage and to conform to the greatest degree possible to the materials and topography of the natural landscape.

Classes of Facilities

Facilities classifications are based on the level of development and services available. The Open Space Division uses the facility classification system to program capital and operating expenditures.

Class I Facility -- Developed facility containing improved parking, access and trails.

Class II Facility -- Developed facility containing improved parking, access, picnic areas and trails.

Class III Facility -- Developed facility containing improved parking, access, picnic areas, restrooms and trails.

Class IV Facility -- Developed facility containing improved parking, access, picnic areas, restrooms, trails, and other structures.

Class V Facility -- Like Class IV facilities, Class V facilities are developed facilities containing improved parking, access, picnic areas, restrooms, trails, and other structures. In addition, on-site staffing is provided at Class V facilities. Generally, fees are collected at Class V facilities, but this is not always the case.

Design Guidelines for Development Adjacent to Major Public Open Space

Commercial Development

Policy B.3.A. *All commercial developments adjacent to Major Public Open Space should include the following design considerations in submittals for approval before the Environmental Planning Commission or Design Review Board:*

- *Height -- up to the maximum allowable within the zone but lower heights are encouraged where the scale of the building height would tend to overwhelm the adjacent natural characteristics, such as in areas of sparse or low vegetation or areas where views are significant in one or more directions.*
- *Massing and profile -- low, unobtrusive and irregular building mass or profiles are encouraged in favor of building elevations that are tall, abrupt, angular or regular.*
- *Materials -- organic, traditional materials (adobe, masonry, wood or frame and stucco) are preferred over more modern or inorganic materials such as cement, steel or glass.*
- *Color -- building facades shall be of a more neutral or pastel and less reflective hue such as tan, sand or light brown, rather than those with more brightly colored hue and reflectance.*
- *Landscaping -- landscape materials shall be in character with those of the natural surroundings rather than utilizing plant species that are out of character with the area. When such plant selections are in doubt, an inventory of the nearest MPOS area will indicate the primary native tree, shrub, succulent, grass and annual species. Alternatively, the plant list in Appendix F should be used in consultation with Open Space Division staff.*

Policy B.3.B. *All residential development adjacent to Major Public Open Space should follow the guidelines as set forth for Commercial Development above, except that such guidelines apply to newly approved residential developments within 1/4 mile of Major Public Open Space.*

Policy B.3.C. *Resource Management Plans for Major Public Open Space areas may include a Design Overlay Zone that creates regulations consistent with the above guidelines.*

General Management

Acquisition/ Financing

The per acre cost of land acquisition is increasing at a rate of approximately ten percent each year. Cost increases have been lower in some years because of a slow real estate market. Cost increases are primarily

the result of expansion of the urban area, which brings utilities, roads and urban development closer to potential Major Public Open Space and enhances property values. The City attempts to acquire the most threatened land first. As result, the City must usually purchase land when it is close to development. Property worth \$1 million in 1982 was worth \$7 million in 1992. In some cases, land designated as Major Public Open Space would be more costly for the City to provide service to as a developed area than to acquire it as Major Public Open Space. Areas like the Sandia foothills are difficult to serve with public utilities. The City's Fiscal Impact Analysis Model will help evaluate the public cost of development in designated Major Public Open Space areas as compared to the public cost of acquisition.

Although the Comprehensive Plan designates that a portion of the MPOS Network be preserved through easements, the most feasible method of protection today is fee simple purchase. The most reliable funding sources have been taxes that generate adequate revenues to allow the City to commit to major land purchases. The City's bond program and gross receipts taxes dedicated to the purchase of Major Public Open Space have been the major sources of tax revenue. Bernalillo County is now able to issue general obligation bonds to help fund the acquisition of Major Public Open Space.

Land dedications, cash payments in lieu of land dedications and impact fees have produced a small amount of land and/or funding for acquisition. These sources can supplement other purchases, but are not adequate in themselves to pay for the MPOS Network defined in the Comprehensive Plan. Land dedications, in particular, have been problematic because a single development generates a requirement for a very small amount of off-site open space, and there is no requirement that the off-site open space be within designated Major Public Open Space.

A variety of funding sources are described in Appendix G. Options for improving the MPOS Program's acquisition strategy include reducing the area designated as Major Public Open Space, initiating an aggressive acquisition program, and revising the City's zoning ordinance or fee structure to obtain more Major Public Open Space through the development process. The recommended approach is to create an ongoing source of tax revenues for acquisition of Major Public Open Space. This could be a continuation of the two-year 1/4 cent for parks and open space that will begin in July 1997 or a dedicated percentage of the City's G.O. Bond program, similar to the dedicated funding for public art.

Acquisition

Policy C.1.A. *Lands shall not be acquired for Major Public Open Space unless all of the following conditions are met:*

- (a) the land meets at least one of the Comprehensive Plan goals for Major Public Open Space;*
- (b) inclusion of the land in the network does not diminish any of the open space goals of the Comprehensive Plan;*
- (c) the land is assigned an MPOS type and clearly serves the purposes of the assigned type; and*
- (d) public access is available or the site can be made accessible to the public upon acquisition (except for archeological sites, endangered or threatened species habitat and other open space preserve lands).*

Policy C.1.B. *The following factors shall be used to prioritize land for acquisition:*

- (a) Plan goals: the degree to which the land aids in fulfilling the Comprehensive Plan goals and the subgoals by area of this plan;*

(b) *Continuity & connectivity: the degree to which the land is contiguous to presently owned parcels or is part of a potential corridor which provides wildlife routes, a natural drainage way and/or trails between Major Public Open Spaces as shown in the Comprehensive Plan (including State and Federal Lands);*

(c) *Public access: the degree of public access by various modes of travel;*

(d) *Type: the degree to which the parcel fulfills the role of its proposed MPOS type.*

Policy C.1.C *The application form and the staff evaluation form for nominations to the acquisition list shall include information which allows full consideration of policies C.1.A and C.1.B above.*

Policy C.1.D. *The OSAB shall formally add parcels to the priority list and assign a priority level to the parcel. The OSAB shall state in writing how policies C.1.A and C.1.B above were considered in their recommendation and shall recommend the Major Public Open Space type to be assigned to the parcel. Deletions or amendments to the list shall be by the same procedure.*

Policy C.1.E. *Land dedicated to the City through the detached open space requirements of the zoning code should be evaluated by the Open Space Division and Capital Implementation Program for inclusion into the MPOS Network, the parks system, trails system or other uses. Any parcel proposed to be part of the MPOS Network must be added to the acquisition list by the OSAB according to policies C.1.A through C.1.D. above.*

Policy C.1.F *City owned land which has been accepted as part of the MPOS Network shall not be removed from the Network or used for purposes other than those allowed by this plan unless both the Albuquerque City Council and the Bernalillo County Commission find that the parcel does not serve the purposes of Major Public Open Space as defined by the Comprehensive Plan and this document.*

Funding

The City MPOS Program receives funding from several sources, as shown in Table 1-1. These funds are used for management, capital improvements, and land acquisition. Adequate funding is essential to the acquisition and management of the Network.

Policy C.1.G. *The City recognizes that funding beyond what is available from interest generated by the Open Space Trust Fund is necessary to meet the standards of staffing, maintenance and operations and management of this plan.*

Policy C.1.H *Funding sources that supplement the City's General Fund, like special taxes or fees and additional user fees, should be explored, including:*

- Review of Agreements with Private Entities. *The Open Space Division will review leases and other agreements with private entities for consistency with the Facility Plan. When these agreements are renewed, these entities should provide a management plan, operating plan and/or and site development plan of the facility to the City. Renewed agreements should be consistent with the Facility Plan. Rent on*

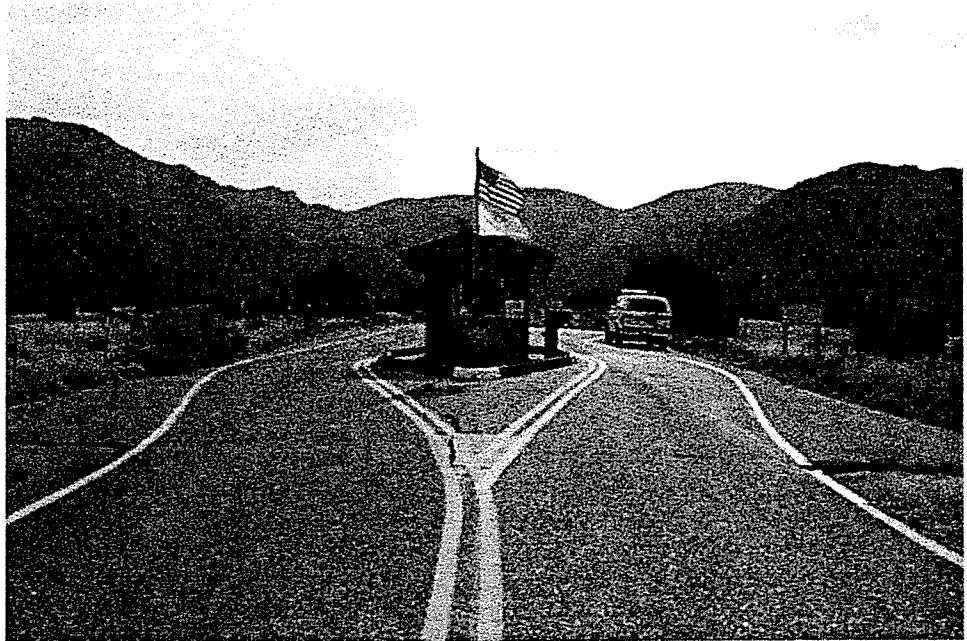
land leased to private entities should at a minimum cover all costs to the City and provide some net funds to the Open Space Division. Bonds to cover potential environmental mitigation and restoration upon termination of private activities may be required in leases.

- Annual Review of User Fees. Revenues from open space facilities and special use areas should be reviewed annually to ensure that an acceptable part of costs is paid by users.
- Evaluation of New Funding Opportunities. New sources of revenue will be needed if the MPOS Program is to meet public needs. Education, enforcement and visitor services are limited by the program's operating budget.
- Special Taxes. Special gross receipts taxes have been a major source for MPOS acquisition. The current parks and open space tax will be collected for two years, until mid-1999. Local voters have been willing to use this type of funding for MPOS acquisition. If substantial lands remain to be acquired at the end of the taxing period, the City should consider either extending the tax or re-establishment it at a later date to complete the Network..

Staffing

The Open Space Division has four staff groups: (1) Administrative staff, (2) Law enforcement staff, (3) Operations and Maintenance staff, and (4) Visitor Services staff. The City's Capital Implementation Program conducts current and project planning for the Open Space Division.

Figure 2-4:
Entrance and fee
station,
Elena
Gallegos



Policy C.2.A. *Most Protected, Undeveloped Open Space requires minimal management, with staffing needs increasing with the level of use. Management of Major Public Open Space will require the attention of additional full and part time staff as use increases and new facilities are built to accommodate these users. Additional enforcement, visitor services and maintenance staff should be added as the network expands to ensure adequate protection and management. Standards for staffing shall be developed. Standards should include at a minimum:*

- *Maintenance personnel per acre and per mile of fence;*
- *park attendants per 1,000 visitors, and*
- *rangers (law enforcement officers) per acre.*

Policy C.2.B. *The City will provide training to staff on an ongoing basis. Training of staff for MPOS types shall include methods such as videos, classes, books, seminars and other sources. Training shall include natural resources education, emergency management, law enforcement, maintenance and construction and other appropriate subjects.*

Policy C.2.C. *In order to implement the planning and management requirements of this plan, additional staff is needed, as recommended in Section Ten, Implementation Summary.*

Interagency Cooperation

The MPOS Program must routinely cooperate with City agencies that operate facilities within or adjacent to Major Public Open Space. Other City agencies provide a regulatory or planning function for the MPOS Program. Key City agencies are:

- Planning Department
- Cultural and Recreational Services Department
- Public Works Department
- Department of Finance and Management
- Police Department
- Fire Department
- Capital Implementation Program
- Legal Department
- AGIS
- Solid Waste Management Department

There are many public entities other than the City of Albuquerque which have responsibilities for portions of the MPOS Network because they manage adjacent lands or own land within designated Major Public Open Space or assist the MPOS Program. It is important that the City coordinate its management with the work of these entities. They include:

West Mesa Open Space

U.S. Department of the Interior
National Park Service
U.S. Department of Transportation
Federal Aviation Administration
New Mexico State Land Office

AMAFCA

Bernalillo County

State of New Mexico Energy, Minerals and Natural Resources Department, Park and
Recreation Division

U.S. Department of Agriculture

Soil Conservation Service

Rio Grande Bosque

U.S. Army Corps of Engineers

Bureau of Reclamation

U.S. Fish and Wildlife Service

New Mexico Department of Game and Fish

Middle Rio Grande Conservancy District

Bernalillo County

State of New Mexico Energy, Minerals and Natural Resources Department, Park and
Recreation Division

Arroyos

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)

Bernalillo County

Sandia Foothills

U.S. Department of Agriculture

U.S. Forest Service

Soil Conservation Service

NM State Game and Fish Department

East Mountain

Bernalillo County

U.S. Department of Agriculture

U.S. Forest Service

The coordination with these agencies provides opportunities for joint activities, including cross marketing, coordinated signage, common mapping, and joint interpretive services. The Facility Plan for Arroyos embodies such cooperation.

Policy C.3.A. *Opportunities to share responsibility with other public agencies shall be encouraged in all management agreements. Agency coordination should include cross-referencing regulations and distributing information about agency functions.*

Policy C.3.B *The Open Space Division should complete a joint powers agreement with Bernalillo County for coordination of development and management of open space within the unincorporated County, and the Open Space Division should pursue management agreements with all jurisdictions in which it owns property other than land bank lands.*

Policy C.3.C *Joint facility development and operations shall be considered, particularly for facilities located outside the Albuquerque municipal limits. A City/County joint powers agreement for Major Public Open Space acquisition and/or management and the*

participation with AMAFCA in acquiring, developing and managing Major Public Open Space arroyos are examples of joint activities. City participation should be visible through a City logo on signs and materials and the presence of City staff at manned facilities.

Policy C.3.D. *The City shall have no responsibility for improvements, operation or maintenance of private facilities.*

Policy C.3.E. *Other City of Albuquerque Departments and other jurisdictions that maintain facilities on City-owned Major Public Open Space, shall conform to the policies of the MPOS Facility Plan, and such lands shall fall under the management authority of the Open Space Division.*

Maintenance

Routine maintenance includes road and trail maintenance, trash pickup, facility maintenance, fence installation and repair, revegetation of heavily used or disturbed areas, removal of invading species, sediment and erosion control and facility and equipment repairs. Heavy trail use can contribute to wear of the trail surface and result in erosion. Maintenance of heavily used trails is essential to control wear and prevent erosion. Vandalism, transient camps and trash dumping are significant maintenance problems requiring ongoing maintenance.

Policy C.4.A *Maintenance of facilities and maintenance of the landscape to minimize impact from use shall be an essential part of the operating budget.*

Policy C.4.B. *Maintenance and impact mitigation costs shall be included in the development and operation of facilities.*

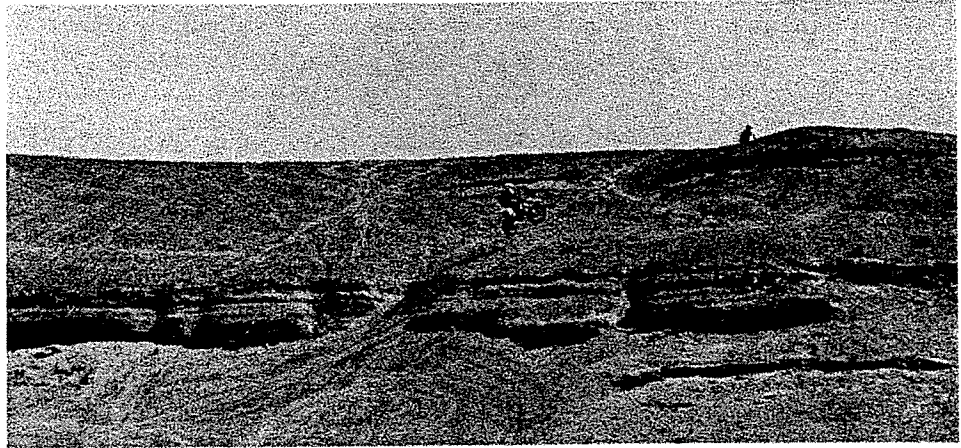
C.5 Visitor Management

Visitor management is key to resource protection, environmental education and a positive visitor experience. Visitor services and interpretive programs are the avenues through which the City MPOS Program has contact with the public. Additional visitor services are an important and accessible way to increase public awareness of the MPOS Program. It was noted in public meetings and surveys that the Petroglyph Park and the Elena Gallegos Picnic area foster public awareness and appreciation of Major Public Open Space and the City's program.

Policy C.5.A. *Visitor use should be concentrated at staffed developed facilities. Developed facilities shall be designed to direct public use of Major Public Open Space in a manner that minimizes the impact of use on area resources. Carrying capacities should be established through ongoing monitoring.*

Policy C.5.B. *Access to Major Public Open Space shall be controlled in such a way as to protect and preserve it from degradation and disturbance due to overuse. Access to Major Public Open Space shall be controlled through facility development, trails, gates or fencing.*

Figure 2-5: Erosion of hills in Tijeras Arroyo from off road vehicles.



C.6 Resource Management

Resource management is one of the most important aspects of the City's MPOS Program. Vegetation, wildlife habitat and archaeological resources must be protected from damage. The City's approach to resource management must balance making Major Public Open Space accessible with protecting the resource. Resource management plans should provide the framework for ongoing management in specific areas. Adequate staffing is key to protecting, conserving, and sustaining land based resources. Additions of land or facilities to the network increase the need for staff to adequately protect and manage MPOS resources. Specific components to be included in the City's resource management program are:

- Resource inventory (baseline studies);
- Revegetation program, including control of exotic species;
- Ongoing monitoring of MPOS resources;
- Impact evaluation and a program for impact mitigation;
- Establishing carrying capacities of facilities to prevent over use damage;
- Identification and protection of habitats and areas of importance to wildlife migration;
- Protection of view sheds;
- Protection of experiential resources, including managing areas of solitude and areas of social interaction;
- Accommodating all ability levels in access to resources;
- Preventing user conflicts through location and design of facilities; and
- Fencing, access management and visitor management.

Policy C.6.A *Major Public Open Space shall be managed with resource protection and enhancement as primary objectives.*

Policy C.6.B. *Major Public Open Space resources shall be managed to encourage natural processes. The Open Space Division shall actively manage lands to encourage natural plant succession, wildlife migration and other processes which occurred in the Albuquerque area prior to urbanization. When natural processes have been stopped, the Open Space Division may recreate these processes in open space preserves.*

Policy C.6.C. *All native wildlife within each ecologic zone in the MPOS Network shall be protected for conservation purposes. This includes threatened, endangered and rare species and other*

identified native wildlife populations. All methods of wildlife management and control shall be within accepted environmental tolerances.

Policy C.6.D. *The restoration of native plant and animal communities shall include protection, enhancement and retention of natural habitat. The objective is to restore native communities in each ecologic zone encompassed by the MPOS Network. Accepted management techniques shall be used to control and abate invading species.*

Policy C.6.E. *Major Public Open Space lands provide a visual relief from the impacts of urban development; as such, all lands within the Network comprise a visual resource. These resources include view sheds, view corridors, mountain tops and high points, escarpments and others.*

Policy C.6.F. *All significant cultural, historical and archeological components of the MPOS Network shall be protected and/or enhanced for their intrinsic educational and historical value.*

Policy C.6.G. *Surface or groundwater quality and soil stability within the MPOS Network shall be maintained.*

C.7 Law Enforcement/ Public Safety

Although Major Public Open Space lands are often considered remote, the proximity of many facilities to the City makes crime an ongoing presence. In the case of the Rio Grande Valley State Park, for example, dense vegetation directly accessible from urban areas intensifies this problem. Visitor safety and the discouragement of illegal activity are critical. Enforcement should include a combination of policing activities and an educational program.

Rangers are State certified law enforcement officer who are fully armed and can ticket violators. The City currently provides law enforcement by Open Space rangers during designated operating hours. After hours, rangers are on call. City and County law enforcement officers do not routinely patrol the MPOS Network but will assist when called to back up rangers.

Design of facilities is important for visitor safety. Facilities should be easily accessible to all intended users. For example, visitor safety should be considered when designing parking lots.

Public education is an important component of the total law enforcement program. Rules and regulations have been developed for the MPOS Network. Public information programs, brochures, and signs should be developed to inform the public of rules, regulations and conservation practices.

Policy C.7.A. *Rules and regulations in Major Public Open Space shall be enforced to ensure visitor safety and discourage illegal activities*

Policy C.7.B. *The City shall revise the Open Space Management Ordinance (Section 5-6 R.O. 1974, multiple enactments) to authorize Open Space rangers to cite trail users for inappropriate use of trails.*

Policy C.7.C. *The operation of motorized vehicles is prohibited in all open space facilities except in well marked areas and by open space personnel.*

Policy C.7.D. *Motorized boat and vehicle operation on MPOS lands by emergency personnel such as paramedics, fire crews, law enforcement officers and search and rescue crews shall be allowed. Emergency access points shall be anticipated and designed with the installation of all fencing. Gate keys, or other access devices, shall be forwarded to the applicable emergency agencies. Open space personnel shall assist emergency operations as much as possible throughout the MPOS Network, as needed.*

When requested, locations for emergency training activities should be determined with the cooperation of open space personnel to avoid disturbance of sensitive areas.

C.8 Public Awareness/Public Education

A survey of 621 Albuquerque area residents conducted in May 1992 focused on citizen awareness and the use of Major Public Open Space in Bernalillo County. A major finding of the survey was that half of local citizens were unfamiliar with the City MPOS Network. However, over one-third of the survey respondents who stated that they were unfamiliar with the MPOS Network have visited at least one Major Public Open Space area. The lack of familiarity with the program and the lack of awareness of what lands and recreation areas are part of the MPOS Network indicates that the City should do more to promote the program.

Environmental and cultural education are important components of a program to promote public awareness. The multiple benefits of public education will ideally include appreciation of natural resources, improved user ethics, a decrease in vandalism and abuse, and support for public expenditures on Major Public Open Space.

Areas within the MPOS Network have cultural and religious significance for Native Americans and Hispanic groups in the Albuquerque vicinity. It is important that the planning for and development of the MPOS Network include these groups in the process, and that their concerns be taken into consideration when planning development of Major Public Open Space.

The Sandia and Isleta Pueblo Reservations, which bound the urban area on the north and south, contain large undeveloped areas which define the edges of the City and provide vistas of undeveloped land to the north and south. The importance of these areas to Albuquerque's sense of place should be acknowledged.

Educating the public regarding the proper use of Major Public Open Space lands and City regulations is a necessary factor in law enforcement. Promoting environmental awareness through public education is an important component of the Open Space Division's management and enforcement philosophy. The ultimate benefit of this awareness is responsible public use of Major Public Open Space.

Policy C.8.A. *A program shall be developed which educates the public about natural, cultural and archaeological resource protection, conservation and land use ethics, water safety, trails safety and etiquette, and the nature, location and availability of recreational facilities.*

Policy C.8.B. *The City shall develop brochures which include trail information, trail use etiquette, and environmental, historic and cultural interpretive information.*

SECTION THREE SANDIA FOOTHILLS

The Sandia and Manzano Foothills define the eastern edge of urban Albuquerque. This strip provides a buffer between developed areas and the Cibola National Forest. Current City policy defines all land with slopes exceeding ten percent as Major Public Open Space. The demarcation line of the ten percent slope is established in the Sandia Foothills Area Plan.

Most of the Major Public Open Space in the Sandia Foothills has been acquired. Parcels to be acquired include:

- Manzano/Four Hills (proposed)*
- Tres Pistolas/Three Gun Spring (proposed joint acquisition)*

Management of Tres Pistolas will be primarily the responsibility of the US Forest Service.

A. Developed Facilities

Trails and facilities in the foothills are extremely popular. A survey of citizen awareness and use of the City's MPOS Program conducted in 1992 showed that the Sandia Foothills was the most familiar and most often visited of the City's MPOS areas at that time.

Most of the foothills area is protected, undeveloped open space with numerous informal trails. Developed trail heads and parking are placed at key locations along the length of the foothills. The major developed facility in the foothills is the Elena Gallegos picnic area, which is located within Simms Park at the north end of the Sandia foothills. This facility provides parking and access to the Sandia Mountain Wilderness and includes picnic facilities, trails, a group reservation area, an amphitheater, a wildlife blind and restrooms. With part time staff and an estimated 150,000 visitors per year, the Elena Gallegos picnic area provides a high level of exposure for the MPOS Network and a prime opportunity for public environmental education. The Elena Gallegos picnic area provides a focus for public use of the foothills and directs public use in ways that minimize impacts. The locations of facilities in the Sandia Foothills are shown in Figure 3-1.

B. Planning Policies

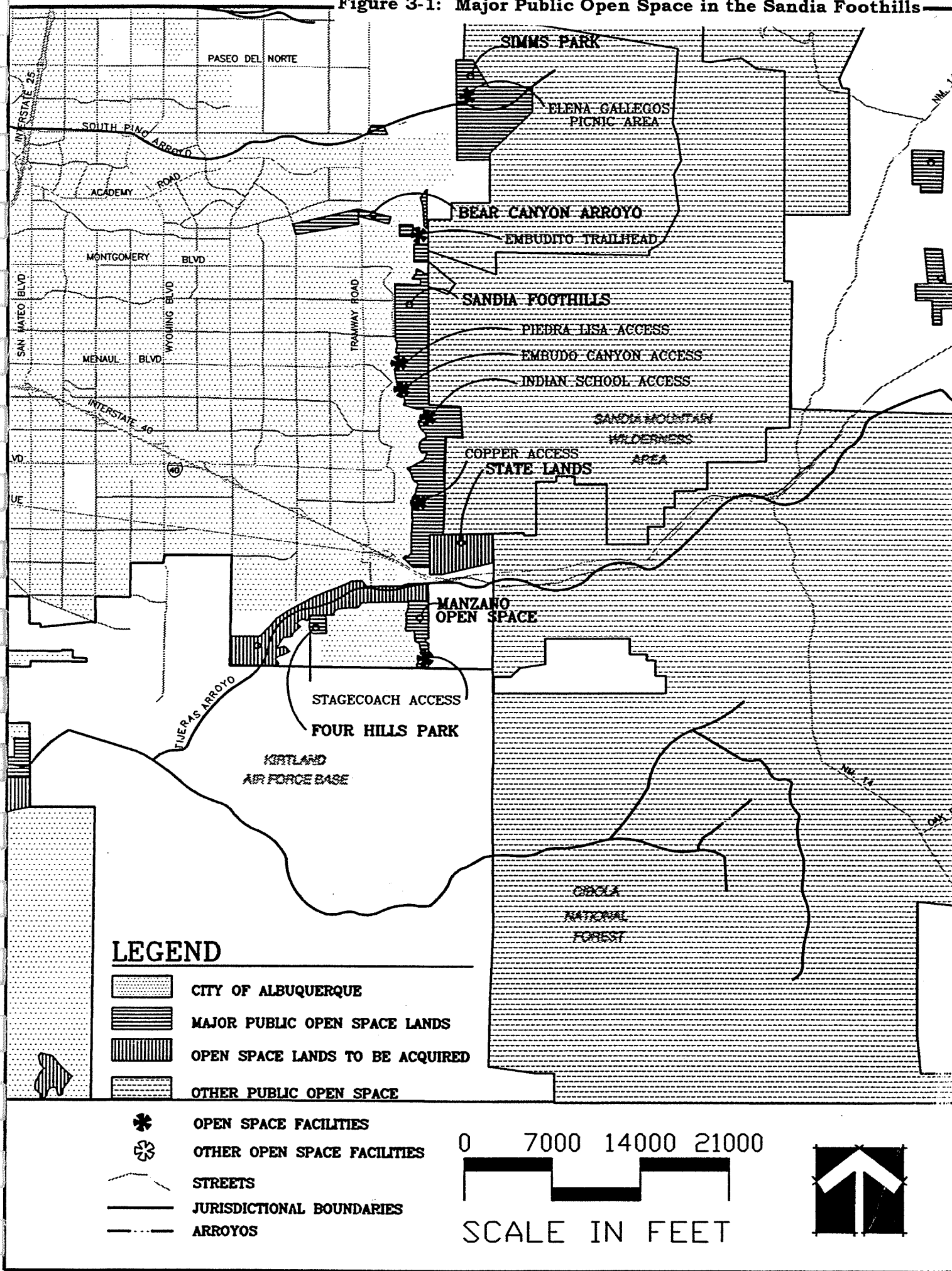
Policy B.1 *Lands in the Sandia Foothills shall be acquired and managed to promote the purposes of Major Public Open Space as stated in the Comprehensive Plan, with the following subgoals:*

- (a) Conserve natural resources and environmental features including wildlife habitat, and the mix and diversity of ecotones;*
- (b) Provide opportunities for outdoor education and recreation including trails for a variety of users; picnicking and environmental education;*
- (c) Shape urban form by providing an eastern edge to development and by providing a skyline free of development;*

* Property to be purchased with proceeds of the 1997 Parks and Open Space Tax.

- (d) Provide trail corridors including access to Federally held lands and a continuous north-south route along the base of the Sandias;*
- (e) Manage lands to minimize risk to the public from natural hazards such as flash floods and unstable soils.*

Figure 3-1: Major Public Open Space in the Sandia Foothills



Policy B.2 *A Resource Management plan should be developed for the Sandia Foothills. This plan shall include the following components:*

- *Watershed/wildlife study, including analyses of slopes, soils and drainage patterns; threatened and endangered species survey;*
- *Erosion control plan;*
- *A general archaeological clearance;*
- *Consideration of Native American concerns;*
- *Topographic mapping of trail location corridors at a scale of 1"=200';*
- *Mapping of general trail locations by type of trail within the identified corridors;*
- *General design concepts for the trail system, including appropriate materials, grade restrictions and typical cross-sections of pedestrian/hiking trails, wheelchair accessible trails, mountain biking trails, equestrian trails, joint use trails and parking areas; and*
- *Mitigation plan to demonstrate how construction will take place, revegetation required and informal trails to be closed;*
- *A plan for use of fire in managing vegetation, including coordination with the National Forest Service management policies for the Sandia Mountain Wilderness.*

Policy B.3 *Existing facilities in the foothills may be expanded without development of an overall Resource Management plan for the Foothills. Prior to expansion of any facility, the following shall be completed for the affected area:*

- *Threatened and endangered species survey; analysis of habitat.*
- *Watershed analysis (jointly with the USFS and AMAFCA).*
- *Erosion control, grading and drainage plan.*
- *Site development plan and vegetation management plan.*
- *Traffic and parking impact and mitigation study.*

Policy B.4 *Planning for the Sandia Foothills should be conducted in coordination with community planning. The Sandia Foothills lies within or adjacent to the following community planning areas: North Albuquerque, Foothills, East Gateway.*

C. Land Use Policies

Policy C.1. *The conservation and protection of cultural and natural resources and protection of people from natural hazards related to development of steep slopes are the primary functions of the Sandia Foothills. Recreational use and trail corridors are secondary to these functions.*

Policy C.2 *On-site staff is desirable at Class V facilities to help discourage vandalism and crime. However, all Class V facilities shall be designed to function without on-site staff (as a class IV facility). These facilities should include self-service fee stations. Facilities shall be designed to reduce the risk of vandalism.*

Policy C.3. *Large organized events (greater than 20 people) shall not be allowed in the Sandia Foothills without a permit from the Open Space Division. Facilities should be planned and designed to safely accommodate individuals, families and small groups.*

Policy C.4. *The primary uses within the protected, undeveloped areas of the Sandia Foothills will be hiking, jogging, bicycling, equestrian use and other low impact recreation.*

Policy C.5. *The location of trails and trail heads within the Sandia Foothills shall be coordinated with the locations of trails within the Cibola National Forest to assure appropriate linkages.*

D. Management Policies

Policy D.1. *The Elena Gallegos picnic area provides a high level of public exposure for the Major Public MPOS Program and is a primary focus for recreational use of the Sandias. Use of the Elena Gallegos Picnic Area shall controlled to conserve and sustain the natural resources in the area.*

Policy D.2. *Overnight camping is not permitted in City owned land in the foothills without a use permit from the Open Space Division.*

Policy D.3. *Use of the Sandia Foothills shall be regulated through increased law enforcement, utilization of natural and built perimeter barriers to prohibit access and locked gates at access points.*

Policy D.4. *Erosion control measures shall be used to prevent damage to the foothills:*

- *Continue cooperative efforts with the US Forest Service, US Soil Conservation Service, and AMAFCA to control erosion.*
- *Construct rock and brush grade control structures, install stabilization matting and use other techniques as appropriate to control erosion.*
- *In conjunction with the US Forest Service, develop a formal trail system which include a primary north/south trail and secondary links between the urban area, open space facilities and the National Forest. Close informal trails which are not a part of that system.*
- *Utilize existing topography to the extent possible, minimizing cut and fill required for development of facilities. Design and construct facilities to blend with the existing topography and minimize visual impact.*

Policy D.5. *Public information will be jointly provided by both agencies at trailheads accessing the National Forest.*

E. Revenue Potential

Policy E.1. *A portion of the operating expenses of Elena Gallegos Picnic Area shall be off-set through the collection of user fees, including parking and entrance fees and fees for the use of group reservation areas. User fees shall be charged at all facilities which require a higher than average cost in facility development, maintenance and enforcement. These facilities are classified as Class V facilities and require full time staff. New fees shall be coordinated with the U.S. Forest Service and require administrative approval.*

SECTION FOUR

WEST SIDE OPEN SPACE

Major Public Open Space on Albuquerque's west side defines the western edge of the existing urban area. In the future, West Side Open Space will preserve open areas between planned communities and the urban area. Existing Major Public Open Space and lands proposed for acquisition provide a dramatic western horizon and contain some of the area's most valuable archaeological resources.

West Side Open Space includes several separate parcels as listed below. Parcels that are not designated in the Comprehensive Plan must be added to the network through the process outlined in Section Two.

- Atrisco Terrace (proposed)*
- Calabacillas Arroyo (proposed)*
- Cerro Colorado Volcano (not in Comprehensive Plan)*
- Hubbell Oxbow (proposed)*
- Mesa Grasslands Preserve/Shooting Range State Park
- Northern Sand Dunes (proposed)*
- Northern Geologic Window (proposed)*
- Petroglyph National Monument (partnership with National Park Service)
- Piedras Marcadas and San Antonio Arroyos
- Piedras Marcadas Ruin Buffer (not in Comprehensive Plan)*
- Rio Puerco Escarpment (proposed)*
- Southwest Mesa Ceja (proposed)*
- Southern Sand Dunes (proposed)*
- Volcano Cliffs (proposed)*
- West Mesa Open Space

Major Public Open Space on the west side are areas shown in Figure 4-1.

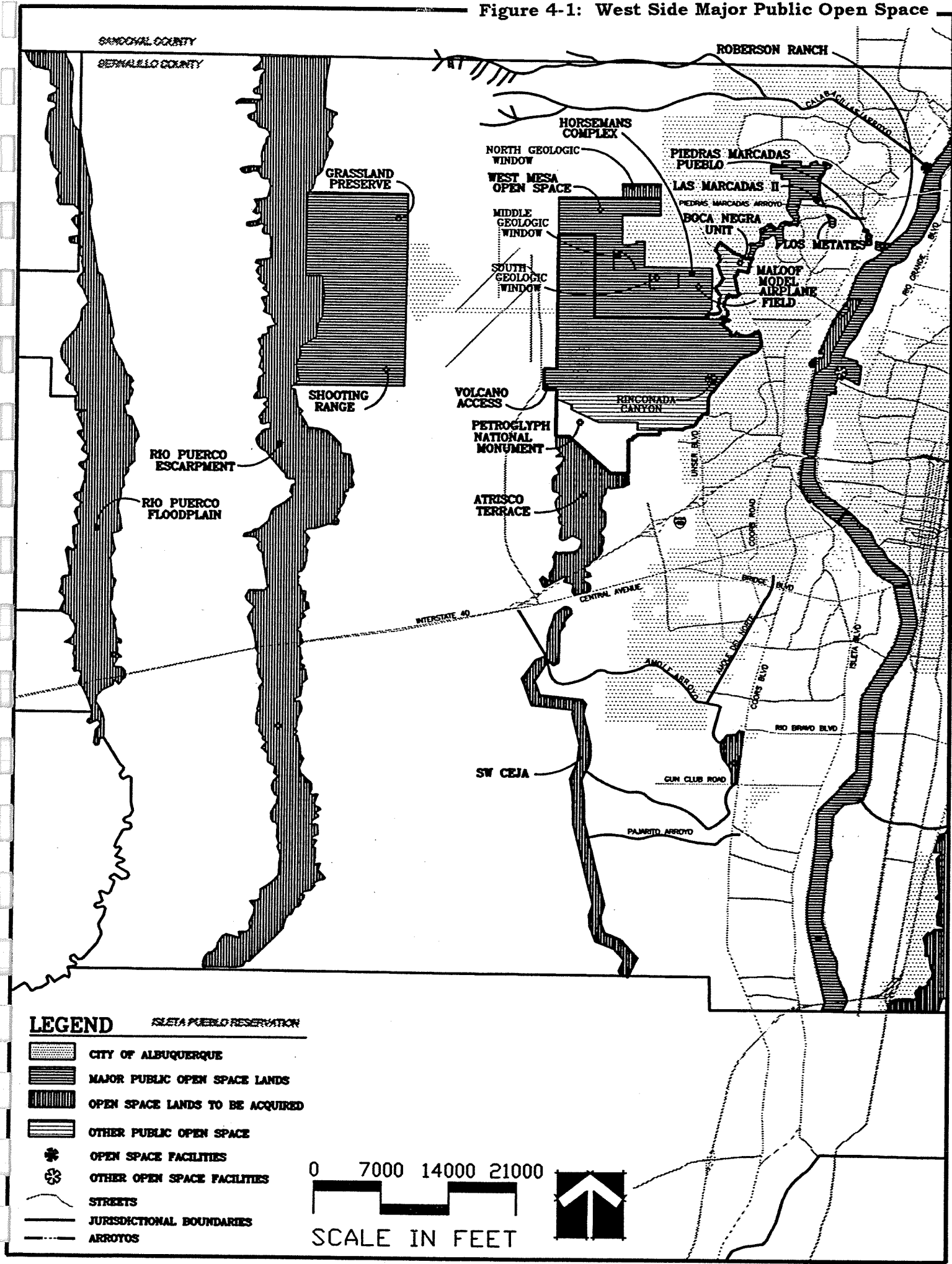
A. Developed Facilities

Most of the developed facilities located in West Side Open Space are considered special use areas and are managed by the Outdoor Recreation Division of the City Cultural and Recreational Services Departments. These include the Shooting Range, the Horsemen's Complex, and Maloof Model Airplane Field. Petroglyph State Park, which is within the Boca Negra Unit of Petroglyph National Monument, is currently managed by the City Open Space Division.

Petroglyph National Monument, encompassing 7,244 acres, was established in June 1990 as a new unit of the national park system to preserve the more than 15,000 prehistoric and historic petroglyphs and other significant natural and cultural resources in the area including 5 volcanic cones, two geologic windows and hundreds of archeological sites. The Monument is on the west mesa, which was created by a series of volcanic eruptions and lava flows about 110,000 years ago. The mesa and volcanoes are the major landscape features of Albuquerque's western horizon.

* Property to be purchased with proceeds of the 1997 Parks and Open Space Tax.

Figure 4-1: West Side Major Public Open Space



B. Planning Policies

Policy B.1. *West Side Open Space lands shall be acquired and managed to promote the purposes of Major Public Open Space as stated in the Comprehensive Plan and the Facility Plan for Arroyos, with the following subgoals:*

- (a) Conserve natural resources and environmental features including: 1) the water management, infiltration and wildlife habitat features of the Rio Puerco drainage and escarpment; 2) the water management, water table recharge and wildlife corridor features of the arroyos; 3) the water management features of the Playa lakes; 4) unique wildlife habitats such as grass lands and 5) the unique geologic features of the sand dunes, volcanoes, basalt flows, the escarpment, and the Atrisco Terrace;*
- (b) Provide opportunities for outdoor education and recreation including trails for a variety of users; archaeological, biological and geological based environmental education;*
- (c) Shape urban form by providing a development-free visual western edge for Albuquerque formed by the volcanoes and basaltic escarpment and Atrisco terrace; using arroyos as edges to neighborhoods and for trails connecting neighborhoods; using the playa lakes as open spaces in potential future development; providing permanent open space separation between planned communities and establishing the Rio Puerco drainageway as the western edge to urban development should the city develop west of the escarpment and Atrisco terrace;*
- (d) Conserve archaeological and cultural resources including petroglyphs, pueblo sites, historic resources and sites sacred to Native Americans;*
- (e) Provide trail corridors including east-west trails along the arroyos connecting the bosque and the northwest mesa escarpment;*
- (f) Protect the public from natural hazards including flooding, steep slopes, unstable soils, headward erosion of arroyos or escarpments, and rock slides.*

Several plans have been prepared for individual west side Major Public Open Space parcels. These are:

- Petroglyph National Monument General Management Plan (1996)
- Amole Arroyo Corridor Plan (1991)
- Pajarito Arroyo Corridor Plan (1990)
- Northwest Mesa Escarpment Plan (1988)
- Facility Plan for Arroyos (1986)
- Volcano Park Master Plan (1980)
- Shooting Range State Park Master Plan (1979)
- San Antonio Arroyo Corridor Plan (Draft)
- Calabacillas Arroyo Corridor Plan (Draft)
- Piedras Marcadas Arroyo Corridor Plan (Draft)

The Shooting Range and Volcano Park Plans predate the MPOS Program and will be superseded by more current plans when they are complete. The West Side Strategic Plan, in draft form as of March 1997, proposes review and/or replacement of many of these plans and when adopted will be the guiding policy base for those plans it replaces.

Policy B.2. *The Open Space Division shall develop a master plan for West Mesa Open Space adjacent to Petroglyph National Monument prior to expansion/modification of existing facilities and/or construction of new facilities.*

Policy B.3. *The Open Space Division shall work with the Planning Department and AMAFCA to complete and/or update relevant arroyo corridor plans on the West Side. (See West Side Strategic Plan)*

Policy B.4 *Planning for West Mesa Open Space should be conducted in coordination with community planning. The West Side includes the following community planning areas: Westside, Southwest Mesa, and South Valley.*

C. Land Use Policies

Policy C.1. *Land uses on Major Public Open Space adjacent to Petroglyph National Monument will complement the management objectives of the monument. The future use of Major Public Open Space adjacent to the monument shall be sensitive to protected areas within the monument. Access from City Major Public Open Space to Petroglyph National Monument shall be coordinated with planned uses within the monument.*

Policy C.2. *The southern and northern geologic windows shall be protected through controlled public access and coordination with Petroglyph National Monument programs.*

Policy C.3. *Facility development adjacent to the escarpment shall be consistent with the requirements of the Northwest Mesa Escarpment Plan or its successor.*

Policy C.4. *Recreational uses appropriate in Major Public Open Space areas adjacent to the monument include scenic overlooks, parking, restrooms, picnic areas and trails. Class V facilities shall be designed to complement facilities within the monument and may serve as staging areas for trails within the monument and on Major Public Open Space lands.*

Policy C.5. *Existing special use facilities located within Major Public Open Space may accommodate uses which are not appropriate to conservation and resource protection. Studies of the Maloof Model Airplane Field and Horsemen's Complex shall be conducted to determine if it is possible to relocate some or all of these uses. These studies shall evaluate the resource impacts and fiscal implications of these uses relative to the National Monument and the Major Public Open Space Facility Plan.*

Policy C.6. *The primary uses within the protected, undeveloped areas of West Side Open Space will be hiking, jogging, horseback riding, mountain biking and other dispersed, informal recreation.*

Policy C.7. *The City shall coordinate trail development with trails in Petroglyph National Monument, arroyo trails and trails along valley ditches as designated in the Trails and Bikeways Facility Plan and the General Management Plan for the National Monument.*

D. Management Policies

Policy D.1. *The City shall work with AMAFCA and public and private landowners on watershed management and erosion control to protect the northwest mesa escarpment face, the Rio Puerco escarpment, the Atrisco Terrace, and other MPOS lands.*

Policy D.2. *Public access to the West Mesa Grasslands Preserve shall be coordinated with activities at the shooting range and limited to guided tours or permitted visits.*

E. Revenue Potential

Policy E.1. *The City shall explore the following sources of potential revenue from facilities in West Side Open Space:*

- *Fees/leases for use of Major Public Open Space for privately developed special use facilities.*
- *Special events fees.*
- *Film location fees.*
- *Parking fees at Class V facilities.*
- *Facility reservation fees.*
- *Trail guide brochure sales.*

F. Petroglyph National Monument

The City of Albuquerque, the State of New Mexico and the National Park Service each manage parts of Petroglyph National Monument. Issues of law enforcement, interpretation and maintenance of the monument should be coordinated between governments.

The General Management Plan for the Monument proposes;

The National Park Service would have overall responsibility for managing the monument. The National Park Service would have operational responsibility for the Atrisco unit. The city would have operational responsibility for the Boca Negra and Piedras Marcadas units. The Park Service and the city Open Space Division would work with city and county Land Use Planning and Permitting Divisions to ensure the coordination of review for developing adjacent lands.

Management Policies

Policy F.1. *The City shall engage in discussions with the National Park Service about joint management of Petroglyph National Monument as described in the binding agreement between the City and the National Park Service. The General Management Plan and/or subsequent planning efforts for the monument may specify responsibilities of each agency.*

SECTION FIVE

RIO GRANDE BOSQUE

Rio Grande Valley State Park is located on land primarily owned by the Middle Rio Grande Conservancy District (MRGCD) within Bernalillo County between riverside drains extending along both sides of the Rio Grande. This area is one of the few remaining extensive riparian habitats in the southwest. The state park and adjacent Major Public Open Space comprise a set of unique habitats in the Albuquerque metropolitan area.

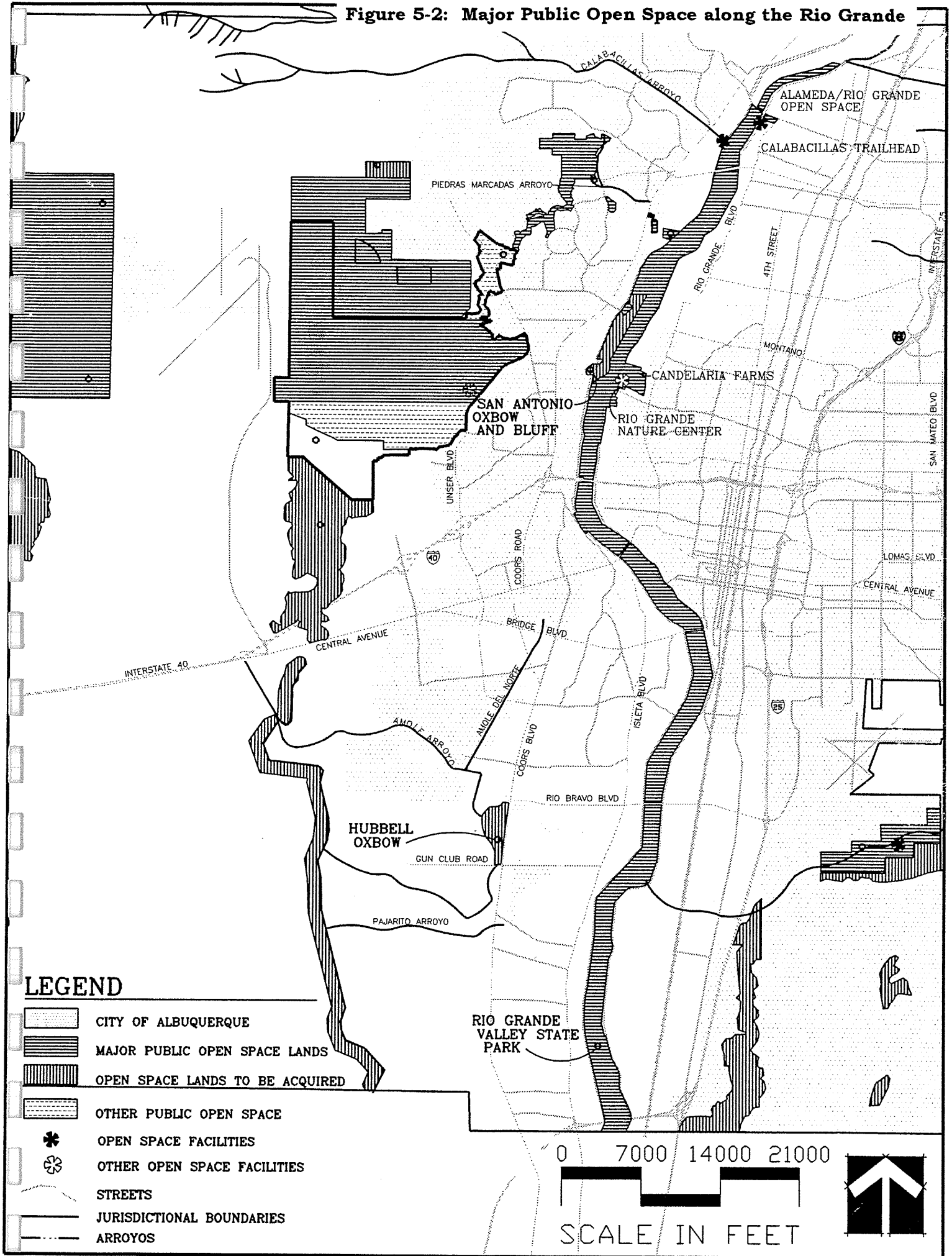
The river serves many functions: flood control, irrigation, aquifer recharge, wildlife habitat, education and recreation. The natural processes which originally influenced the vegetation along the river have been altered. Prior to 1820 the lands adjacent to the river were natural bosque. Irrigation, siltation from upstream farming, and flooding from the early 1800s to 1930 caused the lands adjacent to the river to be predominantly grasslands and marshes.

The flood control systems of the 1930s altered the dynamics of the river system and allowed the cottonwood forest, known as the *bosque* to mature. However, these changes also resulted in failure of the native trees to reproduce and the introduction of exotic species. Since the completion of the diversion dams and reservoirs, levees, drains and irrigation canals of the Middle Rio Grande Conservancy District in 1936, the channel and flow of the river have been highly regulated. The Rio Grande Bosque is a product of this man-made environment.



Figure 5-1: Rio Grande, c1910

Figure 5-2: Major Public Open Space along the Rio Grande



Since the mid-1970s, the wildlife habitat, recreational, and aesthetic potential of the river and bosque have been emphasized as additions to its drainage, irrigation and flood control functions. The 1983 Rio Grande Valley State Park Act designated the City Open Space Division as the managing agency. Planning for the park has stressed the need to balance recreational use and habitat conservation. In addition, management of the park seeks to compensate, through active vegetation management, for the elimination of the natural processes necessary for a healthy bosque.

The Comprehensive Plan mandates that access to the Rio Grande, bosque, and surrounding river lands be carefully designed to provide entry to areas suitable for recreational, scientific and educational use. Access controls and public education are recommended in more sensitive areas to preserve wildlife habitat and maintain essential watershed and drainage functions. The policies of the Comprehensive Plan have been further detailed in the Bosque Action Plan.

The Rio Grande Bosque includes the following properties:

- Rio Grande Valley State Park
- Blanchard Property (proposed)*
- Central and Sunset Access (proposed)*
- Privately owned bosque (proposed)*
- Rio Grande/Alameda Open Space
- Roberson Ranch
- San Antonio Oxbow (proposed)*
- Sanchez Farm (proposed)*

A. Developed Facilities and Special Areas

Public Access Points

The City currently has access points at bridge crossings and at the Calabacillas Arroyo. Parking is available at Central NE, Rio Bravo NE and SE bridges, the Rio Grande Nature Center, Tingley Beach, Marquez Street and Calabacillas Arroyo. The Paseo del Bosque trail runs from the South Diversion Channel to Paseo del Norte and will be extended to Alameda Boulevard. From the South Diversion Channel to Bridge, the trail runs along the east riverside drain and is managed by Bernalillo County and the Open Space Division. From Bridge to Central Avenue, the trail runs along Tingley Drive and is managed by the City Park Management Division. From Central Avenue to Campbell Road the trail runs along the east riverside drain and is managed by Park Management. From the Campbell Rd. to Paseo del Norte the trail runs along the upper levee road and is managed by the Open Space Division.

Rio Grande Nature Center/ Candelaria Farms

The Rio Grande Nature Center is operated by the State of New Mexico Energy, Minerals and Natural Resources Department. The City operates Candelaria Farms adjacent to the Nature Center. In addition to agricultural crop production, the farm includes wildlife crops to enhance the habitat for migratory birds in the vicinity of the Nature Center.

* Property to be purchased with proceeds of the 1997 Parks and Open Space Tax

San Antonio Oxbow

The City of Albuquerque, Capital Implementation Program Division is currently finalizing the Oxbow Biological Management Plan for the San Antonio Oxbow. This land is on the west side of the Rio Grande river, currently in private ownership and outside the Rio Grande Valley State Park boundaries. This plan calls for acquisition of properties or conservation easements agreements which will allow the Open Space Division to protect and manage the oxbow and its sensitive biological habitat.

Due to the rarity of marsh habitat locally, and the high value of such habitat to a variety of wildlife species, the oxbow marshes have been identified as resources suitable for protection and conservation in the Coors Corridor Plan and the Albuquerque/ Bernalillo County Comprehensive Plan.

AMAFCA will be improving the San Antonio Arroyo in 1996-97 to arrest the erosion and deposition of sediment in the Oxbow. However, beavers are killing native cottonwoods, and the oxbow freshwater marsh is rapidly losing its diversity. The management plan and resources to implement it are critical to the protection of this unique resource.

B. Planning Policies

A series of studies have been conducted for the Rio Grande Bosque. These include

- Rio Grande Valley State Park Management Plan (1987)
- Needs Assessment Survey for Albuquerque Parks and Recreation Department Bosque Improvement Plan (1989)
- Botanical Inventory of the Middle Rio Grande Bosque (1990)
- Evaluation of Archaeological Potential for Rio Grande Valley State Park (1990)
- A Survey of Mammal Populations in the Rio Grande Valley State Park (1990)
- Bosque Biological Monitoring Program: Bird Population Surveys in Rio Grande Valley State Park (1987-1990)
- Rio Grande Valley State Park Biophysical Land Unit Analysis and Management Implications (1992)

The results of these studies, in combination with public concerns, have been integrated into the Bosque Action Plan (1993), which is the adopted Rank III plan for the Rio Grande Valley State Park.

Policy B.1 *Planning for the Rio Grande Bosque should be conducted in coordination with community planning. The Rio Grande Bosque is in or adjacent to the following community planning areas: Westside, North Valley, Central, Southwest Mesa and South Valley.*

C. Land Use Policies

Policy C.1. *Watershed management and drainage are primary functions of the Rio Grande and the bosque. Other uses should not significantly deteriorate the ability of the bosque to serve these functions. However, the City shall coordinate with the State to ensure that other uses such as trails can be accommodated.*

- Policy C.2. Land uses in Rio Grande Valley State Park shall be compatible with biophysical land units in the Bosque Action Plan.
- Policy C.3. Compatible land uses in most of Rio Grande Valley State Park may include walking, bicycling, fishing, picnicking, horseback riding and canoeing. Land uses in wildlife preserve areas shall be limited to scientific study. Public access to the bosque shall be located in areas least sensitive to human use. Facilities shall be located and designed to divert uses away from sensitive habitats.
- Policy C.4. The City shall provide adequate public parking adjacent to Rio Grande Valley State Park.
- Policy C.5. Coordinate plans for other facilities to ensure access to Rio Grande Valley State Park. Plans for development adjacent to the Park shall be reviewed to coordinate access consistent with the Major Public Open Space Facility Plan and the Bosque Action Plan.
- Policy C.6. The areas on both sides of the river from the Barelas Bridge to I-40 are locations for recreational uses. These uses shall include an information booth, wheelchair accessible trails, interpretive trails, picnic areas, and trail connections to the Biological Park and the Rio Grande Zoological Park.
- Policy C.7. The development of facilities in the Albuquerque Biological Park shall be coordinated with facilities in the Bosque Action Plan.
- Policy C.8. Environmental education areas shall be provided in locations designated in the Bosque Action Plan.
- Policy C.9. Fishing areas shall be developed along the riverside drains in locations specified in the Bosque Action Plan. Wheelchair accessible fishing shall be provided at the Rio Bravo access. The City shall coordinate with New Mexico Fish and Game concerning enforcement of regulations, management and signage. The City shall coordinate constructions of each phase with monitoring to ensure minimum environmental impact.
- Policy C.10. Non-motorized boating shall be permitted. Formal boating access shall be provided at access points identified in the Bosque Action Plan.
- Policy C.11. Motorized boating is prohibited, except for public emergency agencies.
- Policy C.12. An ecologically compatible, multi-use trail system shall be developed consistent with the policies of the Bosque Action Plan.
- Policy C.13. The City shall actively manage vegetation in Rio Grande Valley State Park. The objectives of vegetation management are to diversify the habitats in the bosque and expand native species habitat. (See vegetation management recommendations in the Rio Grande Valley State Park Biophysical Land Unit Analysis and Management Implications, April 1992).

D. Management Policies

Policy D.1. *Rio Grande Valley State Park and adjacent City-owned lands shall be managed so that uses, facilities, and resource conservation strategies are complementary.*

Monitoring

Policy D.2. *Biophysical Land Units (BLUs) shall be updated every five years. The City shall monitor 1989 transects and create new transects to represent a variety of BLUs.*

Policy D.3. *Monitoring programs shall be conducted every five years as recommended in the Bosque Action Plan.*

Vegetation Management

Policy D.4. *Native plant species shall be protected. Exotic plant materials shall be controlled and growth of native species shall be encouraged. Native plants that historically grew in the bosque shall be reintroduced where feasible.*

Policy D.5. *Regeneration of cottonwood trees shall be encouraged through pole plantings and temporary flooding. Genetic diversity of the cottonwoods must be maintained.*

Policy D.6. *Wildlife habitat and nest sites shall be maintained.*

Policy D.7. *Wetlands shall be created in appropriate areas to maintain habitat diversity.*

Policy D.8. *Fire management shall be consistent with the Fire Management Plan for Rio Grande Valley State Park.*

Policy D.9. *Interpretive trails shall provide public education about native species habitat.*

Restoration/Mitigation of Damage

Policy D.10. *Disturbances within Rio Grande Valley State Park not approved by the Open Space Division shall be mitigated. The responsible party shall pay for all mitigation costs.*

Policy D.11. *Approved disturbances shall be mitigated by the responsible agency or organization, including a revegetation plan that details species to be used and planting techniques.*

Policy D.12. *Mitigation of damage or restoration will be equal to the replacement value calculated according to the appraisal method for tree and landscape appraisals outlined in the "Valuation of Landscape Trees, Shrubs and Other Plants."¹ This method of appraisal*

¹ Appraisals are based on the "Valuation of Landscape Trees, Shrubs, and Other Plants", International Society of arboriculture 250 I Street, NW, Suite 504, Washington, DC, 20005, 7th Edition, January, 1988, Urbana, Ill.

recognizes that mature vegetation has a higher value than new vegetation and ensures that mitigation of damage to mature bosque is commensurate with the loss of vegetation

Policy D.13. *Burned and other damaged areas shall be temporarily closed to general public access to allow revegetation to occur.*

Policy D.14. *Existing trails through sensitive areas shall be closed to public access. These disturbed areas shall be revegetated. Preferred barriers are natural features such as wetlands, trees or brush. Man-made barriers such as fences or jetty jacks will be used if natural barriers are not feasible.*

Policy D.15 *Where monitoring indicates significant public use impacts on the health and diversity of the bosque, trails shall be closed and relocated, if possible, to maintain continuity of trails. Restoration of vegetation shall commence immediately upon closure and relocation of trail segments.*

Environmental Education

Policy D.16 *The City shall develop a public awareness program related to the bosque and river. Educational materials and trail guides shall be developed. This program may be developed in conjunction with the State of New Mexico Energy, Minerals and Natural Resources Department.*

Policy D.17 *Interpretative training shall be provided for Open Space Division Visitor Services and Law Enforcement Section staff.*

Policy D.18 *Youth development and volunteer programs for environmental projects should be used when possible.*

Policy D.19 *Use of the environmental education areas by the public or other agencies shall be coordinated with the Open Space Division prior to use.*

Policy D.20 *Development of interpretive facilities at Candelaria Farms shall be coordinated with the Rio Grande Nature Center.*

E. Revenue Potential

Policy E.1 *The City shall not charge admission fees to Rio Grande Valley State Park as mandated by the Rio Grande Valley State Park Act. Fees may be charged for use of specific facilities or specific events.*

SECTION SIX ARROYOS

The primary function of all arroyos is drainage. Because of their unbroken linearity, arroyos provide excellent opportunities for east/west trail linkages. With proper planning, arroyo corridors can accommodate drainage, transportation, utilities, recreational and resource protection functions.

Because drainage is an arroyo's primary function, drainage agencies play the primary role in setting policy for drainage treatments, erosion control, easements and rights-of-way and other parameters that determine the arroyo's character under developed conditions. It is desirable that Major Public Open Space concerns be addressed in the context of these drainage solutions.

The Facility Plan for Arroyos (Rank II, 1986) provides policy and management guidelines for the use and protection of Major Public Open Space Arroyos and Major Public Open Space Links which are designated as Major Public Open Space in the Comprehensive Plan. (See Map in map pocket for location of Major Public Open Space arroyos.)

Portions of the Tijeras, Calabacillas, North Pino and La Cueva Arroyos will be purchased with proceeds of the 1997 Parks and Open Space Tax.

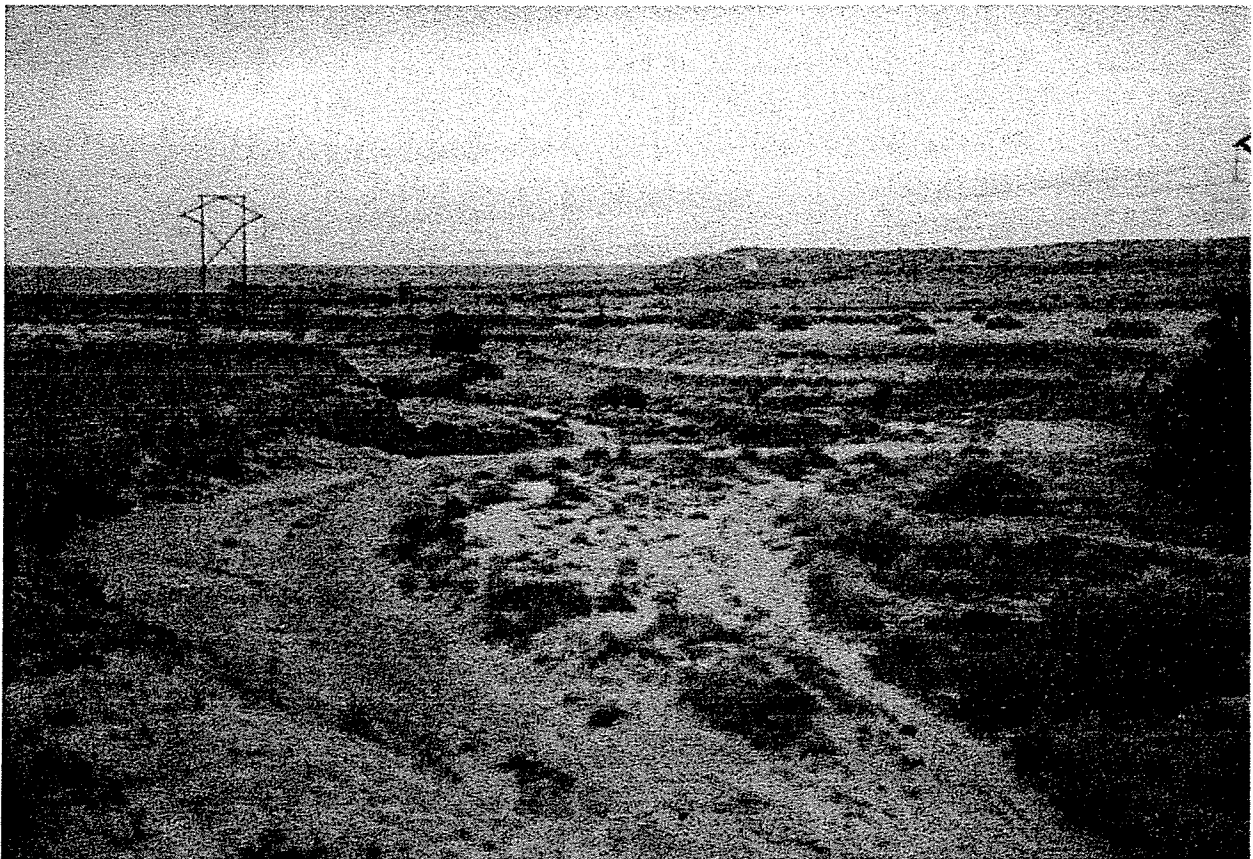


Figure 6-1: Tijeras Arroyo West of Kirtland Air Force Base

Major Public Open Space Arroyos

Two arroyos, the Tijeras and the Calabacillas, are designated Major Public Open Space Arroyos in the Comprehensive Plan.

Tijeras Arroyo. The Tijeras Arroyo, shown in Figure 6-1, is the largest arroyo in the metropolitan area, and it is fragmented politically by multiple jurisdictions. West of the Sandia Foothills, it has eroded a valley floor that is 1000' or more in width, forming the southern boundary of the urban area east of the Rio Grande. Most of the proposed arroyo open space is privately owned. Public parcels include La Canada neighborhood park and the 577-acre Montesa Park. The channel west of I-25 has been concrete lined and incorporated into the South Diversion Channel, with a trail from Second Street to Rio Grande Valley State Park. Bernalillo County is working on a plan for a trail from Second Street to Mesa del Sol.

The area designated as Major Public Open Space in the Comprehensive Plan is split into two sections - areas to the east and to the west of Kirtland Air Force Base. The eastern segment to be acquired as Major Public Open Space extends from the municipal limits to the eastern boundary of the Base. The western segment extends from the western boundary of the base to the Rio Grande. The Base prevents the arroyo from being a continuous link between the foothills and the river.

Calabacillas Arroyo. The Calabacillas Arroyo, one of the metropolitan area's largest, connects Sandoval County, Rio Rancho and Albuquerque's expanding west side with the Rio Puerco escarpment to the west and the Rio Grande Valley State Park to the east. The Rank II Facility Plan for Arroyos identified the Calabacillas Arroyo as the most significant Major Open Space Arroyo in the metropolitan area due to its outstanding topography and size.

This arroyo is mostly undeveloped, but has had major erosion and grade control structures installed. Six major road corridors, one of which crosses Swinburne Dam, cross the arroyo and the area is developing rapidly. At the mouth of the Calabacillas on the Rio Grande, the Open Space Division maintains a parking lot and trailhead facility.

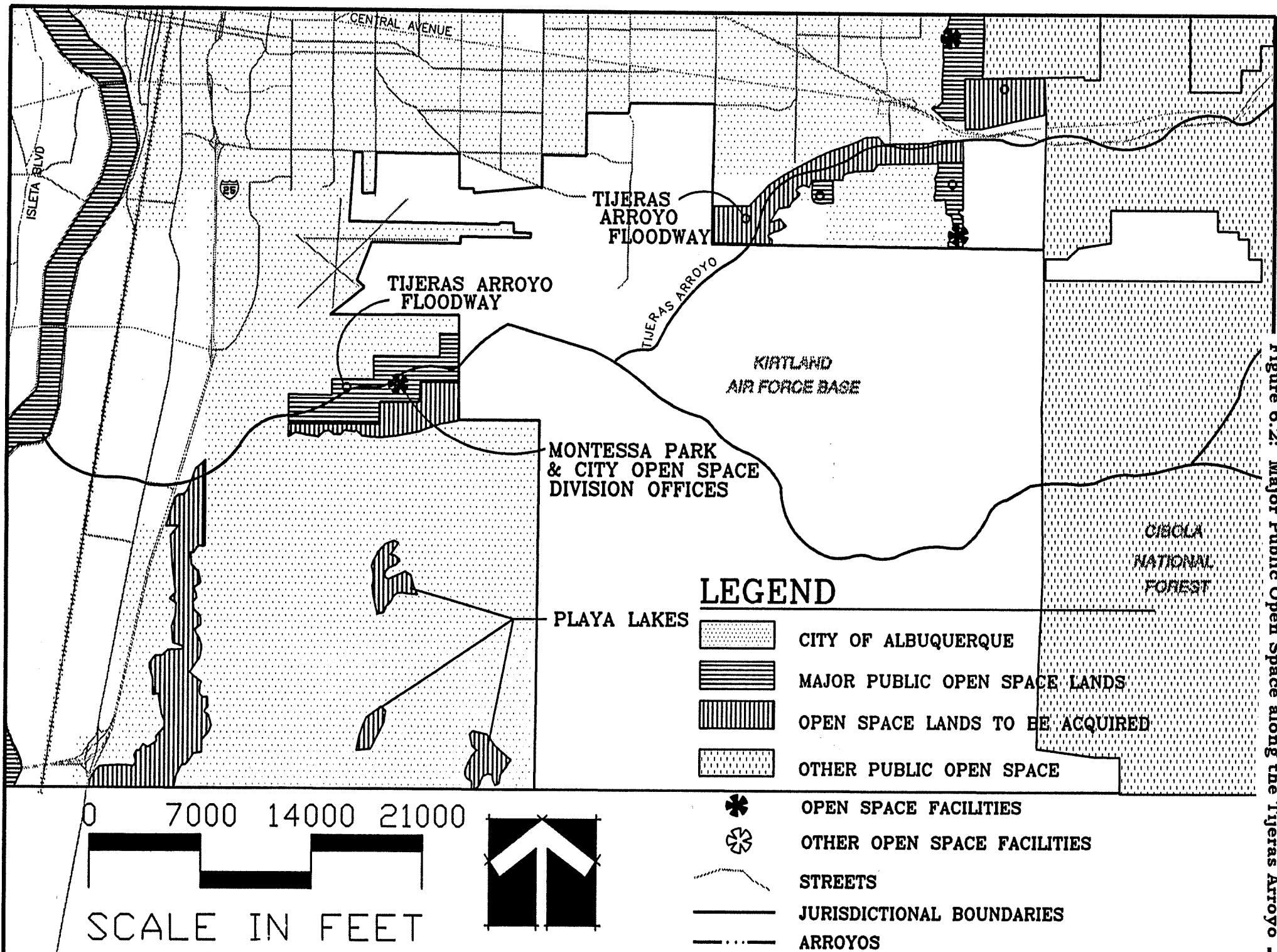
A. Planning Policies

Policy A.1. *MPOS lands in the Major Public Open Space Arroyos shall be acquired and managed to promote the purposes of Major Public Open Space as stated in the Comprehensive Plan and the following subgoals:*

(a) Conserve natural resources and environmental features including the natural flow of water and the drainage capacity of the largest arroyos in Bernalillo County, the natural state of historic environmental features, geological features such as bluffs, wildlife habitat and corridors, native vegetation, the infiltration of water into the arroyo's gravel soils and recharge of the aquifer; provide wildlife corridors from both the Rio Puerco Escarpment and the Sandia foothills to the Rio Grande.

(b) Provide opportunities for outdoor education and recreation including trails for a variety of users;

(c) In the case of the Tijeras, help shape urban form by providing a southern edge to the eastern portion of the contiguous city development, and a view corridor along the arroyo and along I-25; In the case of the Calabacillas, help shape the form of urban development in the Westside Community.



(d) Conserve archaeological and paleontological resources;

(e) Provide trail corridors along both arroyos;

(f) Protect the public from natural hazards including flooding, sediment transport, unstable slopes, and unstable and collapsible soils.

The Facility Plan for Arroyos (1986) classifies portions of the Tijeras and the Calabacillas Arroyos as Major Public Open Space arroyos. Policies in the Facility Plan state that Major Public Open Space Arroyos are to remain in a natural or semi-natural condition with native vegetation and naturalistic channel stabilization. In practice, urban development in the Tijeras and Calabacillas watersheds has altered natural drainage patterns, with significant impacts on the highly erodable natural arroyo channels.

The Tijeras Arroyo Corridor Plan, a Rank III plan for the Tijeras Arroyo, was developed to a draft stage in 1990. The draft contains extensive information about the arroyo and potential trail and park development along the arroyo. Two Drainage Management Plans have been written (AMAFCA 1980; City 1989) but only AMAFCA's drainage management plan was been adopted. As a major drainage facility, significant landform and visual amenity to Albuquerque's southern gateway, the Tijeras Arroyo deserves a comprehensive, coordinated plan that takes into account its many jurisdictions, its variety of ecological zones and its special place in the metropolitan area's environment.

The Long Range Major Street Plan for the Albuquerque Urban Area designates a location study corridor within the arroyo for the eastward extension of Rio Bravo Boulevard from I-25 to Kirtland Air Force Base and a study corridor for the southerly extension of University Boulevard across the Tijeras Arroyo to Los Picaros Road and south into Mesa del Sol. A future potential corridor is shown through the base to Tramway Boulevard.

The Calabacillas Arroyo Corridor Plan, a Rank III plan, was completed to draft stage in 1988 but never adopted. The draft corridor plan contains extensive information about the arroyo. The plan includes recommendations for trail and park development along the arroyo and recommends a design overly zone for the arroyo. A Drainage Management Plan for the Calabacillas Arroyo was adopted by AMAFCA in 1988. The Drainage Management Plan for the Calabacillas Arroyo identifies a "prudent line" for development adjacent to the arroyo, consistent with the recommendations of the draft corridor plan. However, rapid development in the Calabacillas drainage basin is affecting the potential to retain the arroyo in its undeveloped condition.

In the case of both corridor plans, it became apparent that drainage issues existed which would govern arroyo treatment options and that these issues would not be resolved through the corridor planning process. This Plan recommends that the Open Space Division and the Planning Department work with the responsible drainage authorities to incorporate open space, trail and park concerns into drainage management plans. It is believed that this would be a more effective approach to fulfilling the policies of the Facility Plan for Arroyos. Financial participation in the drainage management plans using open space or trails funding, or some combination thereof, may be appropriate in order to address issues which do not relate strictly to drainage.

Policy A.2. *The Open Space Division, the Planning Department, the Public Works Department, Bernalillo County and AMAFCA will cooperate in planning for MPOS arroyos. Drainage management plans will be developed or updated as necessary to determine drainage treatments and required drainage rights-of-way. The drainage management plans will be proposed for adoption by the appropriate governing bodies. Joint powers*

agreements among participating agencies are recommended to define the financial and technical responsibilities of each agency.

Policy A.3. *The drainage management plans will attempt to address the policy recommendations for Major Public Open Space Arroyos contained in the Facility Plan for Arroyos and the policies stated above in A.1. The Open Space Division and Planning Department will work with the lead agency to determine areas that may be acquired as Major Public Open Space and to incorporate design policies, trails and other recreational uses into the drainage management plan. The draft arroyo corridor plans will be used for guidance in planning these facilities to the extent applicable.*

Policy A.4. *The Open Space Division and Planning Department shall cooperate with the City and/or County Public Works Department in the completion of corridor studies for roads that impact Major Public Open Space Arroyos.*

Policy A.5. *Management of Major Public Open Space along the Tijeras Arroyo east of the municipal limits shall be planned in cooperation with the Carnuel Land Grant and the Acequia Madre de Carnuel Community Ditch Association, which may result in a written agreement between the City and affected parties.*

Policy A.6. *Major Public Open Space planning should be conducted in coordination with community planning. The Tijeras Arroyo is in or adjacent to the following community planning areas: Near Heights, South Valley, East Gateway. The Calabacillas Arroyo is in the Westside community planning area.*

B. Land Use Policies

Policy B.1. *The primary function of the Major Public Open Space Arroyos is as major drainage ways. Other uses of these arroyos shall be compatible with that function.*

Policy B.2. *Development adjacent to the Tijeras and Calabacillas Arroyos shall acknowledge the prudent limits as shown in the drainage management plan for each arroyo.*

Policy B.3. *Land use assumptions specific to each arroyo shall be defined by the Planning Department for use in the drainage management plans for each arroyo.*

Policy B.4. *As part of the update of the Comprehensive Plan, land use regulations may be included help preserve the arroyos in their semi-natural state.*

C. Management Policies

Policy C.1. *Management approaches to each Major Public Open Space Arroyo shall be defined in drainage management plans for each arroyo.*

Montesa Park

The only land in the Tijeras Arroyo that is managed by the Open Space Division is Montesa Park, located west of Kirtland Air Force Base and south of Albuquerque International Airport. Montesa Park

encompasses the arroyo and lands outside the floodplain on both sides of the arroyo. It is separated from residential areas and has a single access via Los Picaros Road. The arroyo is not in pristine condition in this area. Overhead electric power lines traverse the arroyo, and airport noise disrupts the solitude of the area. The historical use of Montesa Park, which was acquired in 1961, has been as a location for uses that are not typically permitted in Major Public Open Space. A portion of the park was dedicated by the City of Albuquerque as an off-road vehicle park prior to its addition to the MPOS Network. Montesa Park has been a valuable asset to the MPOS Program as a location for uses that are undesirable elsewhere. However, a survey of citizen awareness and use of Major Public Open Space lands conducted in 1991 showed that the public is unaware of Montesa Park and the Tijeras Arroyo as Major Public Open Space.

Facilities located adjacent to the Tijeras Arroyo in Montesa Park include Open Space Division administrative offices and a solid waste convenience center operated by the City Solid Waste Management Department. Temporary facilities for the homeless and for the City/County Detention Center have also used Montesa Park. Recreational facilities include a small go-cart track, which is located on land being leased from the Open Space Division. Off-road vehicles use the south slope of the arroyo east of I-25.

A. Planning Policies

Policy A.1. *A Master Development Plan shall be developed for Montesa Park to bring its facilities and management up to the standards of this plan for new facilities.*

B. Land Use Policies

Policy B.1. *In the short term, Montesa Park shall function as a "safety valve" for the MPOS Network (i.e. to meet demand for recreational activities and special use facilities that the City feels are needed in the urban area but are inappropriate in other Major Public Open Space.) New facilities shall be consistent with the following goals:*

- New facilities shall not degrade the natural, visual and cultural resources of the Tijeras Arroyo beyond current conditions.*
- Facilities which are generally incompatible with Major Public Open Space use shall be permitted if their location in Montesa Park enhances city wide efforts to change use patterns in other Major Public Open Space areas.*
- Private facilities shall be developed and operated at no cost to the City. The operator of the facility shall be responsible for mitigation of impacts outside the site designated for the facility and shall be responsible for restoration of the area when they vacate the site. The Open Space Division may require the operator to post a bond to insure site restoration.*

C. Management Policies

Policy C.1. *Operators of facilities within Montesa Park shall maintain insurance consistent with the requirements of the Risk Management Division.*

Policy C.2. *The City Open Space Division should develop a partnership with the Solid Waste Management Department to promote/cooperate in open space clean up.*

Policy C.3. *The Open Space Division shall initiate a revegetation program for unauthorized trails in Montesa Park. Fences or other barriers shall be used to limit space available for off road vehicle use.*

Policy C.4. *Some existing private recreational facilities located within Montesa Park may accommodate uses which are not appropriate to conservation and resource protection. Relocation studies shall be conducted to determine if it is possible to relocate some or all of these uses. These studies shall evaluate the resource impacts of these uses in light of the Major Public Open Space Facility Plan.*

D. Revenue Potential

Policy D.1. *The City shall explore the potential of leasing additional Major Public Open Space for special uses that provide revenue for the MPOS Program.*

Major Public Open Space Links

The Comprehensive Plan identifies the La Cueva, South Pino, Piedras Marcadas Pajarito and Amole Arroyos, as Major Public Open Space, Major Public Open Space Links, because of their potential to form continuous east/west linkages between peripheral Major Public Open Space.

A Rank III corridor plan has been adopted for The Amole Arroyo. This plan gives specific policy and implementation as follows:

Amole Arroyo Corridor Plan. October 21, 1991. Specifies design guidelines, standards and policies for the development of the Amole Arroyo. Presents a conceptual recreational network, recommends a drainage management approach for the Amole Arroyo and sets design standards and regulations for adjacent development through a Design Overlay Zone.

Pajarito Arroyo Corridor Plan. Spring, 1988. Outlines policies for the development of Pajarito Arroyo as a Major Public Open Space Link. The plan designs a trail corridor, establishes design criteria, including a Design Overlay Zone, and develops a drainage management plan for the Pajarito Arroyo.

Because Major Public Open Space Links traverse developed areas, they may be urban in character. In this case, Major Public Open Space Links may be most suited to recreational trail development. Major Public Open Space Links should be reviewed to determine whether management as Major Public Open Space or management as an urban trail is most appropriate.

Policy E.1. *The City and County shall review Major Public Open Space Links as part of the update of the Comprehensive Plan to determine whether designation as Major Public Open Space is appropriate, given the character of the arroyo and adjacent development. If the arroyo is urban in character and trails or other facilities associated with it are most appropriately maintained as urban recreational facilities, the Major Public Open Space designation should be removed in the Comprehensive Plan update.*

Policy E.2. *The Open Space Division and Planning Department will work with AMAFCA and the City Public Works Department, Hydrology Division to provide an open space element to drainage management plans for these arroyos. Drainage management plans will*

determine design criteria and areas that may be acquired as Major Public Open Space and appropriate locations for trails and other recreational uses.

SECTION SEVEN

EAST MOUNTAIN MAJOR PUBLIC OPEN SPACE

The City owns Major Public Open Space properties located in the East Mountain area of Bernalillo County. These parks include San Antonito Major Public Open Space, Gutierrez Canyon, Juan Tomas Mountain Park, and Carolino Canyon Park. The East Mountain Major Public Open Space areas are discrete areas not connected to each other, although some are adjacent to the Cibola National Forest.

Carolino Canyon, San Antonito and Gutierrez Canyon were acquired through the Recreation Public Purposes Act. The use of these properties is limited to recreational use unless the patents are modified, or replacement recreational land is provided.

The survey of Major Public Open Space awareness conducted in 1991 showed that less than twelve percent of County residents had visited the East Mountain Major Public Open Space in the twelve months prior to the survey. However, this area is likely to experience increased use and attention as the East Mountain area continues to develop.

A. Developed Facilities

Most East Mountain Major Public Open Space is currently undeveloped. These areas are protected, undeveloped open space typically separated from other City, County or Federal open space areas. The major existing developed facility is Carolino Canyon Park, which contains a group reservation campsite, picnic areas, trails and limited facilities for active recreation. This facility is available for use from April to October and is used by 5,000 to 6,000 people annually, with peak use in the summer months. With proper planning and coordination, these facilities provide an excellent opportunity for development of an integrated open space system with linkages to the Cibola National Forest.

B. Planning Policies

Planning documents for the East Mountain Area include

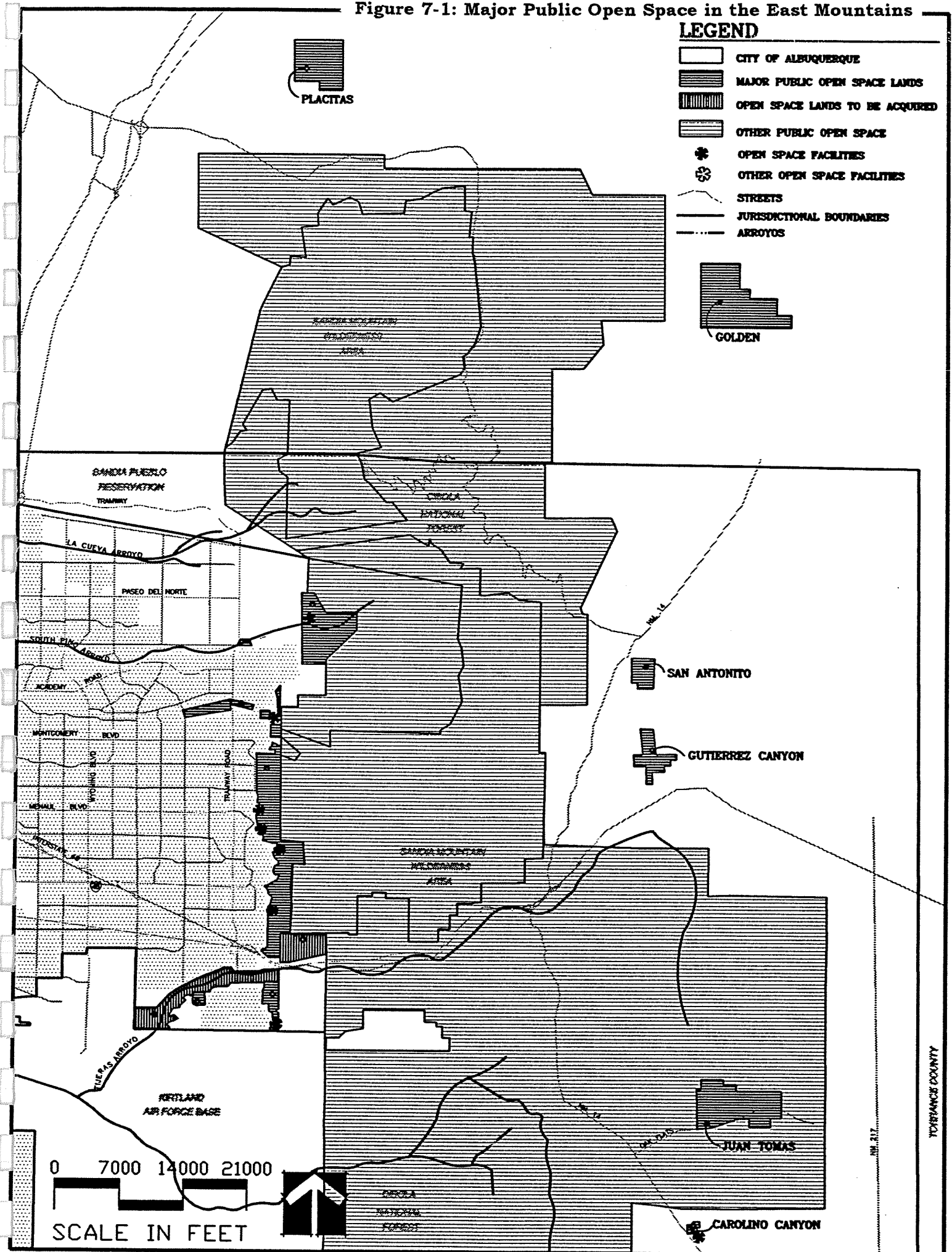
East Mountain Area Plan (1989)

Bernalillo County Open Space and Natural Resources Plan (in process 6/96)

Policy B.1. *Lands in the East Mountain Major Public Open Space shall be acquired and managed to promote the purposes of Major Public Open Space as stated in the Comprehensive Plan and the following subgoals:*

- (a) Conserve natural resources and environmental features including forested land, meadows and a variety of ecotones;*
- (b) Provide opportunities for outdoor education and recreation including picnicking, trails for multiple users and forest based environmental education.*

Figure 7-1: Major Public Open Space in the East Mountains



C. Land Use Policies

Policy C.1. *Some Major Public Open Space areas owned by the City currently have limited access. The City shall review opportunities associated with each Major Public Open Space. These areas should be evaluated with respect to access and potential public use. Needed rights of way to provide public access should be acquired. Specific concerns are:*

- *San Antonito Major Public Open Space is small and adjacent to residential neighborhoods. This makes parking and public use difficult.*
- *Gutierrez Canyon is adjacent to residential neighborhoods. Access is difficult.*

Policy C.2. *Carolino Canyon should be expanded to increase its capacity. Nearby Oak Flats picnic area in the Cibola National Forest is currently underutilized. The City should coordinate with the Forest Service to direct overflow to Oak Flats.*

Carolino Canyon facilities shall emphasize day use by groups. Appropriate facilities include parking, nature trails, picnic areas and limited activity recreation areas. The City should acquire rights of way for trail linkages to the Cibola National Forest.

D. Management Policies

Policy D.1. *All mountain Major Public Open Space boundaries shall be surveyed. Signs shall be posted to identify boundaries, park hours, access points and trailheads.*

Policy D.2. *Design East Mountain Major Public Open Space facilities so that minimal maintenance is required. Materials used shall be selected to withstand weather and vandalism.*

Policy D.3. *An on-site caretaker shall be provided at each developed facility. The City shall provide a trailer site and hookups for the caretaker in exchange for minimal maintenance and services as a "host." Facilities which require on-site staff shall be operated as group reservation areas, with seasonal staff or staff as needed for specific events.*

Policy D.4. *The City shall provide daily patrols for enforcement and maintenance of all developed facilities.*

Policy D.5. *The City shall investigate opportunities for trail linkages, joint management and/or funding of East Mountain Major Public Open Space facilities with the U.S. Forest Service, Bernalillo County, and other agencies which provide environmental education.*

E. Revenue Potential

Policy E.1. *The City shall fund a portion of operating and maintenance costs of facilities located in East Mountain Major Public Open Space through user fees. When possible, the City shall develop revenue producing facilities.*

Policy E.2. *Portions of these properties not essential to meeting the purposes of Major Public Open Space may be leased to public agencies or private entities to generate revenues for the MPOS Program. These special use facilities must be compatible with Major Public Open Space purposes and existing and proposed uses.*

SECTION EIGHT

SANDOVAL COUNTY PROPERTIES

The Open Space Division manages two parcels in Sandoval County which are held as potential parts of the MPOS. There are a set of issues which must be addressed in order for these properties to become part of the MPOS Network. Open space ordinances do not apply in counties other than Bernalillo and open space rangers cannot enforce open space regulations because they have no jurisdiction in Sandoval County. Formal coordination between Sandoval County and the City of Albuquerque, and possible development of a regional Major Public Open Space plan with the City, Sandoval County and Bernalillo County should be pursued.

A. Property Descriptions

The Golden open space parcel in the south eastern corner of Sandoval County was acquired through the Recreation Public Purposes Act in 1963. Golden open space is 1,180 acres of Pinon Juniper woodland west of Golden near the Sandia Mountain wilderness.

The Placitas parcel was acquired through the Recreation Public Purposes Act in 1966. It was originally a 640 parcel, but 80 acres were part of the Elena Gallegos land exchange. The present parcel is 560 acres. See figure 9.1 for location.

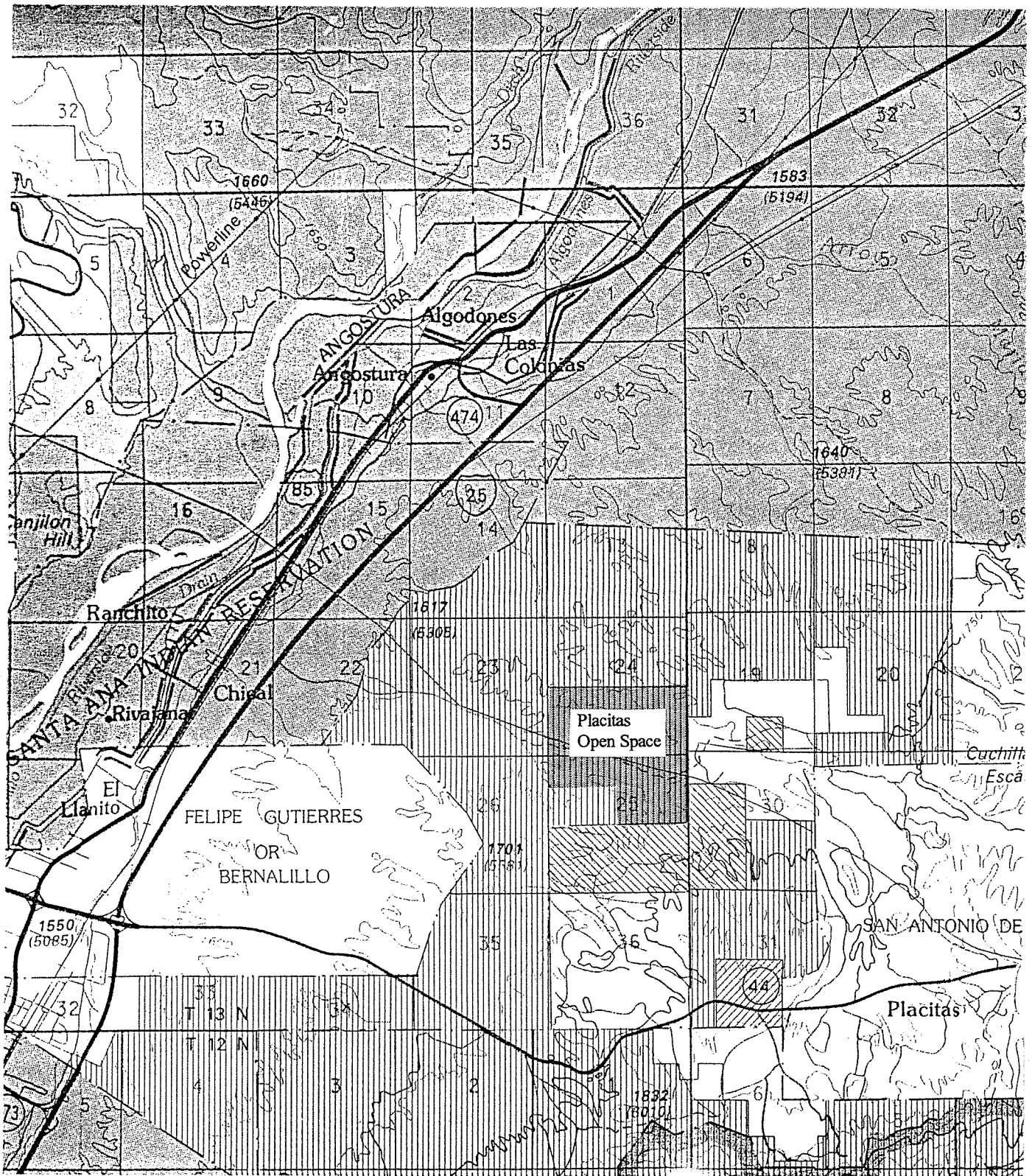
B. Planning Policies

Policy A.1 A study of the Placitas and Golden properties shall be done to determine their appropriate Major Public Open Space type. A master development plan should be prepared for these properties.

Policy A.2 Out-of-County lands should be considered for joint management with local government agencies or public/private entities in the County or City in which they lie. These lands should be retained in the MPOS Network for eventual development of a multi-county network.

Prior to the adoption of an agreement with Sandoval County, the Open Space Division will pursue basic management practices such as fencing and signage but can not commit to intensive maintenance and can not conduct law enforcement in Sandoval County.

Figure 8.1: Placitas Open Space Location



SECTION NINE EASEMENT AREAS

The Comprehensive Plan MPOS Network map identifies easement areas. These lands are not proposed for public fee acquisition, but rather to remain essentially undeveloped privately-owned land. Methods to achieve this goal, mentioned by the Comprehensive Plan include easements, development rights trading, public/private agreements, and special zoning categories. To date these methods have not been implemented.

Policy A.1. *The Open Space Division in conjunction with other agencies such as the County Zoning Department and the County and City Legal Departments should develop a strategy and tools to implement the easement areas goals of the Comprehensive Plan. The Open Space Division should work with land owners of the easement areas to protect the public's interest in these areas.*

SECTION TEN IMPLEMENTATION SUMMARY

A. General

Decade Plan Summary

The 1995-2004 Decade Plan includes five capital improvement project categories with approximate budgets for Major Public Open Space as summarized below:

CIP Project	Estimated Expenditures by Budget Year				
	1995	1997	1999	2001	2003
Acquisition/ Fencing and Protection	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Facilities Renovation	\$200,000	\$200,000	\$200,000	\$200,000	\$250,000
Bosque Plan Improvement	\$400,000	\$300,000	\$300,000	\$300,000	\$200,000
West Mesa Facilities Improvement	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Watershed/ Erosion Control	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

Staffing Summary

Additional staffing is required to manage the MPOS Network. Staffing requirements are the result of growth of the Network and the addition of new programs. Protected, undeveloped open space requires less staff than facilities, and remote areas require less staff than more accessible areas. As the urban area population increases, facilities will be required to better manage use of the Network; and increased use will result in additional staffing needs.

A summary of staffing requirements for both general administration of the MPOS Program and for managing specific areas is contained in Table 10-3. The Facility Plan identified an immediate need for 8.5 FTE positions, including a volunteer coordinator, an environmental education manager, two visitor services staff, an additional Open Space Ranger, an additional maintenance/operations staff, and a biologist and planner to assist with resource planning. An additional six staff positions, including visitor services, maintenance/operations and rangers will be needed by 2001-2002.

Studies to be completed for the East Mountain Area, Sandoval County properties and easement areas may identify further needs if facilities are recommended for areas that are currently protected, undeveloped open space.

System-wide Studies/ Plans

Table 10-1 outlines proposed studies which are not specific to any one Major Public Open Space area.

TABLE 10-1.
PROPOSED GENERAL OPEN SPACE PLANS AND STUDIES

Study	Description	Responsible Agency
Facility Capacity Study	Analyze current use and impacts of current use to estimate the capacity of facilities.	City of Albuquerque Open Space Division and Capital Implementation Program
Special Use Facility Study	Evaluate existing Special Use facilities to determine their compatibility with the MPOS Network. Assist users of facilities found to be inappropriate through evaluation to relocate.	City of Albuquerque Open Space Division and Capital Implementation Program
Out of County Properties	Evaluate properties the Open Space Division owns outside of Bernalillo County. Evaluate law enforcement, preservation and public purposes.	City of Albuquerque Open Space Division
Easement Areas	Develop strategies and tools for protection of easement areas as identified in the <u>Comprehensive Plan</u> .	City of Albuquerque Open Space Division

The planning steps which have been completed for each Major Public Open Space area are summarized in Table 10-2.

Implementation steps are summarized in Table 10-3.

TABLE 10-2.

PLANNING SEQUENCE COMPLETED FOR CITY OF ALBUQUERQUE MAJOR PUBLIC OPEN SPACE

	Sandia Foothills	West Side			Rio Grande Bosque	Arroyos	East Mountain	Sandoval County
1. Site Evaluation		Petroglyph National Monument	Shooting Range State Park	General	Complete			
		In process (by NPS)						
2. Acquisition	Complete	In process	Complete	Partial	Complete	Partial	Complete	Complete
3. Resource Analysis Natural Resources Cultural Resources	Vegetation Complete	Complete Complete	Needs update		Complete Complete		Partial	Initial
4. Resource Management Plan (or substitute)	Sandia Foothills Area Plan (1983); Bear Canyon Arroyo Corridor (1991); Soil and Water Conservation Plans; Simms Park (1983); Embudo Canyon	NPS plans in process; NW Mesa Escarpment Plan (1988) Volcano Park Master Plan (1989)	Shooting Range Master Plan (1977)	Calabacillas Arroyo Corridor Plan (Draft); Piedras Marcadas Arroyo Corridor Plan (Draft - 1986); Pajarito Arroyo Corridor Plan (1988); Amole Arroyo Corridor Plan (1992)	Bosque Action Plan (1993)	Tijeras Arroyo Corridor Plan (Draft 1991) Calabacillas Arroyo Corridor Plan (Draft 1989), Amole, Bear Canyon & Pajarito Arroyo plans.	Survey Report and Educational Use Plan, "Nature Center," Gutierrez Canyon Park (1967) East Mountain Area Plan Bernalillo County Parks/Trails Plan	
5. Detailed Site Plans and Vegetation Management Plans	Embudo Trail head Reservoir Site Plan	Develop plan for Indian Petroglyph State Park						
6. Extraordinary Facilities Plan (0-165)	Simms Park Wildlife Blind, Bear Canyon			Ruth Eisenberg Boulder		Tijeras Arroyo outfall		
7. Public Participation		In process			Complete			
8. Monitoring Plan					Complete			

TABLE 10-3.
MAJOR PUBLIC OPEN SPACE FACILITY PLAN IMPLEMENTATION SCHEDULE

		Subitem by Type			CIP Bond Cycle		
Open Space Area & Proposed Project	Potential Funding Sources	Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-2000	Year 2001-02
GENERAL PROJECTS							
Open Space Acquisition	GO Bonds	X			X	X	X
Fencing and Protection	GO Bonds	X			X	X	X
Facility Renovations	GO Bonds	X			X	X	X
Facility Capacity Study	OSTF, GFund, GO		X		X		
Special Use Facility Study	OSTF, GFund, GO		X			X	
Sandoval County Properties	OSTF, GFund, GO		X		X		
Review of Private Agreements	OSTF, GFund, GO		X		X		
Review of User Fees	OSTF, GFund, GO		X		X		
STAFF ADDITIONS*							
Volunteer Coordinator	OSTF, GFund			X	+5 PT		
Environmental Education Manager	OSTF, Gfund			X	+1 FT		
Visitor Services Staff	OSTF, Gfund		X	X	+2 FT		+2 FT
Open Space Rangers (enforcement)	OSTF, Gfund		X	X	+1 FT		+2 FT
Maintenance/Operations Staff	OSTF, Gfund		X	X	+1 FT		+1 FT
Resource Protection Staff	OSTF, GFund		X	X	+1 FT		+1 FT
Biologist	GFund		X	X	+1 FT		
Planner	GFund		X	X	+1 FT		

		Subitem by Type			CIP Bond Cycle		
Open Space Area & Proposed Project	Potential Funding Sources	Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-2000	Year 2001-02
SANDIA FOOTHILLS Elena Gallegos Picnic Area a. Facility improvements (ADA access, parking and access improvements, trails, lighting)	GO Bond	X			X		
Sandia Foothills Resource Management Plan a. Trail corridor plan b. Mountain bike study c. Design d. Construction	GO Bond, ISTE OSTF, Gfund GO Bond, ISTE GO Bond, ISTE	X	X X X		X		
Other General Projects a. Watershed/wildlife/baseline study b. Watershed/erosion control c. Watershed assessment	Grants Agency Match GO Bond	X	X X		X X	X	X

* FT = Full time positions
PT = Part time positions

TABLE 10-3.
MAJOR PUBLIC OPEN SPACE FACILITY PLAN IMPLEMENTATION SCHEDULE
(Continued)

Open Space Area & Proposed Project	Potential Funding Sources	Subitem by Type			CIP Bond Cycle		
		Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-2000	Year 2001-02
WEST SIDE OPEN SPACE							
West Side Resource Management plan	OSTF, GFund		X		X		
Roberson Ranch Master Development Plan	OSTF, GFund		X			X	
Petroglyph National Monument							
a. Facility improvements	GO Bonds	X			X	X	X
Petroglyph State Park Improvements		X					
West Mesa Open Space							
a. Facility improvements	GO Bonds	X					
b. Revegetation/habitat improvements	GO Bonds	X			X		
c. Master plan	GO Bonds		X		X	X	
West Mesa Grasslands Preserve							
a. Habitat improvements	GO Bonds	X				X	
b. Ecosystem profile	GO Bonds		X			X	
Piedras Marcadas Pueblo Improvements							
Los Metates	GO Bonds	X				X	
a. Class I pedestrian facility	GO Bonds		X			X	
Infrastructure/Cost of service study							

Open Space Area & Proposed Project	Potential Funding Sources	Subitem by Type			CIP Bond Cycle		
		Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-2000	Year 2001-02
BOSQUE							
Oxbow Management Plan	OSTF, GFund		X			X	
Oxbow Acquisition & maintenance	GFund	X			X		
Alameda Trail Parking and Wetlands	GFund	X			X		
RIO GRANDE VALLEY STATE PARK (see plan)							
Corridor A: North Boundary to Paseo Bridge	GO Bond	X			X	X	X
Corridor B: Paseo Bridge to I-40	GO Bond	X			X	X	X
Corridor C: I-40 to Barelmas Bridge	GO Bond	X			X	X	X
Corridor D: Barelmas Bridge to Rio Bravo Bridge	GO Bond	X			X	X	
Corridor E: Rio Bravo Bridge to So. Boundary	GO Bond	X			X	X	
Corridor F: Paseo del Bosque							
Other: Flooding of the Bosque	GO Bond						X
BLU Update	GO Bond, OSTF		X				X

TABLE 10-3.
MAJOR PUBLIC OPEN SPACE FACILITY PLAN IMPLEMENTATION SCHEDULE
(Continued)

Open Space Area & Proposed Project	Potential Funding Sources	Subitem by Type			CIP Bond Cycle		
		Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-2000	Year 2001-02
TIJERAS ARROYO							
Montesa Park							
a. Master planning	OSTF, GFund		X		X		
b. Facility improvements	GO Bonds	X			X		
c. Habitat improvements	GO Bonds	X			X		
a. Off-road vehicle study	OSTF, GFund						
b. Agreement with Solid Waste Management	OSTF, GFund		X			X	
c. Risk management review of private users	OSTF, GFund		X				
d. Joint powers agreement with other public landowners	OSTF, GFund		X		X	X	
TIJERAS ARROYO TOTAL:							
TIJERAS ARROYO CORRIDOR PLAN (draft)	GFund (Planning Dept.)		X			X	
CALABACILLAS ARROYO CORRIDOR PLAN (draft)	Gfund (Planning Dept.)		X			X	
Arroyo Corridor Plans per <u>Facility Plan for Arroyos</u>	Gfund (Planning Dept.)		X			X	X

Open Space Area & Proposed Project	Potential Funding Sources	Subitem by Type			CIP Bond Cycle		
		Capital Improv.	Plans/ Studies	Staffing	Year 97-98	Year 99-00	Year 2001-02
EAST MOUNTAIN OPEN SPACE							
East Mountain Resource Management plan							
a. Trail linkages, opportunities study	OSTF, ISTEAG		X				
b. Fencing, signs, survey etc.	GO Bond	X					
Gutierrez Canyon							
a. Patent study	OSTF		X				X
b. Fencing and signs	GO Bond	X					
Juan Tomas Mountain Park Environmental Education Facility							
a. Site development plan	GO Bond		X				
b. Facility improvements	GO Bond	X			X	X	
Carolino Canyon Park							
a. Site development plan	GO Bond		X				
b. Land acquisition for expansion	GO Bond	X					
c. Facility improvements	GO Bond	X					
San Antonito Open Space							
a. Patent study	OSTF		X				X
b. Fencing and signs	GO Bond	X					

B. Summary by Area

Sandia Foothills

Studies/Plans

A number of studies are proposed prior to extensive facility development in the foothills as shown in Table 10-4. The purpose of these studies is to ensure protection of open space resources.

TABLE 10-4.
PROPOSED SANDIA FOOTHILLS PLANS AND STUDIES

Study	Description	Responsible Agency
Resource Management Plan for Sandia Foothills Major Public Open Space	Comprehensive planning for foothills MPOS Network to include appropriately located and designed trails for pedestrian, equestrian and bicycle use.	City of Albuquerque Open Space Division and The Capital Implementation Program, USFS
Watershed/wildlife study/erosion control	Establish baseline and monitoring variables.	City of Albuquerque Open Space Division and The Capital Implementation Program, USFS
Mountain bike regulations and administrative policy	In-house feasibility study to be conducted in conjunction with Resource Management plan.	City of Albuquerque Open Space Division

Coordination

The City MPOS Program shall work with the U.S. Forest Service to develop joint projects as follows:

- Develop a program of public environmental education; joint development of an environmental education center in the Elena Gallegos picnic area. These facilities should also be coordinated with the Bear Canyon Scenic easement and programs of Albuquerque Public Schools and the Albuquerque Academy.
- Continue erosion control policies and projects.
- Initiate joint development of mountain bike and equestrian trails; management of mountain bike and equestrian use; enforcement of trail use policies.
- Initiate joint habitat management; development of corridors through City Major Public Open Space to coordinate with USFS migration studies and complement Forest Service planning for bears, Rocky Mountain bighorn sheep and mule deer. Coordinate use of fire in vegetation management with the National Forest.
- Develop joint interpretive services in conjunction with Class V facilities in the Sandia Foothills.

- Explore opportunities to combine resources with the USFS to ensure adequate funding for volunteers and Youth Conservation Corps projects. Expand projects to include City of Albuquerque Major Public Open Space.
- Jointly develop trail maps and rules for use of trails, including brochures for hiking, equestrian use and mountain biking and interpretive information. Provide information regarding the missions and regulations of both agencies, facilities in City Major Public Open Space and adjoining facilities in the National Forest. These maps should incorporate USFS volunteer mapping.

Capital Improvements

No capital improvements for the Sandia Foothills Major Public Open Space are proposed as part of this plan. Projects whose funding predates this plan such as the parking lot on the High Desert easement should not be effected by this plan. The proposed Resource Management plan for the foothills and other plans may propose new capital improvements.

Staff

Based on current conditions, the following are administrative actions proposed for the Sandia Foothills area. Future Resource Management and other plans may add to or modify staff requirements.

- Full time equivalent staff will be provided at the Elena Gallegos picnic area to collect fees, monitor use and provide interpretive services.
- The City should increase the number of rangers to patrol after hours and during peak use.
- Volunteers should be used to the extent possible to provide interpretive services, maintenance and erosion control. Enforcement and collection of fees will be the responsibility of City staff.
- The City should add one maintenance worker to its full time staff to be responsible for trail maintenance.

West Side Major Public Open Space

Studies/Plans

Proposed studies are listed in Table 10-5. These are intended to provide baseline environmental data and to detail plans for areas to be developed.

Coordination

The City shall coordinate with AMAFCA on the design and construction of drainage facilities on the west side. The City shall work with adjacent institutional landowners. These entities include the National Park Service and the State of New Mexico Land Office.

TABLE 10-5.
PROPOSED WEST SIDE MAJOR PUBLIC OPEN SPACE STUDIES AND PLANS

Study	Description	Responsible Agency
West Side Open Space Resource Management Plan	Resource Management plan for management of lands adjacent to Petroglyph National Monument including trails, parking and picnic facilities.	City of Albuquerque Open Space Division and The Capital Implementation Program Bernalillo County.
Infrastructure cost of service study	Infrastructure study of the cost of serving properties above escarpment compared to acquisition.	City of Albuquerque Planning, Public Works, and Open Space Division
West Mesa Grasslands	Ecosystem profile for grassland preserve.	City of Albuquerque Open Space Division
Roberson Ranch Master Plan	Master Plan for development and management of Roberson Ranch.	City of Albuquerque Open Space Division

Staff

The proposed West Side Open Space facilities, including those in the Petroglyph National Monument, create a need for the following staff:

- Full-time, on-site visitor service staff, Class V facilities
- Facility operations staff
- Resource protection staff
- Law enforcement staff

Petroglyph National Monument

Coordination

The City Open Space Division shall work with the National Park Service to coordinate development and management of the monument. Joint projects may include:

- Natural resource protection and inventory
- Cultural resource protection and inventory
- Public education; joint development of interpretive/education programs
- Joint development of trail maps and rules for use of trails
- Joint facility development and/or staffing
- Law enforcement
- Volunteer programs

Lands within the Monument may continue to be owned by the City, State and Federal Governments and managed by the National Park Service and the City Open Space Division. Roles and responsibilities of each agency are defined in the General Management Plan, and may be modified by subsequent documents consistent with the Monument enabling legislation and open space ordinances.

Capital Improvements

- May include construction of facilities identified in the General Management Plan. Facilities will be programmed through the Decade Plan.

Staff

See staff for West Side Open Space above.

Rio Grande Bosque

Studies/Plans

Proposed studies and plans for the Bosque are shown in Table 10-6.

TABLE 10-6.
PROPOSED BOSQUE MAJOR PUBLIC OPEN SPACE PLANS AND STUDIES

Study	Description
On-going monitoring	(part of Bosque Action Plan)
Two to Five Year Cycles	Vegetation surveys Human use field investigations in high impact areas Groundwater monitoring, water level and quality
Five Year Cycles	Amphibian and reptile survey (spring and summer) Mammal survey (spring and fall) Bird count (fall, winter and spring) Breeding bird rookeries (May) Potential habitats of threatened & endangered species
Oxbow Management Plan	Maintenance and management of Oxbow wetlands and bluff.

Capital Improvements

Capital improvements for Rio Grande Valley State Park are identified in the Bosque Action Plan. Projects outside the Rio Grande Valley State Park are part of the Decade Plan.

Coordination

The City shall coordinate development and management of the Bosque Major Public Open Space with the following agencies:

- State of New Mexico Energy, Minerals and Natural Resources Department
- Army Corps of Engineers
- Middle Rio Grande Conservancy District
- Bureau of Reclamation

- Albuquerque Metropolitan Arroyo Flood Control Authority
- New Mexico Game and Fish Department
- Bernalillo County
- Fish and Wildlife Service
- Village of Los Ranchos
- Village of Corrales
- Sandia Pueblo
- Isleta Pueblo

Staff

Proposed facilities create a need for open space rangers and visitor services and maintenance staff at the Rio Grande Valley State Park. The increase in visitors as improvements are provided increases the need for enforcement, public contact, clean up, trail maintenance and revegetation. Staff positions were not recommended in the Bosque Action Plan but will be needed as the area's popularity and use increases.

Arroyos

Studies/Plans

The Tijeras Arroyo and Calabacillas Corridor Plans are in draft form. These plan should be completed. A survey of off-road vehicle users in Tijeras Arroyo is proposed to determine the needs of this group and willingness to pay for improved facilities. Proposed studies and plans are shown in Table 10-7.

Coordination

The Open Space Division shall coordinate with the following agencies in the planning and development of the Tijeras Arroyo:

- AMAFCA
- City of Albuquerque Capital Implementation Program
- City of Albuquerque Planning Department
- City of Albuquerque Public Works Department
- City of Albuquerque Solid Waste Management Department
- City of Albuquerque Aviation Department
- Bernalillo County Parks and Recreation Department
- State of New Mexico Land Office and UNM in planning for Mesa del Sol and other State owned properties.
- Kirtland Air Force Base
- County Corrections Department

The Open Space Division shall coordinate with the following agencies in the planning and development of the Calabacillas Arroyo:

- AMAFCA
- City of Albuquerque Capital Implementation Program
- City of Albuquerque Planning Department

- City of Albuquerque Public Works Department
- Bernalillo County Parks and Recreation Department
- Sandoval County

TABLE 10-7.
PROPOSED STUDIES AND PLANS FOR ARROYOS

Study/Plans	Description	Responsible Agency
Open Space participation in drainage management plan for the Tijeras Arroyo	Review of facilities and management of current uses.	To be determined in JPA
Montesa Park Master Development Plan		Open Space Division and Capital Implementation Program
Off-road/go cart vehicle survey	Review of off-road vehicle use and its impacts.	Open Space Division
Open Space participation in drainage management plan for Calabacillas Arroyo	Address policy recommendations per <u>Facility Plan for Arroyos.</u>	To be determined in JPA
Open Space participation in other planning called for in the <u>Facility Plan for Arroyos.</u>	Address policy recommendations per <u>Facility Plan for Arroyos.</u>	To be determined

Capital Improvements

Proposed improvements are part of the Decade Plan.

Staff

Several administrative actions by the Open Space Division are recommended to improve management of Major Public Open Space Arroyos. These are listed in Table 10-8.

TABLE 10-8.
PROPOSED ADMINISTRATIVE ACTIONS RELATED TO MAJOR PUBLIC OPEN SPACE ARROYOS

Proposed Action	Responsible Agency
Formalize agreement regarding free dumping for the MPOS Program	Open Space Division and Solid Waste Division
Risk Management review of private users in Tijeras Arroyo	Risk Management
Joint power agreement with public landowners of Tijeras Arroyo open space	Open Space Division

East Mountain Major Public Open Space

Studies/Plans

Studies to be completed prior to extensive facility development are listed in Table 10-9.

TABLE 10-9.
PROPOSED EAST MOUNTAIN MAJOR PUBLIC OPEN SPACE STUDIES AND PLANS

Study/Plan	Responsible Agency
Resource Management plan to identify trail linkages and trail opportunities between East Mountain Major Public Open Space areas, the National Forest and other public facilities in the East Mountain Area and evaluation of San Antonio Open Space, and Gutierrez Canyon for disposal (sale or trade), land bank status or joint management as regional open space. To address existing patents, restrictions on use and procedures for changing patents.	Open Space Division, U.S. Forest Service, Bernalillo County, Capital Implementation Program
Site Plan for Carolino Canyon to be completed prior to construction of proposed facilities.	Open Space Division, Capital Implementation Program
Master Development Plan and site plans for Sedillo/ Juan Tomás Mountain Park to be completed prior to construction of proposed facilities.	Open Space Division, Capital Implementation Program
Gutierrez Canyon and San Antonito Patent Study	Open Space Division

Coordination

The Open Space Division shall work with the following agencies in development of the East Mountain Major Public Open Space:

- Forest Service
- Bernalillo County

Capital Improvements

The Open Space Division shall pursue the following improvements:

- Fencing and signage of Sedillo/Juan Tomás, San Antonito and Gutierrez Canyon
- Carolino Canyon facility improvements

Staff

Staffing in the East Mountain Major Public Open Space will be determined following the outcome of the above studies.

Sandoval County Major Public Open Space

Studies/Plans

Studies to be completed prior to development are listed in Table 10-10.

TABLE 10-10.
PROPOSED SANDOVAL COUNTY MAJOR PUBLIC OPEN SPACE STUDIES AND
PLANS

Study/Plan	Responsible Agency
Special study of Major Public Open Space properties outside of Bernalillo County including patent studies and feasibility of a Regional Open Space Plan	Open Space Division

Coordination

The Open Space Division shall work with the following agencies in studying Sandoval County properties:

- Sandoval County
- US Forest Service
- Bureau of Land Management
- Bernalillo County

Staff

If the special study recommends inclusion of either or both properties in the MPOS Network, staffing will be evaluated as part of a master plan for the properties.

Major Public Open Space Easement Areas

Studies/Plan

Studies for easement areas are listed in Table 10-11.

Coordination

The Open Space Division shall work with the following agencies in studying easement areas:

- Bernalillo County Zoning
- Bernalillo County Legal Department
- City of Albuquerque Planning Department
- City of Albuquerque Legal Department

TABLE 10-11.
PROPOSED MAJOR PUBLIC OPEN SPACE EASEMENT AREA STUDIES AND PLANS

Study/Plan	Responsible Agency
Special study of open space easement areas to develop a strategy and tools to implement the easement areas goals of the <u>Comprehensive Plan</u> .	Open Space Division

Staff

The special study should evaluate staffing requirements for easement area protection.

Appendix A. OPEN SPACE INVENTORY

The Albuquerque Geographic Information System (AGIS) is an important tool for mapping and evaluating open space characteristics. AGIS houses parcel data, an inventory of open space, and area wide environmental data which will be used in planning and managing open space.

A number of coverages already generated and available within AGIS define important environmental and parcel attributes. These include:

- Rio Grande Valley State Park vegetation and wildlife
 - Soils
 - Flood plains
 - Groundwater protection areas
 - Landfills and dumps
 - Underground storage tanks
- Zoning
- Ownership
- Population density

Two new coverages, generalized slope data and vegetation within open space, were created as part of this facility planning process.

This environmental information is available for use in site evaluations and resource inventories.

Environmental Data

A database of characteristics of each open space parcel was created to be linked through AGIS to mapped parcels. The information included in the inventory is as follows:

- Area Name
- Parcel/Facility Name
- Parcel Identifier (Uniform Parcel Code or Facility Number)
- Legal description (Lot, Block, Subdivision)
- Basic site data; including parcel size, zoning, ownership and political jurisdiction.
- Open space category designation
- Acquisition status; method and data
- Management responsibility and applicable agreements
- Open space purpose(s) per the Comprehensive Plan
- Facilities
- Facility Maintenance class
- Wheelchair accessibility
- Potential to generate revenues
- Annual income
- Annual visitation
- Peak visitation period(s)
- Applicable plans, resource surveys, site plans, monitoring plans and extraordinary facilities plans.

A compilation of parcels and their attributes was provided to the City as a separate document.

A major finding of the inventory was that consistent complete data for the entire Open Space System is not available in existing City files. As a result, recommendations for completion of the database and long term record keeping are included as part of the management component of this facility plan.

A list of parcels, including size, location and acquisition method is shown in Table A-1.

Table A-1.
Open Space Lands Owned or Managed
by the City of Albuquerque Open Space Division
as of 6/30/99

Date Acquired	Property Name	Acreage	Location	Acquisition Method
12/1963	Golden Park	1,180.3	Sandoval County	RPPA
12/1963	Gutierrez Canyon	300.6	East Mountain	RPPA
12/1963	Four Hills Park	40	Sandia Foothills	RPPA
1963	Carolino Canyon	27.5	East Mountain	RPPA
196?	Montesa Park	577.4	Tijeras Arroyo	RPPA
1964-1968	Shooting Range Park	3,832	West Side	RPPA
12/1966	Placitas	560	Sandoval County	RPPA
12/1967	La Boca Negra Park	1,527.6	West Side	Fee Simple Purchase
1968	San Antonito	168.5	East Mountain	RPPA
5,6,7/1973	Sandia Foothills	490.1	Sandia Foothills	Fee Simple Purchase
1973	Indian Petroglyph State Park	75.3	West Side	Fee Simple Purchase
1974	Glenwood Hills	70	Sandia Foothills	Fee Simple Purchase
9/1976	Volcanoes	1,320	West Side	Fee Simple Purchase
4/1977	Marsh Peninsula	230	West Side	Fee Simple Purchase
4,7/1977	Sandia Foothills	120	Sandia Foothills	Fee Simple Purchase
1977	Candelaria Farms	176	Bosque	LWCF
4/1978	Embudo Dam	49	Sandia Foothills	Drainage ROW
6/1978	Volcano Park	2,120	West Side	Fee Simple Purchase
7/1978	Bear Canyon	79.5	Sandia Foothills	Off-site open space dedication
8/1978	Glenwood Hills	74.8	Sandia Foothills	Fee Simple Purchase
1978	Volcano Park	769	West Side	Fee Simple Purchase
4/1979	Manzano-Four Hills	146	Sandia Foothills	Fee Simple Purchase
1979	West Mesa Open Space	3,247.5	West Side	LWCF
1980	Katherine Nicole	36.5	West Side	Off-site open space dedication
3,4/1981	Sandia Foothills	39	Sandia Foothills	Fee Simple Purchase
4/1981	Land Bank	2,200	West Side	Fee Simple Purchase
1981	Volcano Cliffs Park	61.4	West Side	Park Dedication
1982	Rebonito	139.9	Sandia Foothills	Fee Simple Purchase
1983	Rio Grande Valley State Park	5,000	Bosque	Management Agreement, not owned
1983	Simms Park/Elena Gallegos	640	Sandia Foothills	Land Trade
1986	Piedras Marcadas	28.7	West Side	Fee Simple Purchase
1988	Piedras Marcadas Pueblo	13.8	Bosque/West Side	Fee Simple Purchase
1988	Rounds Estate	324	Sandia Foothills	Trust for Public Land
1988	Piedras Marcadas	106.9	West Side	Fee Simple Purchase
1989	Grevey, Torres	66	West Side	Fee Simple Purchase
1989	Piedras Marcadas	87.5	West Side	Fee Simple Purchase
1990	Piedras Marcadas	73.7	West Side	Fee Simple Purchase

Date Acquired	Property Name	Acreage	Location	Acquisition Method
1991	Los Metates	16	West Side	Fee simple, land exchange
1991	Bear Canyon	35	Sandia Foothills	Fee Simple/Dedication
1991	Piedras Marcadas	81.4	West Side	Fee Simple Purchase
1992	Piedras Marcadas	32.8	West Side	Fee Simple Purchase
1993	High Desert	29.4	Sandia Foothills	Dedication
1993	Piedras Marcadas	87.6	West Side	Fee Simple Purchase
1994	Rio Grande/Alameda	8.5	Bosque	Joint City/County Fee Simple Purchase
1994	Sedillo/Juan Tomas	1,455	East Mountain	Withdrawn Trust Land
1994	Piedras Marcadas	49.7	West Side	Fee Simple Purchase
1995-1996	Piedras Marcadas	10.8	West Side	Fee Simple Purchase
3-1996	Mann Tract	26.5	West Side	Fee Simple Purchase
7-96	Bosque (Montano Bridge)	18.0	Bosque	Mitigation from Bridge
9-1996	Roberson Ranch	23.5	Bosque/West Side	Fee Simple Purchase
1996-1998	Blanchard Property	20.0	Bosque/West Side	Fee Simple Purchase
4-1997	Anderson Field	90.0	North Valley	Fee Simple Purchase
9-1997	Carolino Canyon (Kimmons)	2.5	East Mountain	Fee Simple Purchase
4-1998	Manzano/Four Hills	(80.0)	Sandia Foothills	(Condemnation)
6-1998	Tres Pistolas	106.0	Sandia/East Mountains	Fee Simple Purchase
6-1998	Calabacillas Arroyo	40.0	West Side	Dedication
2-1999	Roberson Residence	3.0	Bosque/West Side	Fee Simple Purchase
3-1999	Hubbell Oxbow	87.0	South Valley/West Side	Fee Simple Purchase
6-1999	San Antonio Oxbow	9.9	Bosque	Dedication

Appendix B. ALBUQUERQUE/BERNALILLO COMPREHENSIVE PLAN POLICIES AFFECTING OPEN SPACE

Albuquerque/Bernalillo County Comprehensive Plan, Planning Department, August 1988.

The following goals and policies of the Comprehensive Plan relate to the Open Space System.

B. LAND USE

1. *Open Space Network* -- The Goal is to provide visual relief from urbanization and to offer opportunities for education, recreation, cultural activities, and conservation of natural resources by setting aside Major Public Open Space, parks, trail corridors, and open areas throughout the Comprehensive Plan area.

Policy a. Open space lands and waters shall be acquired or regulated as appropriate to serve one or more of the following specific purposes:

- Conservation of natural resources and environmental features
- Provision of opportunities for outdoor education and recreation
- Shaping of the urban form
- Conservation of archaeological resources
- Provision of trail corridors
- Protection of the public from natural hazards

Policy b. Access to the Rio Grande, bosque, and surrounding river lands should be carefully designed to provide entry to those portions suitable for recreational, scientific and educational purposes, while controlling access in other more sensitive areas to preserve the natural wildlife habitat and maintain essential watershed management and drainage functions.

Policy c. Development in or adjacent to the proposed Open Space Network shall be compatible with open space purposes.

Policy d. The City and County shall preserve the volcanos, key portions of the basalt flow, and the escarpment as part of the Open Space Network.

Policy e. The Sandia Foothills where slopes exceed 10 percent shall be acquired or regulated as appropriate to protect such areas from detrimental and incompatible public and private activities.

Policy f. A multi-purpose network of open areas and trail corridors along arroyos and appropriate ditches shall be created. Trail corridors shall be acquired, regulated, or appropriately managed to protect natural features, views, drainage and other functions or to link other areas within the Open Space Network.

Policy g. Planning and implementation of a system of neighborhood parks and community open areas shall be undertaken to meet a range of needs at different scales.

- Policy h. Developing areas shall have neighborhood parks and open areas located to serve the population being accommodated in the developing area.
- Policy I. The design of parks and other open areas shall incorporate the following criteria:
- Multi-functional use of resources and compatible facilities.
 - Maintenance and landscaping appropriate to the location, function, public expectations and intensity of use.
 - Integration into residential design for easy accessibility and orientation to encourage use.
 - Lighting, site design, or other methods to minimize vandalism.
 - Connections between other Open Space Network areas and public facilities.
- Policy j. Design of neighborhood open areas should tie into other open spaces, where appropriate, to create an Open Space Network.
2. *Reserve Area* -- The Goal is to allow opportunity for future development of high quality, mixed-use, largely self-sufficient planned communities, bounded by permanent open-space, in appropriate outlying areas, and to protect the non-urban metropolitan areas as rural unless such planned communities develop.
- Policy a. ...designate portions of the Open Space Network in order to distinguish the new community from ultimate Developing Urban Area development; dedication of open space adequate to create a clear sense of separation of each planned community.
- Policy b. Overall gross density shall not exceed two dwelling units per acre, and density transfer (clustering) shall be used to accomplish appropriate urban densities in planned communities while ensuring an open space buffer around them....
3. *Rural Area* -- The Goal is to maintain the separate identity of rural areas as alternatives to urbanization by guiding development compatible with their open character, natural resources, and traditional settlement patterns.
- Policy c. Development shall be carefully controlled in floodplains and valley areas where flood danger, high water table, soils and air inversions, and preservation/maintenance of agricultural land inhibit extensive urbanization.
- Policy d. Land which is suitable for agriculture shall be maintained to the extent feasible in agricultural production and discouraged from non-agricultural development.

C. ENVIRONMENTAL PROTECTION AND HERITAGE CONSERVATION

6. *Archaeological Resources* -- The Goal is to identify and manage or acquire significant archaeological and paleontological sites for research, education, economic, and/or recreation use.

- Policy a. A proactive program for identifying and evaluating archaeological and paleontological sites and items in the metropolitan area shall be undertaken.
- Policy b. Appropriate treatment of significant sites and remedies for those that cannot be preserved shall be determined.
- Policy c. Public understanding of and appreciation for the area's archaeological and paleontological past shall be promoted.

D. COMMUNITY RESOURCE MANAGEMENT

2. *Water Management* -- The Goal is efficient water management and use.

- Policy b. Maximum absorption of rainfall shall be encouraged through use of:
- arroyo channels designed to allow infiltration of water wherever possible, and
 - conservation devices in all new developments.

6. *Economic Development* -- The Goal is to achieve steady and diversified economic development balanced with other important social, cultural, and environmental goals.

- Policy d. Tourism shall be promoted.

7. *Education* -- The Goal is to provide a wide variety of educational and recreational opportunities available to citizens from all cultural, age and educational groups.

- Policy b. Stronger communication and planning links with area schools and educational institutions shall be established.

- Policy d. Efforts should be made to integrate educational programs with the natural and cultural environments.

- Policy e. Variety and flexibility in educational and recreational resources shall be encouraged through joint use of facilities.

Appendix C . ANNOTATED BIBLIOGRAPHY

Rank I Comprehensive Plan

- Albuquerque/Bernalillo County Planning Department. Albuquerque/Bernalillo County Comprehensive Plan. n.p., August, 1988. See Appendix A.
- Albuquerque/Bernalillo County Planning Department. Albuquerque/Bernalillo County Comprehensive Plan, Metropolitan Areas and Urban Centers. n.p., April, 1975. See Appendix A.
- Albuquerque/Bernalillo County Planning Department. Albuquerque/Bernalillo County Comprehensive Plan, Plan for Major Open Space. n.p., August, 1975 (reprinted March, 1981). See Appendix A.
- Albuquerque/Bernalillo County Planning Department. Albuquerque/Bernalillo County Comprehensive Plan, Policies Plan. n.p., April, 1975. See Appendix A.

Rank II Area Plan

- Bernalillo County. The Bernalillo County Parks and Recreation Master Plan. n.p., _____. Calls for preparation of a County Open Space and natural Resources Plan to include an inventory of sensitive natural, cultural, recreational and visual resources within unincorporated Bernalillo County and recommendations for their protection. This plan will be a Rank II plan complementary to the City of Albuquerque Open Space Facility Plan.
- City of Albuquerque, Bernalillo County. East Mountain Area Plan. n.p., August, 1992. Contains recommendations for land use; open space and recreation; circulation and transportation; the natural environment; water and wastewater; and the treatment of historic and archaeological sites for the East Mountain Area in eastern Bernalillo County.
- City of Albuquerque, Municipal Development Department, Planning Division. Sandia Foothills Area Plan. n.p., June, 1983. Contains specific development guidelines for the area in order to protect the area from unwise development with respect to the area's natural terrain and topography.
- City of Albuquerque. Northwest Area Plan - Volume II, Goals and Issues. n.p., May, 1987. Defines the goals and issues critical to the successful development of the Northwest Area.
- City of Albuquerque, Planning Department and Advanced Planning. North Valley Area Plan. n.p., April, 1993. Addresses issues related to community development and design, land use and zoning, wastewater, drainage, transportation and housing.
- City of Albuquerque Planning Department, Southwest Area Plan Volume IV: The Plan, n.p., 1987. Contains development policies for Southwest Albuquerque, including open space preservation and trail connection and recommended agricultural land preservation techniques.

Rank II Facility Plan

City of Albuquerque, Parks and General Services Department, Design and Development Division. Park System Facility Plan - First Draft. n.p., March, 1993. Identifies park and recreation needs of an expanding population. Establishes standards for parks, evaluates existing facilities, directs site acquisition, prioritizes the development of new facilities and the rehabilitation of existing facilities, serves as a vehicle for involving the community and guides the City's Capital Improvement Program.

City of Albuquerque, Planning Department, Advance Planning, Design and Development Division. Trails and Bikeways Facilities Plan. November, 1993. Details development of a City wide trail system. The plan outlines policies for future trail and bikeway development and usage.

City of Albuquerque, Parks and General Services Department, Design and Development Division and Open Space Division. Bosque Action Plan. n.p., May/August, 1993. Identifies specific environmental and recreational improvements for the Rio Grande Valley State Park. Policies in the plan help minimize impacts on the bosque environment and ensure the continued survival of the plants and animals of the bosque habitat.

City of Albuquerque, Planning Department, Planning Division. Facility Plan for Arroyos: Multiple Use of Albuquerque's Arroyos and Their Floodplains. n.p., February 3, 1986. Identifies constraints and opportunities for development, identifies existing policies which affect development, evaluates potential of the arroyos, ranks the arroyos for development, establishes policies and guidelines for development and develops an implementation program.

Middle Rio Grande Council of Governments. Transportation Program for the Albuquerque Metropolitan Planning Area. n.p., Published annually. Identifies current transportation policy for the Albuquerque metro area. Delineates major streets, proposed transportation corridors, bikeways, transit and programmed transportation expenditures. Transportation corridors that cross or are proposed to cross existing or proposed Major Public Open Space include:

- Southeast Transportation Corridor
- Pajarito Location Study Corridor
- Rio Bravo Boulevard
- Gibson West Location Study Corridor
- Paseo del Volcan Location Study Corridor
- Ladera Extension Location Study Corridor
- Unser Boulevard
- Paseo del Norte

Rank III Sector Development Plan

City of Albuquerque, New Mexico. Riverview Sector Development Plan. n.p., January, 1986. Establishes guidelines for development of the plan area. Identifies land use scheme and addresses open space and parks through the recognition of a trail system, Piedras Marcadas Arroyo, archeological sites, and parkland requirements which will help enhance and preserve open space in the plan area.

High Desert Sector Development Plan. n.p., 1993. Establishes development parameters for properties adjacent to the Cibola National Forest and Bear Canyon.

Rank III Corridor Plan

- City of Albuquerque, Municipal Development Department, Planning Division, New Mexico. Coors Corridor Plan. n.p., May, 1984. Provides policy and guidelines for the development of Coors Boulevard in northwest Albuquerque. Strives to protect the natural landscape features and the archeological sites along its edges.
- City of Albuquerque, New Mexico. Amole Arroyo Corridor Plan. n.p., October 21, 1991. Specifies design guidelines, standards and policies for the development of the Amole Arroyo. Presents a conceptual recreational network, recommends a drainage management approach for the Amole Arroyo and sets design standards and regulations for adjacent development through a Design Overlay Zone.
- City of Albuquerque, New Mexico. Bear Canyon Arroyo Plan. n.p., June, 1991. Contains policies, regulations and project proposals to guide future trail development along the Bear Canyon Arroyo and other nearby arroyos and arroyo tributaries.
- City of Albuquerque, New Mexico. Calabacillas Arroyo Corridor Plan - Draft. n.p., July, 1989. Outlines development and management of the Calabacillas Arroyo on Albuquerque's west side. Policies directing drainage, open space, cultural resource management and landscaping are detailed.
- City of Albuquerque, New Mexico. Pajarito Arroyo Corridor Plan. n.p., Spring, 1988. Outlines policies for the development of Pajarito Arroyo as a major open space linkage. The plan designs a trail corridor, establishes design criteria (including a Design Overlay Zone) and develops a drainage management plan for the Pajarito Arroyo.
- City of Albuquerque, New Mexico. Rank III Corridor Plan for the Tijeras Arroyo. n.p., July, 1990 Draft. Identifies schematic design study intended to establish policies for conservation of open space characteristics and development of compatible recreational facilities within that open space. Policies in the document address trail alignments and continuity, facility location, channel treatments, landscaping, adjacent public and private design standards, and overall character of the corridor.
- City of Albuquerque, Parks and Recreation Department, Open Space Division and Planning Department, Planning Division. Northwest Mesa Escarpment Plan. n.p., September, 1987. Includes background information about the physical and man-made characteristics of the escarpment and about adopted plans and policies pertinent to the area. The plan establishes governing concepts which recognize the importance of the escarpment and adjacent areas to both this and the world-wide community. The plan develops a conceptual trail network and recommends management and public education strategies to create a program which respects the heritage of the escarpment while providing recreational opportunities. The role of the escarpment as a major part of a larger open space system is emphasized.
- City of Albuquerque, New Mexico. Piedras Marcadas Arroyo Corridor Plan - Draft. n.p. Outlines policies for the development and management of the Piedras Marcadas Arroyo on Albuquerque's west side. The arroyo forms an important link between Petroglyph National Monument and the Rio Grande Valley State Park.

Unranked Plans

Master Plans

City of Albuquerque, New Mexico. Albuquerque Biological Park Master Plan. n.p., 1991. Outlines the development of Tingley Aquatic Park, the Albuquerque Aquarium and the Rio Grande Botanic Garden in Albuquerque, New Mexico. Addresses inventory and analysis of conditions and planning policies and concepts. Environmental sensitivity and mitigative considerations are considered for each element of the Biological Park.

City of Albuquerque, Open Space Task Force West Mesa Committee. Master Plan for Volcano Park. n.p., August 21, 1980. Provides brief descriptions of the physical and cultural resources of Volcano Park. Discusses Goals and uses of the park and potential facilities.

City of Albuquerque. Shooting Range State Park Master Plan. n.p., 1977. Describes the development of facilities, land use, architecture, landscaping and programs for the Shooting Range State Park.

State of New Mexico, Department of Natural Resources, Park and Recreation Division and the City of Albuquerque. Master Plan: Rio Grande Nature Center and Preserve. n.p., May, 1979. Provides a guide for the development of the Rio Grande Nature Center and Preserve which establishes education and recreation for visitors, as well as preserving and reinforcing existing benefits of open space.

Special Studies

Albuquerque/Bernalillo County Planning Department A Study of an Historical Trail Through Tijeras Canyon. n.p., June, 1978. Analyzes an eight mile historic trail through Tijeras Canyon. Both physical and social characteristics of the trail are documented. Specific recommendations for trail development are made.

City of Albuquerque Land Resources and Regulation Department, Open Space Division. Evaluation of Archaeological Potential for Rio Grande Valley State Park. n.p., October, 1990. Identifies Four levels of potential archaeological sensitivity were developed for the entirety of the Rio Grande Valley State Park.

City of Albuquerque Land Resources and Regulation Department, Open Space Division. Bosque Biological Monitoring Program: Bird Population Surveys in Rio Grande Valley State Park (1987-1990). n.p., September, 1990. A study designed to establish current status of avian population to create a baseline for measuring future changes in the bird population. Identifies management recommendations to preserve and enhance the Rio Grande Valley State Park avian resources. The plan supplies several recommendations for future management of the RGVSP in reference to a low impact on the avian population.

City of Albuquerque, Open Space Division. A Survey of Mammal Population in the Rio Grande Valley State Park. n.p., December, 1990. This study documents the types and numbers of mammals in Rio Grande Valley State Park. The document assesses the importance of vegetation structure,

human impact and other potential variables on the mammal populations, as well as providing a reference point for future and past studies.

- City of Albuquerque, Open Space Division. Botanical Inventory of the Middle Rio Grande Bosque. n.p., October, 1990. Attempts to update previous botanical inventories for the Rio Grande Valley State Park in order to provide insight into the riparian bosque management plan. The document updates the inventory of vegetation, assesses trends, identifies sensitive areas and documents floristic composition of the park.
- City of Albuquerque Open Space Division. Rio Grande Valley State Park Biophysical Land Unit Analysis and Management Implications. n.p., April, 1992. This document describes an effort to classify the Rio Grande Valley State Park into management units. The classifications were derived from the biological inventory and natural resource information. Recommendations are made for management of the park.
- City of Albuquerque, Parks and Recreation Department. Water-Based Recreation Study. n.p., November, 1985. This study includes analysis and preliminary design for several specific projects that are oriented for the Rio Grande. Summaries of previous actions and studies and an evaluation of current recreational use of the river are included. Projects addressed in this study include: a preliminary management program for bosque vegetation and habitat, a network of trails, improvements to Tingley Beach and the surrounding area, fishing ponds and a cold-water fish hatchery, and improvements to Rio Bravo State Park to better make use of its proximity to the river.
- City of Albuquerque, Planning Department, Municipal Development Division. Archaeological Resources of the Piedras Marcadas Arroyo Area. n.p., September 28, 1986. An archaeological survey of 830 acres along Piedras Marcadas Arroyo was performed and the results are summarized in this document. The survey located 18 previously unrecorded sites. This document provides management recommendations which are based on the relative significance of the sites to planned development or impacts in the area and to recreational uses.
- City of Albuquerque Public Works Department, New Mexico. Tijeras Arroyo Drainage Management Plan - Phase I. n.p., October, 1987. Part I of a Three Phase study which will prepare a Drainage Management Plan for the Tijeras Arroyo including consideration of the arroyo's open space and multiple use potential. Phase I does not address the open space and multiple use potential; it contains a hydrologic and hydraulic evaluation of the Tijeras Arroyo for the development of 100 year and project flood plain limits along the study reach.
- City of Albuquerque Public Works Department, New Mexico. Tijeras Arroyo Drainage Management Plan - Phase II. n.p., August, 1990. Part II of a Three Phase study which will prepare a Drainage Management Plan for the Tijeras Arroyo including consideration of the arroyo's open space and multiple use potential. Phase II investigates alternative arroyo treatments on a conceptual basis throughout the study reach and establishes prudent limits of development between the eastern boundary of KAFB and Four Hills Road and between the western boundary of the U.S. Forest Service tree farm and the South Diversion Channel.
- Economic Research Associates. Potential Visitation and Visitor Impact of the Proposed Petroglyph National Monument Albuquerque, New Mexico. n.p., August, 1986. This document quantifies the potential number of visitors and their potential impact on the proposed Petroglyph National

Monument in Albuquerque, New Mexico. Traffic statistics in Albuquerque and historical visitation trends to other Indian ruin sites are used in the analysis.

UNM Institute for Public Policy. Needs Assessment Survey for Albuquerque Parks and Recreation Department Bosque Improvement Plan. n.p. May, 1989. The University of New Mexico Institute for Public Policy conducted a survey which elicited input from Albuquerque residents about the management of the Rio Grande Valley State Park. Questions ranged from specific policy options to more abstract questions.

Citizen Awareness and Use of Open Space Land in Albuquerque/Bernalillo County. Documents public attitudes about the open space program, use patterns and awareness of the system.

Other

Albuquerque Open Space Rules and Regulations for Visitors. [United States]: n.p., n.d. These rules and regulations are guidelines for visitors to use when visiting open space so that the valuable resources are protected while visitors enjoy the outdoor recreational experience. Rules cover motor vehicle use, cultural and natural resources interaction, the use of public property, fires and fireworks, camping, fee areas, public behavior, organized recreational and business activities, and firearms.

City of Albuquerque, Land Resources and Regulation Department. Open Space Master Plan: Goals and Objectives & Public Comment. n.p., December, 1990. Statement of proposed Plan goals and objectives for the Open Space Master Plan. Developed goals include: create an inventory of existing conditions within the City of Albuquerque Open Space Program; encourage and promote citizen participation in determining the direction of the Open Space Program; identify the community needs related to open space; develop a strategy to meet community needs and identify necessary resources to meet those needs; develop a management program based on community needs and resources; and promote public awareness of the Open Space Program and the interrelationship between open space, trails, and parks and recreation. Document also includes public comment from six regional public meetings.

City of Albuquerque, Parks and General Services Department, Design and Development Division. Park Locations and Amenities. n.p., July, 1992. This document identifies each park in Albuquerque by address, use, date of acquisition or development and type of services offered at the park.

City of Albuquerque, Parks and General Services Department, Open Space Division. Citizen Awareness and Use of Open Space Lands in Albuquerque/Bernalillo County. n.p., July, 1992. This survey consisted of over 600 respondents who answered question regarding their awareness and use of open space, open space facilities and the Open Space Program.

City of Albuquerque, Parks and Recreation Department, Open Space Division. Parks and Recreation, Open Space and Trails Network Master Plan: Public Comment Report. n.p., January, 1991. This report contains two Addendums: excerpts from the Albuquerque Bernalillo County Comprehensive Plan and Regional Public Meeting Information. The excerpts from the Comprehensive Plan guide open space development and policy. The public input process outlines public opinion on open space development and policy through public meetings and questionnaires.

City of Albuquerque. City of Albuquerque, Open Space Advisory Board, Annual Report. n.p., July, 1990 - June, 1991. Summary of Open Space Program from July 1, 1990 through June 30, 1991. The report reflects activities and progress made by the Open Space Advisory Board and contains updates of all open space programs. The report includes a major public open space acquisition priority list, register and criteria for acquisition; description of new procedure for approval of extraordinary facilities; a listing of open space exchange lands, management goals and operating budget for FY 1991.

Plans in Process

U.S. Department of the Interior, National Park Service. Petroglyph National Monument General Management Plan. n.p. 1996. The document specifies development and management responsibilities for the Petroglyph National Monument.

State of New Mexico, Jim Baca, Commissioner of Public Lands. Mesa Del Sol Master Plan - Summary Report. n.p. 1984. The Master Plan includes four elements: inventory and analysis of existing conditions; goals; the master plan; and an implementation plan. Open space is addressed in the Land Use plan and the inventory of natural and cultural resources.

Other

BLM Manual 8320 Planning for Recreation Resources. n.p., April 1981. The manual provides the overall parameters for planning for recreation use within the framework of the Bureau Planning System through which the Bureau can identify recreation values on public lands and make decisions which will ensure that these values are maintained on a long-term, sustained yield, basis to meet the recreational needs of the using public. A recreation opportunity spectrum (ROS) provides the conceptual framework for inventory and analysis of recreation resources and uses in all phases of planning.

BLM Manual 8322 Recreation Area Management Plans. n.p. April, 1981. Provides policy and instructions for preparing, reviewing, approving and implementing recreation area management plans (RAMP) which identify implementation activities, provide continuity for the management of an area, provide budget information and provide a basis for monitoring accomplishment of recreation program goals and objectives.

BLM Manual 8323 Recreation Project Planning. n.p. May, 1983. Provides specific policy and procedures for preparing, reviewing, approving, and implementing recreation project plans.

BLM Manual Handbook 8431-1, Visual Resource Contrast Rating. n.p., January, 1986. The contrast rating system is a systematic process used by the BLM to analyze potential visual impacts of proposed projects and activities. It helps ensure that every attempt is made to minimize potential visual impacts caused by development.

City of Albuquerque, Parks and Recreation Department, Open Space Division. Rio Grande Valley State Park Management Plan. n.p., June, 1987. The plan is a policy document which provides guidelines for the management of the Rio Grande Valley State park by maximizing the recreational

potential of the area and preserving the nature of the Rio Grande Bosque. The plan addresses general open space policy on education, management and recreation policies. In addition, the plan addresses land use, activities and facilities, access and parking, administration and management of adjacent facilities.

City of Albuquerque, Planned Communities Task Force. Planned Communities Criteria. n.p., January, 1990. Provides goals, policies, and criteria for governing the size, configuration, land use mix, densities, and other features of planned communities in the Rural and Reserve Areas of the Comprehensive Plan. The Criteria outlines the open space objectives for planned communities and mandates that planned communities identify and conserve environmental resources and incorporate them into the open space network.

Nordhaus, Richard S., Kantrowitz, Min and Siembieda, William J. Accessible Fishing: A Planning Handbook. n.p., September, 1984. The handbook provides clear guidelines for evaluating and designing accessible fishing sites. The guidelines can be used to plan for handicapped accessibility for other outdoor recreation activities. The handbook includes accessibility concepts, site evaluation and design procedures. The accessibility concept is based on a level of accessibility which are defined by certain physical characteristics of the site. The concept includes four levels: accessible, usable, difficult and inaccessible/unimproved.

Southwest Regional Office National Park Service, City of Albuquerque. Land Protection Plan, Petroglyph National Monument. n.p., February, 1991. This document outlines what lands or interests in lands need to be in public ownership in order to protect and preserve the natural and cultural resources found within the Monument boundaries. Priorities for the acquisition of lands is established.

United States Department of the Interior, Bureau of Land Management Albuquerque Office. Rio Puerco Resource Management Plan. n.p., November, 1986. This document outlines the land use plan for the Rio Puerco Resource Area which will shape the management direction of the Rio Puerco's resources for the next twenty years.

United States Department of Agriculture, Soil Conservation Service and Forest Service and United States Department of the Interior, Bureau of Indian Affairs and Bureau of Land Management in cooperation with New Mexico Agricultural Experiment Station. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico. June, 1977. Identifies and maps all soils in Bernalillo County and parts of Sandoval and Valencia Counties. This guide can be used to determine the limitations of development for any given area which is mapped in the report.

Appendix D . PROPOSED ZONING CODE TEXT AMENDMENTS FOR MAJOR PUBLIC OPEN SPACE

Bernalillo County Zoning Code

Purpose

To clarify and consolidate the process of approval for construction by the Open Space Division on open space lands.

Text

Add to Section 5, *Definitions*

"Major Public Open Space. An integrated system of lands and waters that have been designated as such in the Comprehensive Plan. The lands and waters and interests therein have been or shall be acquired, developed, used and maintained to retain their natural character to benefit people throughout the metropolitan area by conserving resources related to the natural environment, providing opportunities for outdoor education and recreation, or defining the boundaries of the urban environment.

Add to Section 18, *Special Use*, part (B)

"Major Public Open Space -- development, including public utility structure, roads other than unimproved service roads, drainage structures other than those necessary for resource protection, natural amphitheater, visitor center, interpretive center, parking lot with more than 25 spaces, and other uses as specified in Resource Management Plans or Master Development Plans. Minor improvements that do not require a Special Use Permit are fencing up to six feet in height, parking lot up to 25 spaces, drinking water, restrooms, trash receptacles, unimproved service roads, trails, bus stop shelters and bike shelters. Applications for Special Use Permits for Major Public Open Space facilities must demonstrate (a) that the proposed development is in accord with the letter and intent of The Comprehensive Plan regarding major public open space, the Major Public Open Space Facility Plan and applicable Resource Management or Master Development Plan and (d) the proposed development complies with part A. above."

Appendix E. DEFINITIONS

Accessible -- Describes a site, building, facility, or portion thereof which complies with ANSI Guidelines(ANSI, 1986, Appendix B, ADA Accessibility Guidelines).

Accessible Route -- A continuous unobstructed path connecting elements and spaces in a facility that can be negotiated by a person with a disability and who may require aids, such as a wheelchair. Interior accessible routes may include corridors, floors, ramps, elevators, lifts and clear floor space at fixtures. Exterior accessible routes may include parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps, and lifts (from ANSI, 1986, Appendix B, ADA Accessibility Guidelines).

ADA -- Americans with Disabilities Act of 1990 (Public Law 101-336). This law sets guidelines for accessibility to places of public accommodation and commercial facilities by individuals with disabilities.

Administrative/Support Facility -- The primary focus of these facilities is to provide office and/or support space for the operation of a division (storage, warehouse, heavy equipment storage, parking, etc.). Generally, recreation services/programs are not offered at these facilities.

Amenity -- A feature found at a facility which is not critical to its function, but enhances either convenience or enjoyment for the user. Examples of amenities include, but are not limited to, benches, trees, lights, signage and fencing.

ANSI -- American national Standards Institute. The Institute approves standards, primarily relating to safety issues, for a variety of endeavors including product manufacture for, and design and construction of, public facilities. ANSI approval is based largely on industry consensus. Compliance with ANSI standards is a matter of state and local regulation.

Asset Lands -- Parcels which are suitable for revenue producing facilities. These properties may or may not serve open space purposes. Their primary value to the system is revenue potential.

Bernalillo County Planning Commission -- A seven member citizens board that provides planning guidance within the unincorporated portion of Bernalillo County. The CPC reviews and approves all zone changes, site plans for Special Use Permits and planning policy.

Carrying Capacity -- The degree of use that a facility can accommodate without sustaining degradation of the facility or the immediate environment. The carrying capacity of a facility is determined by evaluating the facility's size, location, number of visitors, parking capacity (off and on street), scheduling and the environmental impact of the use.

Class I Facility -- Developed facility containing improved parking and access.

Class II Facility -- Developed facility containing improved parking, access and picnic facilities.

Class III Facility -- Developed facility containing improved parking, access, picnic facilities, restrooms and trails.

Class IV Facility -- Developed facility containing improved parking, access, picnic facilities, restrooms, trails, and other structures.

Class V Facility -- Like Class IV facilities, Class V facilities are developed facilities containing improved parking, access, picnic facilities, restrooms, trails, and other structures. In addition, on-site staffing is provided at Class V facilities. Generally, fees are collected at Class V facilities, but this is not always the case.

Controlled Use -- An area where public use of entry is administratively restricted for resource protection.

Corridor -- A usually linear area of land, within which an existing public right-of-way or easement exists. Examples of corridors include, but are not limited to, utilities, the movement of people, vehicles, storm water and possibly wildlife.

Cultural Resource -- A land feature, man-made artifact or structure that is significant in interpreting the history of a local cultural group. (Many such resources are threatened by time and new development. Protection is determined on an individual basis).

Design Guidelines -- Adopted criteria for the development and/or renovation of land or facilities. Design guidelines are typically technical in nature and address issues that result in the conservation of water, man power, and other resources, and consider safety and accessibility.

Disabled Person -- An individual who has a physical impairment, including impaired sensory, manual, or speech abilities, that result in a functional limitation in gaining access to and using a facility or program.

Dispersed Recreation -- Recreational use spread over a broad area rather than concentrated. This kind of use facilitates a greater sense of solitude and removal from the built environment.

Environmental Planning Commission (EPC) -- This is a nine member citizens board that provides planning guidance within the municipal limits of the City of Albuquerque and its five mile extraterritorial planning and platting jurisdiction. The EPC reviews and approves all zone changes, site plans for SU or Special Use zones and planning policy.

Facility -- A facility is all or any portion of a publicly owned building, trail, structure, park, or land with some level of capital improvement.

Floodway -- The channel of a river, arroyo or other water course and the adjacent land areas that must be reserved in order to safely discharge the 100-year design storm runoff.

Indigenous -- Vegetation or wildlife which is native (not introduced by man) and has evolved to be a part of the natural plant community in an area. For example, a blue spruce, although native to the mountains of New Mexico, is not indigenous to the West Mesa of Albuquerque.

Informal Recreation -- The non-structured use of a facility for recreation. Examples of informal recreation include, but are not limited to, the following activities: walking, picnicking, sunbathing, observing nature, sitting, jogging and bike riding. Informal recreation

describes the kind of user experience. Informal recreation may, or may not, require the use of a facility.

- Irrigation Ditch (or Ditch Right-of-Way)** -- Any of the water conveyance channels owned or operated by the Middle Rio Grande Conservancy District for the irrigation and drainage of the Rio Grande Valley. These ditches may consist of canals, laterals, acequias, and drains. Canals are the largest of the conveyance channel and they divert water from the river. Laterals carry water from the canals to smaller irrigation ditches or acequias. Acequias are used for irrigation. Many acequias were once operated by community associations before the formation of the Middle Rio Grande Conservancy District. Drains collect wastewater and return it to the river.
- Land Bank** -- Parcels intended for sale or trade. This category includes Elena Gallegos Trust Lands, donations or gifts of land which are not suitable for inclusion in the Open Space Network, or which may financially benefit other property in the Open Space Program through sale, lease or trade.
- Linkage** -- The connection of facilities through physical or visual features, such as trails, ditches, arroyos, and easements which facilitate use by the public and/or wildlife.
- Low Impact** -- Facility development or public use which does not significantly degrade the natural character of an area.
- Major Public Open Space** -- Major Public Open Space is an integrated system of lands and waters that have been designated as such in the Comprehensive Plan. The lands and waters and interests therein have been or shall be acquired, developed, used, and maintained to retain their natural character to benefit people throughout the metropolitan area by conserving resources related to the natural environment, providing opportunities for outdoor education and recreation, or defining the boundaries of the urban environment.
- Native Vegetation** -- Vegetation that occurs naturally in the Southwest. Native vegetation has not been introduced by people.
- Natural Area** -- Lands or water managed so that natural processes prevail. Where management intervention is necessary, it is aimed primarily at perpetuating the natural character of the area. Environmental analysis of such areas may allow for low impact recreational use.
- Natural Resources** -- An element of the environment which has aesthetic or natural value. Vegetation, wildlife, soil, watershed, and views, are examples of natural resources.
- Naturalized** -- Introduced vegetation that has adapted to its environment and does not require irrigation.
- Open Space Advisory Board (OSAB)** -- An appointed citizens board which is charged with reviewing and approving acquisition priorities and additions to the Open Space Network.
- Open Space Facility** -- Land area with outstanding natural features and outdoor recreation and education opportunities. Some active recreational activities are appropriate, along with facilities to support compatible uses within open space. Facilities are intended to concentrate activities which impact the Open Space Network in areas that can best accommodate these activities.

Open Space Network -- The Open Space Network is composed of Major Public Open Space, trail corridors and other areas of low intensity use. The Network conserves resources and environmental features, provides educational and recreational opportunities and provides undeveloped edges to the urbanized environment.

Open Space Preserve -- An area with exceptional natural, cultural or scenic value. Resources are fragile and should be protected from public use. An open space preserve provides opportunities for solitude, protection of views, wildlife habitat, geological features and/or archaeological, historical, or cultural features. Management emphasis is on restoring, preserving and enhancing the characteristics of the area. Development is limited to the minimum required for public safety and resource protection and enhancement.

Open Space Program -- The administrative/management component of the Open Space Network. The Open Space Program includes enforcement, maintenance, visitor services and other support activities related to the educational, recreational and resource conservation purposes of the Open Space Network.

Open Space Trail -- A linear corridor within open space or linking open space to other facilities. Open space trails include open space arroyos and open space links. Trails will be developed for pedestrian, equestrian and bicycling uses as appropriate and as defined in an adopted Rank III Plan.

Open Space Trust Fund -- A permanent fund created with the proceeds of the sale or lease of lands transferred to the City of Albuquerque as part of the Elena Gallegos land trade to the U.S. Forest Service.

Outdoor Recreation Facility -- A facility designed to accommodate formal and informal outdoor activities with no, or limited, protection from weather phenomena.

Park System -- A planned network of facilities varying in size and purpose that meet both the neighborhood and city-wide needs of the metropolitan area. The park system is designed to be safe and accessible to all users, and to beautify the environment.

The Park System is divided into the following park land use categories:

- Neighborhood Parks
- Community Parks
- Regional Parks
- Streetscapes

These land use categories provide the organizational frame work for the park system. Various facilities (parks and buildings) and amenities are found within the park system. The location and size of facilities vary in purpose and size depending on the location.

POST Network -- The term POST Network describes a coordinated cooperative planning effort that will link parks, open space, and the trail systems together through both visual and physical means. Development of the network will guide the development of each system (park, open space and trail).

Protected, Undeveloped Open Space -- Significant undeveloped or conserved area with outstanding natural features or scenic qualities suitable for passive recreational activities with no substantial facilities or improvements.

Public Utility Structure -- A structure, owned by a unit of government or by a public utility company, which is an electric switching station; electric substation operating at voltages greater than 50 kilovolts (kV); gas transfer station or border station; city-owned lift station, odor control (or chlorine) station, water well or pump station, or water reservoir; or any other public utility structure controlled by a rank two facility plan.

Special Use Area -- Parcel within the City of Albuquerque's Open Space Network which serves a unique function and is developed with facilities which are unique in the POST Network. These facilities contribute to the inventory of recreation opportunities in the metropolitan area but are not commonly found in the Open Space Network. These facilities generally require special programming or management. Existing special use areas are Shooting Range State Park; the Maloof Model Airplane Park; the Horsemen's Complex; and Montesa Park, which contains open space administrative support facilities, a solid waste convenience center, and ORV track and trails.

Trail -- A separate pathway designated by sign for use by non-motorized traffic only, including pedestrians, bicyclists, equestrians and people who use wheelchairs. Not all trails may accommodate all of these uses. Trails may either be hard or soft surfaced.

Trail and Bikeways Facility Plan -- A plan to develop a connected network of trails and bikeways for non-motorized travel to serve both recreation and transportation needs. The trail system will be primarily an off-road system for use by pedestrians, runners, equestrians, cyclists and the physically challenged, although not all trails will accommodate all types of users. Portions of the street system will be used to provide trail continuity and for the bicycle network.

Xeriscape Design Principles -- Xeriscape design is an alternative landscape design approach (less water consumed). The implementation of these principals results in water conservation, less long-term maintenance while still offering colorful and interesting landscapes.

Listed below are the concepts for xeriscape design principals:

1. Planning and Design - consider regional landscape requirements, precipitation and existing vegetation.
2. Evaluate Existing Soils - and amend as necessary.
3. Efficient Irrigation - group plantings according to similar water needs.
4. Practical Turf Areas - locate turf only in areas where it provides functional benefits.
5. Select appropriate Plants - most plants have a place in xeriscape. It is important to place the right plant in the right place.
6. Use Mulches - using mulch can reduce water needs, reduce weed growth and slow erosion and provide an excellent alternative to turf.

7. Appropriate Maintenance - providing proper maintenance preserves that intended beauty of the landscape and saves water.

Comment: Using xeriscape design principals in parks will educate the public to the beauty and the efficient use of plant materials that requires less water.

Introduction:

The plant species included on this list have been derived from extensive field experience and through cross reference with multiple horticultural resources. Plant species have been selected for their native presence within the specific eco-niches of the Albuquerque area and for their potential availability from plant and seed suppliers. Some species included in specific eco-niches may not occur in major quantities; however, for the most part they are present or have the potential to inhabit those eco-niches via natural processes.

Plant List for the Open Space Facility Plan

Rio Grande Valley Trees:

Valley Cottonwood
Indigo Bush Amorpha
New Mexico Olive
Willow

Populus fremontii wislizenii
Amorpha fruticosa
Forestiera neomexicana
Salix sp.

Shrubs and Vines:

Silver Buffaloberry
Woodbine
Sand Sage
Willow Baccharis
Four Wing Saltbush
Coyote Willow
Three Leaf Sumac
Rabbitbrush
Apache Plume

Shepherdia argentea
Parthenocissus inserta
Artemisia filifolia
Baccharis sp.
Atriplex canescens
Salix exigua
Rhus trilobata
Chrysothamnus nauseosus
Fallugia paradoxa

Herbaceous:

Yerba Mansa
Aster sp.
Sand Verbena
Maximilian Sunflower
Rocky Mountain Beeplant
Globemallow sp.
Primrose sp.
Penstemon sp.

Anemopsis californica
Aster/Chrysopsis sp.
Verbena wrightii
Helianthus maximiliani
Cleome serrulata
Sphaeralcea sp.
Oenothera sp.
Penstemon sp.

Grasses:

Saltgrass
Western Wheatgrass
Slender Wheatgrass
Purple Threeawn
Silver Bluestem
Side Oats Grama
Galleta
Bush Muhly
Alkali Muhly
Indian Rice Grass
Vine Mesquite
Indian Grass
Alkali Sacaton
Sand Dropseed
Spike Dropseed
Needle and Thread
New Mexico Feathergrass

Distichlis spicata
Agropyron smithii
Agropyron trachycaulum
Aristida longiseta
Bothriochloa saccharides
Bouteloua curtipendula
Hilaria jamesii
Muhlenbergia porteri
Muhlenbergia asperifolia
Oryzopsis hymenoides
Panicum obtusum
Sorghastrum nutans
Sporobolus airoides
Sporobolus cryptandrus
Sporobolus contractus
Stipa comata
Stipa neomexicana

Foothills

Trees:	Aspen New Mexico Locust One Seed Juniper Pinon Pine Shrub Live Oak Desert Willow Blue Spruce	<i>Populus tremuloides</i> <i>Robinia neomexicana</i> <i>Juniperus monosperma</i> <i>Pinus edulis</i> <i>Quercus turbinella</i> <i>Chilopsis linearis</i> <i>Picea engelmannii</i>
Shrubs and Vines:	Soapweed Yucca Beargrass Four Wing Saltbush Rabbitbrush Gooseberry Mountain Mahogany Apache Plume Three Leaf Sumac Cane Cholla Fringed Sage Broom Snakeweed Wolfberry Cliff Rose Cliff Fendlerbush	<i>Yucca glauca</i> <i>Nolina microcarpa</i> <i>Atriplex canescens</i> <i>Chrysothamnus nauseosus</i> <i>Ribes inerme</i> <i>Cercocarpus montanus</i> <i>Fallugia paradoxa</i> <i>Rhus trilobata</i> <i>Opuntia imbricata</i> <i>Artemisia frigida</i> <i>Xanthocephalum sarothrae</i> <i>Lycium pallidum</i> <i>Cowania mexicana</i> <i>Fendlera rupicola</i>
Herbaceous:	Blue Flax Butterfly Weed Penstemon sp. Primrose sp. Threadleaf Groundsel Sky Rocket Gilia Santa Fe Phlox Aster sp. Indian Paintbrush Perkey Sue Globemallow sp. Wrights Verbena	<i>Linum lewisii</i> <i>Asclepias tuberosa</i> <i>Penstemon sp.</i> <i>Oenothera sp.</i> <i>Senecio multicapitatus</i> <i>Gilia rigidula</i> <i>Phlox nana</i> <i>Aster/Chrysopsis sp.</i> <i>Castilleja integra</i> <i>Hymenoxys argentea</i> <i>Sphaeralcea sp.</i> <i>Verbena Wrightii</i>
Grasses:	Purple Threeawn Indian Rice Grass Sideoats Grama Blue Grama Galleta Sand Dropseed Needle and Thread Sleepy Grass New Mexico Feathergrass Giant Sacaton Alkali Sacaton Little Bluestem Vine Mesquite Spike Muhly Bush Muhly Mat Muhly	<i>Artistida longiseta</i> <i>Oryzopsis hymenoides</i> <i>Bouteloua curtipendula</i> <i>Bouteloua gracilis</i> <i>Hilaria jamesii</i> <i>Sporobolus cryptandrus</i> <i>Stipa comata</i> <i>Stipa robusta</i> <i>Stipa neomexicana</i> <i>Sporobolus wrightii</i> <i>Sporobolus airoides</i> <i>Schizachyrium scoparium</i> <i>Panicum obtusum</i> <i>Muhlenbergia wrightii</i> <i>Muhlenbergia porteri</i> <i>Muhlenbergia richardsonis</i>

Foothills:

Grasses Cont.:

Wolftail
Green Sprangletop
June Grass
Tobosa
Hairy Grama
Black Grama
Six Week's Grama
Western Wheatgrass

Lycurus phleoides
Leptochloa dubia
Koeleria pyramidata
Hilaria mutica
Bouteloua hirsuta
Bouteloua eriopoda
Bouteloua barbata
Agropyron smithii

<u>East Mountains:</u>	Trees:	Gambel Oak	<i>Quercus gambelii</i>
		Pinon Pine	<i>Pinus edulis</i>
		Ponderosa Pine	<i>Pinus ponderosa</i>
		Douglas Fir	<i>Pseudotsuga menziesii</i>
		Bebb Willow	<i>Salix bebbiana</i>
		Aspen	<i>Populus tremuloides</i>
		Choke Cherry	<i>Prunus virginiana</i>
		Rocky Mountain Juniper	<i>Juniperus scopulorum</i>
		Box Elder	<i>Acer negundo</i>
		New Mexico Maple	<i>Acer glabrum neomexicanum</i>
		Alligator Juniper	<i>Juniperus deppeana</i>
		White Fir	<i>Abies concolor</i>
		Limber Pine	<i>Pinus flexilis</i>
		Thin Leaf Alder	<i>Alnus tenuifolia</i>
		Blue Spruce	<i>Picea engelmannii</i>
	Shrubs and Vines:	Mountain Mahogany	<i>Cercocarpus montanus</i>
		Winter Fat	<i>Eurotia lanata</i>
		Algerita	<i>Berberis haematocarpa</i>
		Rockspray	<i>Holodiscus dumosus</i>
		Snowberry	<i>Symphoricarpos albus</i>
		Three Leaf Sumac	<i>Rhus trilobata</i>
		Cliff Fendlerbush	<i>Fendlera rupicola</i>
		Soapweed Yucca	<i>Yucca glauca</i>
		Gooseberry/Wax Currant	<i>Ribes inerme</i>
		Datil Yucca	<i>Yucca baccata</i>
		Creeping Mahonia	<i>Mahonia repens</i>
		Alpine Virgins Bower	<i>Clematis pseudoalpina</i>
		Wormwood/Mountain Sagebrush	<i>Artemisia ludoviciana</i>
		Cinquefoil	<i>Potentilla fruticosa</i>
		Woods Rose	<i>Rosa woodsii</i>
		Buffaloberry	<i>Shepherdia canadensis</i>
		Bearberry	<i>Arctostaphylos uva-ursi</i>
	Herbaceous:	Bee-Balm	<i>Monarda menthaefolia</i>
		Rocky Mountain Beeplant	<i>Cleome serrulata</i>
		Giant Four-O'Clock	<i>Mirabilis multiflora</i>
		Yarrow	<i>Achillea lanulosa</i>
		Penstemon sp.	<i>Penstemon sp.</i>
		Indian Paintbrush	<i>Castilleja integra</i>
		Aster sp.	<i>Aster/Chrysopsis sp.</i>
		Sky Rocket Gilia	<i>Gilia rigidula</i>
		Blue Flax	<i>Linum lewisii</i>
		Chocolate Flower	<i>Berlandiera lyrata</i>
		Primrose sp.	<i>Oenothera sp.</i>
		Santa Fe Phlox	<i>Phlox nana</i>
		Red Columbine	<i>Aquilegia elegantula</i>
		Blackeyed Susan	<i>Rudbeckia hirta</i>
		Butterfly Weed	<i>Asclepias tuberosa</i>

East Mountains:

Grasses:

Western Wheatgrass
Slender Wheatgrass
Red Top
Big Bluestem
Purple Threeawn
Pine Dropseed
Sideoats Grama
Blue Grama
Hairy Grama
Tuffed Hairgrass
Needle and Thread
Arizona Fescue
Sheep Fescue
June Grass
Wolf tail
Mountain Muhly
Mat Muhly
Spike Muhly
Indian Ricegrass
Mutton Bluegrass
Kentucky Bluegrass
Sleepygrass
Columbia Needlegrass
Little Bluestem

Agropyron smithii
Agropyron trachycaulum
Agrostis gigantea
Andropogon gerardii
Aristida longiseta
Blepharoneuron tricholepis
Bouteloua curtipendula
Bouteloua gracilis
Bouteloua hirsuta
Deschampsia caespitosa
Stipa comata
Festuca arizonica
Festuca ovina
Koeleria pyramidata
Lycurus phleoides
Muhlenbergia montana
Muhlenbergia richardsonis
Muhlenbergia wrightii
Oryzopsis hymenoides
Poa fendleriana
Poa pratensis
Stipa robusta
Stipa columbiana
Schizachyrium scoparium

<u>West Mesa:</u>	Trees:	One Seed Juniper Desert Willow	<i>Juniperus monosperma</i> <i>Chilopsis linearis</i>
	Shrubs and Vines:	Soapweed Yucca Joint Fir/Morman Tea Fourwing Saltbush Rabbitbrush Three Leaf Sumac Apache Plume Sand Sage Broom Snakeweed Little Leaf Sumac Broom Dalea Bush Morning Glory Bush Penstemon Shadscale Big Sagebrush	<i>Yucca glauca</i> <i>Ephedra sp.</i> <i>Atriplex canescens</i> <i>Chrysothamnus nauseosus</i> <i>Rhus trilobata</i> <i>Fallugia paradoxa</i> <i>Artemisia filifolia</i> <i>Xanthocephalum sarothrae</i> <i>Rhus microphyllum</i> <i>Psoralea scoparius</i> <i>Ipomoea leptophylla</i> <i>Penstemon ambiguus</i> <i>Atriplex confertifolia</i> <i>Artemisia tridentata</i>
	Herbaceous:	Aster Spectacle Pod Blanket Flower Coneflower sp. Chocolate Flower Blackfoot Daisy White Evening Primrose Silver Groundsel Threadleaf Grounset Globemallow sp.	<i>Aster/Chrysopsis sp.</i> <i>Dithyrea wislizenii</i> <i>Gaillardia aristata</i> <i>Ratibida sp</i> <i>Berlandiera lyrata</i> <i>Melampodium leucanthum</i> <i>Oenothera caespitosa</i> <i>Senecio longilobus</i> <i>Senecio multicaudatus</i> <i>Sphaeralcea sp.</i>
	Grasses:	Purple Threeawn Indian Rice Grass Sixweeks Grama Side Oats Grama Blue Grama Black Grama Saltgrass Fluff Grass Galleta Tobosa Bush Muhly Mat Muhly Ring Muhly Little Bluestem Burrograss Alkali Sacaton Mesa Dropseed Sand Dropseed Needle and Thread New Mexico Feathergrass	<i>Aristida longiseta</i> <i>Oryzopsis hymenoides</i> <i>Bouteloua barbata</i> <i>Bouteloua curtipendula</i> <i>Bouteloua gracilis</i> <i>Bouteloua eriopoda</i> <i>Distichlis spicata</i> <i>Erioneruron pulchellum</i> <i>Hilaria jamesii</i> <i>Hilaria mutica</i> <i>Muhlenbergia porteri</i> <i>Muhlenbergia richardsonis</i> <i>Muhlenbergia torreyi</i> <i>Schizachyrium scoparium</i> <i>Scleropogon brevifolius</i> <i>Sporobolus airoides</i> <i>Sporobolus flexuosus</i> <i>Sporobolus cryptandrus</i> <i>Stipa comata</i> <i>Stipa neomexicana</i>

Appendix G. POTENTIAL FUNDING SOURCES

As the Open Space System expands, facility development and management costs are escalating at a faster rate than the funding available through the Trust Fund. Acquisition is also becoming more expensive as land costs escalate. The following sections describe potential sources of additional open space funds. The most promising of these could be explored in more detail as a follow up to the Facility Plan.

Land Use and Development Regulations

Zoning, subdivision and other land use regulations can be excellent tools for land preservation. These legislative measures provide for areas or zones that specify allowable uses for real property and restrictions within these areas. The controls must be tied to community values of public health, safety and welfare.

The most important key to successful regulatory controls lies in their fairness, and in the case of zoning, their relationship to an adopted comprehensive plan. Care must be taken to assure that measures are not construed as a "taking" or confiscation of a person's property. Increasingly, the courts have decided in favor of a land owner.

Floodplain Ordinances. Floodplain regulations are, perhaps, one of the most effective and commonly used ways to protect open space. Under most ordinances development in the floodway (the flood channel) itself and the 100-year floodplain is strictly limited. Often, these ordinances also enjoy the backing of the federal government through the FEMA or Federal Emergency Preparedness Agency which requires a community flood damage management program in order for land owners in or near the floodplain to get government back flood insurance.

Albuquerque's arroyos are often used as trail corridors and incorporated into parks. Open space arroyos and open space links are portions of the arroyo system which are designated by the Facility Plan for Arroyos to be integrated into the City's Open Space System. Drainage easements can become visual open space, depending upon channel treatment. The "prudent line" of natural channels is one feasible boundary for defining an open space corridor.

Hillside Ordinances. Several communities have established ordinances to permanently protect and preserve sensitive hillsides. This concept has been expanded to include other environmentally sensitive areas, such as wetlands and floodplains.

Albuquerque has used a 10 percent slope demarcation to define the western edge of the Sandia Foothills open space and a nine percent slope to define the edge of the escarpment open space on the northwest mesa. For the most part, these slopes have determined the area to be acquired as open space. Some of these areas were dedicated to the City as off site open space. However, most of the land with steep slopes has been acquired through purchase.

Overlay Zoning. Overlay zones are used to protect historic districts, agricultural land, natural areas, scenic views or other features that are distinctive. This tool for land use planning can be a powerful protection mechanism. Dedication of property for trail, open space, or conservation easement purposes can be required as part of overlay zones with development restrictions.

Albuquerque's zoning ordinance currently provides for designation of design overlay zones. This technique has been used in the vicinity of Petroglyph National Monument to regulate construction of facilities within open space and to regulate height, color and other design features of development adjacent to open space. The design overlay zone is intended to protect views and the area's resources. However, it has not been used to acquire land or preserve open space.

Performance Zoning. This type of zoning is defined by a list of permitted impacts on the land rather than permitted uses of the land. The criteria is defined using natural resource data and design guidelines.

Albuquerque does not currently have performance zoning, although some aspects of development approvals take impacts into account.

Special Assessments and Exactions

Development Dedications/Impact Fees/Subdivision Provisions. County and city subdivision policies can require residential, industrial and commercial development projects to donate a percentage of land, usually based on the number of acres being developed, the number of occupants, or the number of dwelling units. This practice requires developers to "dedicate" a percentage of land at the time of development for the purpose of providing open space. Project mitigations are usually on-site improvements but may, in special situations include other provisions for off-site projects like open space acquisition.

Albuquerque has a park dedication ordinance which applies city-wide and an off site open space dedication requirement through the Zoning Code in areas designated Developing Urban and Semi-urban in the Comprehensive Plan. Parkland dedications are used for neighborhood parks. Open space dedications are located within or adjacent to the subdivisions for which they were dedicated. In the past, open space dedications have contributed very little to the acquisition of the Major Open Space System. The open space requirement was reduced in 1984, so that most residential development does not have to provide any off site open space. This requirement could be increased, and dedication of land or cash-in-lieu of land could be required for development within an open space service area.

During its 1993 session, the New Mexico legislature passed a bill which enables communities to levy impact fees against new development. Parks are included as an eligible item for impact fees, and the procedures established by the statute make it necessary for the City to revise its current park dedication ordinance.

After July 1, 1995 all development exactions, such as the open space dedication requirement, must comply with the New Mexico Development Fees Act.

Special Assessment Districts. The City Council can authorize the creation of a special improvement district as a funding alternative. Under this scenario a special taxing district is established and an assessment, usually a property tax is levied on that district. The revenues from the assessment are earmarked for funding improvements that benefit people in that specific geographic area.

This technique has not been used in Albuquerque to fund open space.

Real Estate Transfer Fees. The idea behind real estate transfer taxes is that the person who buys a home or other property for private use has hastened the decline in available open space land. By paying a tax, that person helps to support the buying of land which could be used and enjoyed by the general public.

There may be opposition from developers and real estate agents who object to the increase in settlement taxes. Prospective business and residential purchases are discouraged by the financial burden of increasing settlement costs. State legislation is required to implement this technique.

Excise Taxes. This is a tax on equipment that has a clear link with specific activities. State excise taxes for trails have been proposed in Florida, which would impose a \$2.00 tax on bicycle sales and a 2.5 % surcharge on sales of equestrian tack. Oregon State Parks undertook an extensive study on this funding source in 1989, but has not established a tax. This approach links users of facilities with a means to pay for their fair share of the use. Problems have generally centered around the difficulty of collecting and allocating fees collected.

This technique has not been used in Albuquerque, although a 2¢ gasoline tax has been considered as a source of funds for trails and transit. Taxes for several successful open space programs protect private lands without purchasing them. This approach may involve public access, or land may be held for private use as undeveloped or agricultural land.

Grants

There are a number of local, state and federal grants that provide for land acquisition.

Land and Water Conservation Fund. The Land and Water Conservation Fund Act of 1965 provides financial assistance to states for the preparation of State- wide Comprehensive Outdoor Recreation Plans (SCORPS) and acquisition and development of public outdoor recreation areas and facilities for the general public, to meet current and future needs. Acquisition and development grants may be used for a wide range of outdoor recreation projects including bike trails. The LWCF is a 50/50 matching grant in aid program administered by the National Park Service.

Private Contributions

Outright Land Donation. An outright donation is a highly desirable method of conveying property. Citizens can donate money for the purchase of land, donate their own property, or grant easements across their land. The owner, by execution of a standard deed of conveyance, gives the land to the public agency with no strings attached. This is known as a conveyance in fee simple title.

Cash Gifts, Donations or Endowments. These are donations other than land. Gifts can include cash, park benches, trees and shrubs. Gifts offset development costs and enable open space programs to do more with the available dollars.

Public/Private Partnerships. Land acquisition efforts could be undertaken both by a public agency and by a local or regional nonprofit or land trust. There are advantages to setting up joint efforts because some landowners may prefer to deal with a land trust or other group that has

well-known community members or neighboring landowners on the board than with a municipal agency.

A non-profit can often finance an immediate acquisition and hold the property until funds are available to purchase the land.

Some landowners may only negotiate with a municipal agency that has power of eminent domain.

Land Trusts/Alliances. Land Trusts can be formed to protect, preserve and enhance wildlife habitat, recreational opportunities, scenic open space, agricultural land and historic sites. The land trust can assist in purchasing fee title to property, holding and managing the land or conveying it to a public agency, or acquiring conservation easements.

The Albuquerque Conservation Trust is a vehicle for donations of lands and money for open space acquisition.

Other Acquisition Methods

Leaseback Resale. Purchase and leaseback is a method for acquiring farmland on the urban fringe for later use as public open space. The city buys the land and then leases it to the former owner for a low fee, with the condition that the land be used only for farming. Thus, the city gets a return on its investment and the farmer gets to continue to farm without paying high taxes.

This approach is similar to the approach used by the City to acquire water rights. This technique could be explored as one way to preserve agricultural open space.

Land Trades. A landowner who wishes to preserve all or a portion of a significant open space area can arrange to transfer a property to the Open Space Program for protection and preservation, providing it meets the needs identified in the master plan and is approved for acquisition. Land trades are a possible use of land bank properties.

Utility Easements. Administrators of a number of trails, particularly rail- trails, have negotiated leases with communication companies such as AT&T for fiber optics installation along their trail corridors. Unused or underground portions of a trail corridor can be leased for storage or utilities to help meet operational revenue requirements.

Appendix H. MANAGEMENT GUIDE

This management guide is intended to supplement the main text of the facility plan by providing detailed management policy applicable to specific areas or conditions.

1. General Facility Design Standards

General Site Work. Protection and enhancement of the natural environment should be the highest priority with respect to open space facilities. Materials such as stone, wood, adobe and concrete are encouraged as opposed to plastics, metals, and other man-made construction materials which conflict with the environment. An adequate pedestrian circulation system should be constructed in areas of activity. Walkways should be surfaced with bark, gravel, or other natural materials, with concrete and asphalt used primarily for heavy circulation areas. Sizing should accommodate peak crowds, especially at entries and junctures between parking and other walkways.

- The visual integrity of the site should be maintained and site development should be conducted to work in harmony with the lay of the land when determining the location and orientation of structures. Existing natural vegetation or landforms should be utilized as buffers whenever possible.
- Facility locations should avoid woodlands, marshlands, aquifer recharge areas, poorly drained soils, highly erodible soils, steep slopes and floodplains whenever possible.
- Facilities within open space shall not degrade the natural, visual or cultural resources of an area beyond current conditions.
- Facilities shall incorporate opportunities for outdoor education and recreation whenever possible.
- *Signing.* All signing should be designed to integrate with the ambient natural color and orientation of the subject facility. Signing should be low maintenance. To mitigate rusting and vandalism, sign materials should include wood, concrete, and non-rusting or oxidizing metal. Wood, concrete or non-punched metal posts should be used to support signs in most applications, however, if possible, signs should be mounted onto walls, buildings, and shelters in order to reduce visual clutter. Signs should use wordless graphics (or simple and easily read text), with symbols of a high intensity, fully reflectorized white with appropriately colored backgrounds.
- *Access Roads.* Roads for Class I open space facilities should be paved with asphalt, concrete, chip seal, gravel or stabilized soil. Graded and unstabilized soil will not be allowed. Use, topography, soil type, and orientation to the sun should be the primary determinant of material with the most heavily used facilities requiring asphalt or concrete pavement. Control devices should include guardrails (in no circumstances shall concrete wall barriers be used), bollard and cable, curb and gutter (generally where drainage is a problem), fences and natural landforms. Natural topography should be used to determine horizontal and vertical road geometry with relatively little grading or landshaping performed.
- *Picnic Facilities.* Picnic areas for Class II Facilities should be handicapped accessible as defined in the Americans with Disabilities Act. Picnic facilities include tables, benches, and trash receptacles.

No electrical service is available. These facilities should be designed to blend with specific locations within the Open Space Network in color, texture, material and overall aesthetic appeal. Construction materials shall include concrete with earthtone pigmentation, wood, powder coated metals such as steel or aluminum, and expanded metal with oven cured poly-vinyl coating (at least 1/8" thickness). In areas where soils create unsafe conditions or structural problems, concrete pads should be considered under all tables and benches. All construction materials should be chosen for low maintenance and abatement of vandalism, as well as aesthetic appeal.

- *Restrooms.* Restrooms should be designed to meet all of the requirements of the Americans with Disabilities Act. Restrooms should be designed to include lavatories, water closets, urinals and trash receptacles in sufficient numbers to meet the need of the specific facility. Construction materials for the building should conform to other facility elements and the location within the Open Space Network in color, character, material and orientation. Construction materials shall generally consist of treated wood, pigmented concrete or concrete block, metal and other ecologically appropriate materials. The use of recycled materials is recommended.
- *Fencing.* Fencing shall be constructed in such a way as to restrict passage of vehicles beyond the outside edge of the roadway, parking lots, the road shoulder and pull-off zones. Directional and informational signs will be used to guide the vehicular user to open space facilities. Materials shall be chosen based on locale, facility classification, and ecologic zone. Fencing shall meet the requirements of ASHTO, ANSI and other governmental agencies having jurisdiction.
- *Other Structures.* Structures not included in other classes of open space facilities and within the Open Space Network should be designed to meet all of the requirements of the Americans with Disabilities Act. Structures can include: walls, small natural amphitheaters, picnic shelters, visitor centers, fee collection booths, offices and other built facilities. Construction materials for the structures should be selected so as not to disrupt the visual contiguity of the site. The materials should be chosen based on location within Bernalillo County, due to the varying ecologic zones within each open space facility. Low profile structures are encouraged in order to minimize impact. Construction materials and techniques should consist of treated wood, colored concrete, concrete block, metal ornamental and accent materials such as ornamental iron, ceramic tile, glass block, slump block, stone and brick, as well as, other environmentally appropriate materials. Exposed standard block is discouraged and it is recommended that all concrete block should be treated with stucco art and plaster. Prefabricated structures are not encouraged, in order to create exterior facades which are more in harmony with site surroundings. The use of recycled materials is recommended.

2. Parking Lot Design

- Parking lots will be designated for day use, overnight use or overflow use. Parking lots should include space for automobiles, trucks, motorcycles, bicycles, horse trailers and equestrians, open space maintenance vehicles and, in some cases, mass transit. Bike racks will be provided at most facilities. All parking lots will meet the requirements of the Americans with Disabilities Act (ADA) and it is recommended that drop off points be included in the design for physically handicapped users. Trash receptacles shall be provided at all parking lot areas.
- Design and grading of all parking lots will be done sensitively leaving natural landforms, stands of important native vegetation and other important features intact. If possible, design of parking lots will

take advantage of natural rainfall and direct water to surrounding vegetation, especially if newly planted.

- All parking shall be as visible as possible to abate burglary or vandalism to parked vehicles.
- Parking lots shall be designed in such a way as to limit automobile access beyond the lot boundaries to authorized personnel and to direct pedestrians and other trail users to trail access points.
- The number of spaces provided and the design of the parking surface will be determined on a site by site basis. Gravel lots are acceptable when they are designed to meet environmental and ADA requirements.
- Access shall generally meet the standard requirements set forth in the Americans With Disabilities Act. Developed amenities at access points may include horse tie ups, bike racks and trash receptacles. New access points will be developed where parking is provided.

3. Access Points

- *Direction and Control.* Controlled access shall be provided to all open space lands. Open, dispersed access shall not be allowed in most cases unless it is deemed to be of benefit to the facility. Barriers, such as fencing, walls and natural landforms, will be used to restrict access. In general, developed facilities will provide areas for intense public use. Other areas and trails intended for public use will be well marked and defined. All facilities will be constructed with materials which are appropriate to the site, blend visually to the natural environment and are unobtrusive to the natural setting in color, texture and material. Users of motorized vehicles will be directed through the use of control devices associated with vehicular transport. This includes access control devices, fencing, barricades, natural barriers, signing and other means. As much as possible naturally occurring landforms such as escarpments, arroyos, rivers and streams will be used to control access of motorized vehicles.
- *Access Points.* Access points to open space facilities shall be controlled by use of lockable gates, walk-overs, fence openings and other apparatus. Signs shall be posted to designate and describe all access points. Directional signage to designated trail access points shall be provided. Access points shall be monitored for safety. In certain sensitive areas, access will be restricted to guided tours by open space personnel. Access points to undeveloped open space and adjacent lands shall be provided at open space facilities.
- *Landforms.* As much as possible naturally occurring landforms such as escarpments, arroyos, rivers and streams will be used to control access.
- *Joint Development.* Coordination of access points with other agencies and joint development of facilities at access are encouraged.

4. Trails

- Designated trails shall be designed and managed to control and limit the damage caused by trail users.

- Trails shall be developed to link open space trails with other trails in the POST network and the National Forest. Interpretive trails shall be developed and manned in appropriate areas. Joint use of utility corridors and arroyos should be considered in site selection and alignment study of new trails. Trails shall be located to minimize the impact on adjacent protected lands or lands in private ownership. Trails shall be developed with varying levels of challenge to meet the experiential needs of the entire community.
- New trails shall be carefully located to avoid sensitive habitats, wildlife and vegetation or after extensive study of the area occurs. Alignments of trails shall take ambient vegetation, rock outcrops and other natural features into consideration and should avoid disturbance of those elements. Construction materials should blend into overall location within the Open Space Network dependent on use, local soil type and orientation of trail. Construction materials of trails may include: asphalt, concrete, decomposed granite, fine crushed gravel, stabilized soil, and wood decking. In the case of fine crushed gravels and soil stabilants, the use of concrete edging is recommended.
- The City shall close trails which are not part of a formal trail system to allow recovery from use and rotate use areas to minimize damage to the resource. Existing roads not intended for use as trails shall be closed and reclaimed using proper techniques. When determined prudent by staff, trails shall be temporarily closed to alleviate excessive damage to the resource.
- Signage shall be incorporated to advise users regarding location and distances of access and exit points, challenge levels, steep slopes and interpretation. Where necessary, trail users shall be educated regarding the safe use of trails along waterways or other features through the use of signage and other means.

5. Resource Management

5.1 General

- *Protection.* The use of vegetation in open space facilities will be restricted to natural and endemic species. The use of non-native exotic species or species unable to naturalize will not be allowed. Because of the wide variety of ecologic zones within the City of Albuquerque and Bernalillo County, vegetation will vary, a list of applicable plant and seed species by area is included in Appendix F. The use or adaptation of vegetation will include strategies for protection, reclamation and enhancement.

Existing vegetation will be protected from the deleterious effects of development whether from within the system or from adjacent parcels not under control of the Division. Protection methods will be defined in the Rank III plan for the area and regulated through overlay zones. All Open space lands will be continually monitored on an informal basis by open space staff.

If and when development occurs adjacent to open space lands, protective barriers shall be utilized around important or endangered vegetation. Confidentiality of sensitive sites, including areas with rare or endangered species, shall be maintained. Methods of protection may include erosion control, fencing, natural brush piles, signage and other such protective measures.

Appropriate environmental mitigation techniques shall be used for impact abatement. These techniques shall include: erosion and sediment control measures, educational signage and interpretive exhibits illustrating environmental impacts.

- *Reclamation.* Any land disturbed by erosion or for purposes other than the construction of permanent facilities shall be reclaimed with an appropriate reclamation technique. Reclamation includes grading, land stabilization, seeding, overseeding, planting with containerized plant materials, and pole planting. Revegetation of disturbed areas shall occur immediately following development. Development of any site shall be timed such that reclamation can be performed within the current growing season. If reclamation efforts cannot be performed, an approved method of land stabilization shall be used. The growing season shall be defined as April 15 to September 15 dependent on weather.

If reseeding is not successful by the second growing season, the responsible party will repeat the reseeding process.

Species proposed for use in reclamation shall be compatible with those found at the site prior to development if commercially available. Reclamation of fire damaged areas shall include the removal of downed trees as necessary for public safety, and the control of invasion by exotic species. Prescribed burning or the creation of fire breaks in susceptible areas shall be evaluated on a case by case basis, after a study of the area in question has been made.

- *Enhancement.* Species proposed for enhancement of open space areas may be derived from native or endemic plant lists as shown in Appendix F. Species proposed must be compatible with those found at the site in its original condition. Enhancements to vegetation may include the following:
 - Restoration of damaged areas.
 - Wetlands in conjunction with storm water outfalls.
 - Pole planting and controlled flooding of specific areas within the Bosque, for the purpose of encouraging restoration of cottonwood forests.
 - Controlled burning or the removal of invasive species within the Bosque area, as determined by open space staff.
 - Creation of wildlife habitat enhancements such as quail guzzlers.
 - Creation of visual or noise screens and buffers for protected areas, or adjacent to developed parcels.

5.2 Wildlife

- *Protection.* Informal monitoring shall be conducted continually by open space staff. Protection of rare or endangered species and their habitats shall be provided. Access to areas which contain such wildlife and protection methods shall be determined on a case by case basis. Confidentiality of sensitive sites may be maintained by the Open Space Division.

- Monitoring of habitat indicators shall include known locations of dens, perches, nests, washes, forage areas, and migration areas. In instances where a decline in a local population has been observed, the proper steps shall be taken to prevent further loss of habitat and wildlife. A biological study shall be conducted prior to implementation of a specific wildlife management program.
- Control of nuisance populations of wildlife and instances of threat to public safety shall be referred to the proper wildlife management agency, as applicable.
- *Enhancement.* Enhancements to wildlife areas shall be conducted in cooperation with other government agencies, such as the US Fish and Wildlife Service or the New Mexico Game and Fish Department. Projects which encourage wildlife enhancement shall be implemented in conjunction with other resource management projects, such as erosion control measures.

Enhancement methods may include: Quail guzzlers, thickets, hawk roosts and other such devices which encourage and enhance wildlife regeneration.

5.3 Views

- *Protection.* It is recommended that current ordinances be amended to provide for the protection of visual resources from the impacts of neighboring development through the implementation and enforcement of existing design restrictions and overlay zones. New zoning and land use policies or protective visual buffers, can be put in place through Rank III plans.
- The acquisition of lands buffering the Open Space Network from adjacent future development is recommended. Agricultural lands and arroyos are examples of appropriate buffers.
- *Enhancement.* When development does occur, consideration shall be made for the incorporation of scenic vistas, and screened viewing areas.

5.4 Cultural, historical and archeological resources

- *Protection.* Open space lands will be surveyed and an inventory of locations and site descriptions will be maintained for planning purposes.
- Special areas of significant value may be accessed for cultural or religious purposes. Access shall be provided through a permit, or as guided by open space staff.
- Unique or rare sites of historical value should be prohibited from access. Confidentiality of such sites shall be maintained. Removal of threatened artifacts by qualified open space staff shall be allowed when deemed necessary following a thorough study of the site. Artifacts shall be retained by the Open Space Division per guidelines for curating such artifacts.

- *Enhancement.* Any development or disturbance of open space land shall be coordinated through the State Historic Preservation Office. The interpretive and educational value of archaeological, historical and cultural sites should be considered in the management of open space facilities.

5.5 Water quality and soil stability

- *Protection.* Activities on open space lands by staff personnel or others shall not unnecessarily encourage the harmful disturbance of soil or water.
 - *Protection during construction.* In instances of development, access to the site by construction vehicles shall be restricted to specifically located areas within the site. Stockpiling or temporary storage areas will be minimized. Fencing of areas to be protected during construction shall be required. Runoff shall be directed away from disturbed areas. Temporary diversion berms may be utilized to divert water to stable waterways or vegetated areas. Open space lands shall be protected from adjacent development impacts. It shall be the responsibility of the adjacent landowner to ensure protection from airborne debris, dust and water of poor quality.
 - *Use of Chemicals.* The use of herbicides and insecticides shall be restricted on open space lands unless deemed necessary for exotic species control or for the public welfare by the Environmental Health Division of the City of Albuquerque, or other governing bodies having jurisdiction.
- *Topsoil Stabilization.* Topsoil shall be stabilized by means of geotextiles, jute mesh stabilization systems, rip rap and other technologies. Erosion and sediment control measures shall be implemented as soon as problem areas are located. Environmentally acceptable methods of erosion control shall be used in all cases. Unvegetated slopes should be temporarily scarified to reduce runoff velocities. Compacted soils, as in instances of roads or trails closure, shall be reclaimed. Grama straw shall be utilized for soil stabilization, when obtainable. Hay or straw varieties not naturally occurring on the site shall not be used unless native varieties are unavailable. Other soil stabilization methods may include gravel mulch in conjunction with reclamation seeding and chemical soil stabilizers. Biotechnical means of stabilization may include the use of reed rolls and berms, willow and gabion structures or hand placed stone and willow cuttings.
- *Sediment Control.* Control of sediment is highlighted for any area which has experienced topsoil disturbance or development. The mitigation of sediments shall include the use of sediment basins, check dams, diversion dikes and ditches, berms, seeding and other slope retention technologies.
- *Enhancement.* Water harvesting methods should be used whenever possible.
 - Monitoring of flow characteristics and surface water quality shall be accomplished by informal investigations by open space personnel. Impermeable surfaces shall be kept to a minimum in developed areas. Porous asphalt pavement may be used for parking surfaces on slopes not greater than 5%. Drainage flows shall be kept on site. Retention basins shall be fenced when greater than 30" deep, and maintained to ensure porosity. Basins should be used to improve wildlife habitats. Temporary check dams and desedimentation ponds shall be constructed as needed for sediment control.

- Storm water runoff should be diverted as irrigation for existing plant materials, water sources for wildlife, or allowed to infiltrate. Surface methods of storm water management are preferred.
- Waste water for developed sites may be used in cooperation with natural based systems such as constructed wetlands, marsh pond systems, or other water purification systems.

6. Law Enforcement

- *Enforcement.* Ride along programs for interested volunteers and citizens may also be used. Nearby residents may be relied upon for reporting unauthorized activities on open space lands. Methods of patrolling open space lands may include hiking, bicycling, horse patrols, aircraft surveillance, and remote intrusion sensors.
- *First-aid.* Open space rangers shall be trained in all methods of first aid.
- *Search and Rescue.* Open space rangers shall be familiar with search and rescue procedures to aid emergency personnel in operations.
- *Regionalize Rangers.* Ranger substations shall be regionalized to lessen the time necessary for aid in assistance with emergencies. Regionalizing offers a more efficient use of natural resources and fuel.
- *Volunteer Trail Watch Program.* Volunteers will be recruited and trained to monitor activity along trails and report violations of rules and regulations to open space rangers.

7. Educational Methods

The levels of service that personnel can provide is often linked to the funding made available for such programs. Educational methods shall include the following:

- *Signage.* Posted signage along fences and at access points to open space facilities. The use of stenciled or plastic adhesive type signage on asphalt paved trails.
- *Information.* Brochures, maps, and other informational literature.
- *Public announcements.* News releases; regular publication of ranger columns in the local newspapers; feature news stories by radio or television stations; and video programs which can be distributed for public use through public or cable television rental stores or libraries will increase public awareness of the Open Space Program.
- *Public Interaction.* User specific outreach programs for special interest groups; environmental education programs for schools, in order to teach resource protection; safety presentations at public meetings; and displays at the County and State Fairs will involve and educate the public.

Coordination with other agencies. Coordinated educational materials, programs and staffing at jointly managed facilities.

FISCAL IMPACT ANALYSIS: OPEN SPACE FACILITY PLAN

This Fiscal Impact Analysis was prepared at the request of city administration in order to provide the City Council with relevant background information on the management costs of the Open Space program and to detail the anticipated future costs related to Facility Plan recommendations.

Summary

1. Growth of the Open Space system is viewed in historic context with growth of Bernalillo County population. The amount of public Open Space in relation to population levels has been declining for 13 years since an all-time high in 1985. Recent approval of new land acquisitions through the ¼ cent tax probably reflects public reaction to the trend of the past 13 years (see Section 1).
2. A comparison of other major Open Space systems in the western United States shows that Albuquerque ranks 11th out of the 12 programs contacted in terms of (1) dollars spent per acre to manage the system; (2) acres managed by each full-time equivalent employee (FTE); and (3) dollars spent per FTE to manage the system (see Section 2).
3. The current approved budget for Fiscal Year 1999 for Open Space management is **\$2,000,000**. These costs are detailed in Section 3.
4. The Facility Plan recommends the addition of at least 11 new FTE in order to catch up with minimum operational standards even without adding new lands to the system. These FTE are estimated at a combined salary of **\$298,686** in FY '99 dollars and **\$325,000** by FY '2002 (see Section 4). These are recurring costs. One-time cost for vehicles and equipment for the recommended staffing is **\$275,000**.
5. The Facility Plan recommends conducting 6 Resource Management Plans (3 more would be required with the addition of ¼ Cent properties); the 9 Plans are estimated to cost **\$450,000**. The Facility Plan recommends Master Development Plans for smaller Open Space areas; these are estimated at a cost of **\$250,000**. The total cost for all potential Capital Improvement funds is estimated at **\$3,800,000**. These costs are detailed in Section 4.
6. Projected costs for Open Space management in FY 2004 range from **\$2,318,548** to **\$2,836,808** as detailed in Section 5. If no new staff are added and no action taken to protect new lands, the cost is **\$2,318,548** adjusting the FY '99 budget by 3% per annum for cost-of-living increases. Adding or upgrading facilities and protecting newly acquired lands would bring the budget to **\$2,538,122**. Adding recommended staffing would bring the budget to **\$2,836,808**.
7. Projected costs of Open Space management in FY 2009 range from **\$2,687,833** to **\$3,618,807** as detailed in Section 6. With no new staffing and no protection of new lands, this figure is **\$2,687,833** adjusting the FY '99 budget for cost-of-living only. Bringing 6,300

acres of new land into unprotected status and 3,000 acres of new land into protected status would increase the budget to **\$3,277,465**. Placing all 9,300 acres of new land into unprotected status with no new staff or facilities would result in a budget of **\$2,871,105** (see Section 7). Adding new personnel to keep up with the growth of the system according to minimum standards would result in an FY 2009 budget of **\$3,618,807**.

8. The Facility Plan recommends establishing standards for budgeting and personnel so that new lands added to the Open Space system can be managed at minimum levels. These standards are discussed in Section 8.
9. Potential future funding sources are discussed in Section 9. It is likely that a combination of actions and various funding sources will be required if the management of the Open Space program is expected to keep pace with population growth, demands, expansion of the system, and maintenance of operational standards to sustain current conditions.

Fiscal Impact Analysis: Introduction

The Open Space Rank 2 Facility Plan recommends the addition of as many as 14.5 full-time equivalents (FTE) to the Open Space Division (OSD) by Fiscal Year 2002. However, the ultimate decision to increase staffing is a policy decision to be made by the city administration and city council. The following information is intended to evaluate costs associated with implementing recommendations in the Facility Plan, as well as to present related material on current and future management costs and staffing levels.

1. Historic Context for Growth of the Open Space System

Table I-1 shows the growth of the Open Space system compared with the natural population growth of Bernalillo County over a period of approximately 40 years. Lands were first acquired in the early 1960's for what would ultimately become the Open Space network. By 1980, the City owned or managed approximately 17,000 acres of open space or about 40 acres per every 1,000 people living in Bernalillo County. By 1985, with the addition of Rio Grande Valley State Park and other large parcels, the ratio grew to an all-time high of nearly 51.5 acres of open space per 1000 population. However, in the past 13 years the population of Bernalillo County has grown by 20.5% while the size of the open space system has grown by 11.4%; by the year 2003, the population will have grown by 29.6% since 1985 while the open space system will have grown by 20%. This gap between population growth and open space system growth is what residents respond to when increases to add more land. As demands for use of public open space increase, there is a concern that usage could exceed the ability of land to accommodate demand, which would result in a decline in ecological conditions and other resource values. Addressing these needs with adequate staffing often lags behind and is reflected in the recommended future staffing in the Facility Plan (see Section 7).

Table 1. Comparison of Open Space Acreage with Bernalillo County Population, 1965-2003

YEAR	ACREAGE	POPULATION	ACRES/ 1000 POPULATION
1965	1,549	306,900	5.05
1970	8,214	317,120	25.91
1975	8,849	373,100	23.73
1980	17,181	420,262	40.91
1985	23,313	452,555	51.46
1990	23,941	480,577	49.77
1995	25,775	522,328	49.38
1998	25,975	545,493	47.66
2003	27,972	586,592	47.65

2. Comparison of Major Open Space Systems in the Western U.S.

To evaluate how staffing and funding levels for Albuquerque's Open Space program compare to other similar systems, a survey was conducted of major open space programs in the western United States. Eleven other municipal open space programs were contacted in Arizona, California, Colorado, and Minnesota. The results of this survey are presented in Table 2. It is evident that by comparison, Albuquerque is next to last in terms of three critical factors: cost per acre for management; the number of acres managed by each full-time employee, and the funding allocated for each full-time employee. Only Pima County, Arizona had lower funding per acre and greater acreage per employees to manage; this is primarily because Pima County does not provide its own law enforcement on public open space. Only Douglas County, Colorado had a lower funding level per full-time employee due primarily to the small size of their system and their heavy reliance on part-time employees.

The survey results revealed a very wide range in operating budgets relative to acreages and in numbers of employees used to manage systems of comparable size. The most comparable open space systems to Albuquerque's in terms of acreage were Phoenix, Boulder, Jefferson County (Colorado), and Pima County (Arizona). Among these systems which range from 26,000 to 32,000 acres, the average funding was more than twice that of Albuquerque's while the number of full-time equivalents was just under double.

Table 2. Comparison of Major Open Space Programs in the Western U.S.

	<i>ACREAGE</i>	<i>OPERATING BUDGET</i>	<i># OF FULL- TIME</i>	<i>\$ PER ACRE</i>	<i>ACRES PER F.T.E.</i>	<i>\$ PER F.T.E.</i>	<i>FUNDING SOURCE</i>
ARIZONA							
Phoenix	26,000	\$ 4,177,000	69	\$160.65	377	\$ 60,536	General Fund
Pima County/ Tucson	32,315	\$ 1,987,000	35	\$ 61.47	923	\$ 56,778	General Fund
CALIFORNIA							
East Bay Regional Park District/S.F.	85,000	\$78,400,000	750	\$922.35	113	\$104,533	Bonds
Marin County	13,000	\$ 2,300,000	44	\$176.92	295	\$ 52,273	Property tax; grants
Midpeninsula Regional O.S.	42,000	\$11,500,000	67	\$273.81	627	\$171,642	Property tax; interest; grant
Palo Alto	4,000	\$ 1,310,000	10	\$327.50	400	\$131,000	General fund; revenues
COLORADO							
City of Boulder	27,000	\$ 5,800,000	72	\$214.81	375	\$ 80,556	Permanent sales tax
Boulder County	50,000	\$ 5,400,000	105	\$108.00	476	\$ 51,429	17-yr. ¼ cent sales tax
Douglas County/ Denver	3,000	\$ 655,000	20	\$218.33	150	\$ 32,750	1/6 cent sales tax; property
Jefferson County/ Denver	27,000	\$ 6,810,000	134	\$252.22	201	\$ 50,821	Permanent ½ cent sales tax
MINNESOTA							
Minneapolis- St. Paul	50,000	\$44,500,000	558	\$890.00	90	\$ 79,749	Property tax, revenues, state
NEW MEXICO							
Albuquerque	26,050	\$ 2,000,000	42	\$ 76.67	618	\$ 42,857	General fund; interest

3. Current Conditions: Staffing and Funding Levels for Open Space Division

Table 3 below details the current conditions of the Open Space program including costs per acre for managing several different types of open space and for maintenance and operation of facilities. Level A: Unprotected open space is land owned by the City but where essentially no management takes place. These areas are acquired and then may have only a one-time attempt at protection such as through putting up temporary fences. Examples are some of the out-of-county and East Mountain properties such as Golden, Gutierrez Canyon, San Antonito, or Sedillo/Juan Tomas. About 12% of the Open Space system is unprotected.

Level B: Protected, undeveloped open space is owned by the City and slightly more management activity such as maintaining fences or doing resource planning takes place. Examples are the Shooting Range/Grasslands Preserve, Placitas, Tres Pistolas, or Four Hills park. About 17% of the Open Space system is protected and undeveloped.

Level C: Managed open space makes up about 52% of the Open Space system and consists of land that is fenced, signed, patrolled, and maintained but where no facilities exist other than trails. Examples of managed open space are Volcano Park, West Mesa open space, large areas of Petroglyph National Monument, the floodway of the Rio Grande, much of the Sandia foothills, and Manzano/Four Hills open space.

Level D: Developed open space is land that has facilities for public access or is immediately adjacent to facilities. These are typically the highest use areas, and have the greatest amount of patrol, maintenance, visitor services, and planning activities associated with their management. Examples are Piedras Marcadas and Boca Negra Canyons in Petroglyph Monument, Piedras Marcadas pueblo ruin, Rio Grande Valley State Park, Roberson Ranch, Candelaria Farm, Alameda/Rio Grande open space access, Bear Canyon Arroyo, Simms Park/Elena Gallegos Picnic Area, and major parking lots and trails in the Sandia foothills. About 18% of the Open Space system is classified as developed.

Definitions of facilities are presented in the main body of the Rank 2 plan and range from parking lots with gates (Class I facilities) to fully developed areas with fee-collection and on-site staffing (Class V facilities). Table 3 establishes the base costs per acre and compares costs for managing the different levels of open space as well as operating various types of open space facilities. These costs are arrived at by averaging patrols, operations and maintenance, visitor services, and all other overhead costs as determined by the approved annual budget for OSD (FY '99).

Table 3. Current Conditions, Open Space Program (Fiscal Year 1999)

Level A : Unprotected Open Space: 3,104 acres @ \$15.00/acre.....	\$46,560
Level B : Protected, Undeveloped Open Space: 4,538 acres @ \$30.00/acre.....	136,140
Level C : Managed Open Space: 13,795 acres @ \$60.00/acre.....	827,700
Level D : Developed Open Space: 4,613 acres @ \$130.00/acre.....	599,690
Facilities: Class I, 16 @ \$5,390 each.....	86,240
Class II, 2 @ \$10,420 each.....	20,840
Class III, 0 @ \$20,360 each.....	0
Class IV, 1 @ \$30,200 each.....	30,200
Class V, \$1.00 per visitor @ 250,000 visitors.....	<u>250,000</u>
TOTAL, OPEN SPACE OPERATING BUDGET (FY '99)	\$1,997,370

(Average cost-per-acre: \$76.67)

The average cost-per-acre of managing city-owned Open Space includes administration, law enforcement, facility operation, visitor services, construction and maintenance, planning, education, and community outreach. Since the administration and organizational structure of the Open Space management program is already in place, additional funding is only needed to supplement the existing management when new lands are added.

The addition of new lands to the Open Space system may include the following: fencing, signage, law enforcement, trail maintenance, erosion control, parking and access control, vegetation control, trash removal, outreach and education, administration of contracts, studies, resource inventories, and planning. The costs of maintaining newly added lands depends on the following factors: geographic location, proximity to developed areas, configuration of the parcel (Square versus long and narrow), miles of boundary, resource sensitivity, intensity of recreational use, historic uses, existing land conditions compared to desired future conditions, and the level of improvements or type of developed facilities.

4. Rank 2 Facility Plan Recommendations

The Facility Plan recommends the addition of the following staff (see Table 10-3 in the Plan):

- 3 Open Space Rangers (JAP)
- 4 Visitor Services (2 PB-02), (2 PA-01)
- 1 Environmental Education Coordinator (MP-03)
- 1 half-time Volunteer Coordinator
- 2 Operations and Maintenance (B-07)
- 2 Resource Protection (2 PB-02)
- 1 Biologist (MP-04)
- 1 Associate Planner (MP-03)

An Associate Planner position and an Environmental Education Coordinator position, both

MP-03's, have been added to OSD staff prior to adoption of the Plan. An existing MP-03 planner position would need to be upgraded to the MP-04 Biologist, and the ½-time Volunteer Coordinator duties would be assumed by the E.E. Coordinator for the foreseeable future. This leaves the recommended number of full-time positions to be added to OSD at 11, with one upgrade from MP-03 to MP-04. The salary costs, including benefits, associated with these recommendations are as follows (in FY '99 dollars):

Table 4. Facility Plan Staffing Recommendations

3 JAP @ \$25,627/ea.....	\$76,881
4 PB-02 @ \$26,557/ea.....	106,228
2 PA-01 @ \$24,133/ea.....	48,266
2 B-07 @ \$31,801/ea.....	63,602
Upgrade from MP-03 to MP-04.....	<u>3,749</u>
TOTAL	\$298,686

If these positions were phased in over a period of 5 years, the above total would be approximately \$325,000 (using a cost-of-living factor of 3% per year for an average of three years). This increase resulting from recommended staffing would represent an estimated 15% increase in the OSD operating budget over a five-year period from FY '99 to FY 2004. One-time costs related to these staff increases are estimated at \$275,000 (11 new vehicles at an average cost of \$25,000 each).

One-time costs for implementing Resource Management Plans (RMP's) as recommended in the Facility Plan are estimated to be \$300,000. These RMP's include: West Mesa Open Space, Calabacillas Arroyo, Candelaria Farm, Tijeras Arroyo/Montessa Park, Sandia Foothills, and East Mountain Open Space. In addition, RMP's will be needed for the following areas to be acquired by the ¼ Cent tax: Rio Puerco/Sand Dunes, Southwest Mesa, and Atrisco Terrace. These studies would bring the total needed for RMP's up to approximately \$450,000.

The Facility Plan also recommends that Master Development Plans (MDP's) be prepared for parcels of Open Space over 100 acres in size not covered by RMP's or that existing approved plans be updated. Examples are: the Bosque Action Plan update, San Antonio Oxbow Management Plan, Roberson Ranch Master Plan Sedillo/Juan Tomas Open Space, and Carolino Canyon Master Plan. Other parcels to be acquired through the ¼ Cent tax that would need master planning include: Anderson Field, Hubbell Oxbow, Cerro Colorado volcano, Three Gun Springs, and Manzano/Four Hills. These MDP's are estimated at an average of \$25,000 apiece or approximately \$250,000 for all.

Projected Capital Improvement funding as recommended by the Facility Plan includes the following projects:

- Open Space acquisition; fencing and protection; facility renovations.....\$1,000,000
(2 two-year bond cycles at \$500,000 per cycle)
- Sandia Foothills: facility improvements; trail construction; watershed m'gt.....\$225,000

• <u>West Side Open Space</u> : Petroglyph National Monument improvements; West Mesa Open Space facilities; revegetation and habitat improvements; Grasslands Preserve habitat improvements.....	\$365,000
• <u>Piedras Marcadas pueblo ruin</u> : renovations, exhibits, access bridge, parking.....	\$1,300,000
• <u>Rio Grande Valley State Park</u> : trail improvements; facility development.....	\$350,000
• <u>Tijeras Arroyo/other Arroyos</u> : facility improvements; habitat improvements.....	\$185,000
• <u>East Mountain Open Space</u> : facility improvements; fencing and signage.....	\$375,000
TOTAL, ESTIMATED CAPITAL IMPROVEMENTS	\$3,800,000

The estimated request for Capital Improvement funding resulting from recommended plans, studies, and improvements is **\$4,500,000**. These funds could be requested in 2 two-year bond cycles averaging \$2,250,000 apiece or in 3 two-year bond cycles averaging \$1,670,000 apiece (if taking 3 bond cycles, the total amount requested would be \$5,000,000 in order to add an extra \$500,000 for land acquisition and protection). These requests for Capital funds, ranging from \$1,670,000 to \$2,250,000 are somewhat higher than the average amount that Open Space has been traditionally funded through CIP over the past 10 years.

5. Projected Future Conditions, Open Space Program (Fiscal Year 2004)

Table 5 projects future operating costs five years from the present (i.e., FY 2004). These costs were projected by adjusting current conditions by a factor of 3% per annum for cost-of-living increases, plus adding almost 3,000 acres of protected open space and 9 new or upgraded facilities. In addition, it was assumed that 40,000 more fee-paying visitors would visit Class V facilities. If no actions are taken (no new lands or facilities), the cost for managing the Open Space program in FY 2004 would be **\$2,318,548**, adjusting the FY '99 budget by a cost-of-living factor of 3% per annum for 5 years.

Table 5. Projected Future Conditions, Open Space Program (Fiscal Year 2004)

Level A : Unprotected Open Space: 3,104 acres @ \$17.39/acre.....	\$53,979
Level B : Protected, Undeveloped Open Space: 7,538 acres @ \$34.78/acre.....	262,172
Level C : Managed Open Space: 13,795 acres @ \$69.56/acre.....	959,580
Level D : Developed Open Space: 4,613 acres @ \$150.70/acre.....	695,179
Facilities: Class I, 19 @ \$6,260 each.....	118,940
Class II, 7 @ \$12,110 each.....	84,770
Class III, 1 @ \$23,600 each.....	23,600
Class IV, 1 @ \$35,020 each.....	35,020
Class V, \$1.16 per visitor @ 290,000 visitors.....	336,400
TOTAL, OPEN SPACE OPERATING BUDGET (FY 2004)	\$2,538,122
<i>(Average cost-per-acre: \$87.37)</i>	
With additions of staff recommended in Facility Plan.....	\$298,686
TOTAL	\$2,836,808

(Average cost per acre: \$97.65)

6. Projected Future Conditions, Open Space Program (Fiscal Year 2009)

Table 6 projects future operating costs at 10 years from the present (i.e., FY 2009). These costs were projected by adjusting the current conditions by a factor of 3% per annum for cost-of-living increases, plus adding 6,300 acres of protected, undeveloped open space and 9 new or upgraded facilities beyond FY 2004. In addition, it was assumed that 40,000 more fee-paying visitors beyond FY 2004 levels would visit Class V facilities. Additional staffing as needed to keep pace with growth by adding new lands is also considered, complying with minimum standards set in Section 8. If no actions are taken (no new lands or facilities), the cost for managing the Open Space program in FY 2009 would be \$2,687,833 adjusting the FY '99 budget by a cost-of-living factor of 3% per annum for 10 years.

Table 6. Projected Future Conditions, Open Space Program (Fiscal Year 2009)

Level A : Unprotected Open Space: 9,404 acres @ \$20.16/acre.....	\$189,585
Level B : Protected, Undeveloped Open Space: 7,538 acres @ \$40.32/acre.....	303,932
Level C : Managed Open Space: 13,795 acres @ \$80.63/acre.....	1,112,291
Level D : Developed Open Space: 4,613 acres @ \$174.71/acre.....	805,937
Facilities: Class I, 22 @ \$7,260 each.....	159,720
Class II, 12 @ \$14,040 each.....	68,480
Class III, 2 @ \$27,360 each.....	54,720
Class IV, 1 @ \$40,600 each.....	40,600
Class V, \$1.34 per visitor @ 330,000 visitors.....	442,200
TOTAL, OPEN SPACE OPERATING BUDGET (FY 2009)	\$3,277,465
(Average cost-per-acre: \$92.71)	
With additional staffing for land increases.....	\$341,342
TOTAL	\$3,618,807
(Average cost-per-acre: \$102.37)	

7. "No-Build" Scenario, Open Space Program (Fiscal Year 2009)

Table 7 projects future operating costs for Fiscal Year 2009 under an assumption that all lands acquired as Major Public Open Space between 1998 and 2008 would only be placed in the protected, undeveloped category and that no new facilities would be built in that 10-year period. Costs were essentially projected out at a 3% per annum increase using the existing conditions in Table 3 and adding 9,300 acres of land with no routine patrols or maintenance and no staffing increases to keep up with additions of new land.

Table 7. "No-Build" Scenario, Open Space Program (Fiscal Year 2009)

Level A : Unprotected Open Space: 12,404 acres @

\$20.16/acre.....	\$250,065
Level B : Protected, Undeveloped Open Space:	4,538 acres @ \$40.32/acre.....182,972
Level C : Managed Open Space:	13,795 acres @ \$80.63/acre.....1,112,291
Level D : Developed Open Space:	4,613 acres @ \$174.71/acre.....805,937
Facilities: Class I, 16 @ \$7,260 each.....	116,160
Class II, 2 @ \$14,040 each.....	28,080
Class III, 0 @ \$27,360 each.....	0
Class IV, 1 @ \$40,600 each.....	40,600
Class V, \$1.34 per visitor @ 250,000 visitors.....	335,000
TOTAL, OPEN SPACE OPERATING BUDGET (FY 2009)	\$2,871,105
<i>(Average cost-per-acre: \$81.22)</i>	

8. Establishing Minimum Standards for Open Space Program by FY 2004

This fiscal impact analysis has resulted in the need to set certain minimum standards for Open Space management to accommodate future growth and public needs, especially when Albuquerque's system is evaluated relative to other open space programs in the western United States. The Rank 2 Facility Plan calls for the establishment of such standards for law enforcement, operations and maintenance, and visitor services. Accordingly, the following minimum standards are recommended to be instituted by Fiscal Year 2004 to accommodate future growth needs of the Open Space program:

- No less than 50 acres of Major Public Open Space per 1,000 population in Bernalillo County (present level is 47.66 acres per 1,000 people).
- No less than \$95 per acre for management by FY 2004; no less than \$100 per acre for management by FY 2009.
- No more than 500 acres of Open Space to be managed per full-time equivalent (present level is 620 acres per FTE)
- No more than 1,500 acres of Open Space to be patrolled by Law Enforcement (present level is 2,000 acres per Open Space Ranger)
- No more than 2,000 acres of Open Space to be maintained by Operations and Maintenance staff (present level is 2,400 acres per Open Space maintenance FTE)
- No more than 2,000 acres of Open Space to be maintained by Visitor Services staff (present level is 3,250 acres per Visitor Services FTE)

In order to achieve these minimum standards by Fiscal Year 2004, staffing additions as recommended by the Facility Plan and as detailed in Section 4 above would need to be implemented. These staffing levels would result in an increase from 13 to 18 Law Enforcement Rangers, from 11 to 14 Operations and Maintenance FTE, and from 8 to 14 Visitor Services FTE

from FY '99 to FY 2004.

9. Potential Future Funding Sources for Open Space Program

Management of Open Space, with a system as diverse and wide-spread as Albuquerque's, will always face challenges of adequate funding and staffing levels. The Rank 2 Facility Plan makes no pretext that Albuquerque will ever attain the funding and staffing levels that can be found in other major cities such as Boulder, Denver, Phoenix, Minneapolis, or San Francisco. However, it would not be appropriate for the Facility Plan to establish minimum standards that would result in staff increases without evaluating the fiscal impacts of such recommendations and further, not offer solutions to resolve funding shortages.

The most appropriate method of ensuring adequate funding for the Open Space program would be to extend the existing 2-year $\frac{1}{4}$ cent gross receipts tax which is scheduled to end July 1999. A permanent $\frac{1}{16}$ percent municipal gross receipts tax would cover all future operating costs for at least the next 15 years. An additional $\frac{1}{16}$ percent would be necessary to provide for future land acquisition needs. A total of $\frac{1}{8}$ percent, therefore, would be sufficient to provide for all future operation and acquisition needs for a long period of time. This method, a permanent source fund derived from gross receipts tax, has been utilized for the very successful open space programs in Boulder and Jefferson County, Colorado.

A related strategy would be to extend the existing $\frac{1}{4}$ cent tax for a period of two more years, with all the proceeds going into the Open Space permanent trust fund. The Open Space Division currently derives approximately one-half of its operating funds from interest generated by the Open Space permanent trust fund. With the present balance in the permanent fund and the interest rates now used, an estimated \$30 million more would need to be placed in the permanent fund. This amount, however, would be fixed and could cover funding needs for only the next 10 to 15 years so that the permanent fund would need to be replenished periodically to keep up with cost-of-living and other increases in the size of the Open Space system.

There has been some evaluation of the need to reinvest the existing corpus of the permanent fund so that higher yields from more favorable interest rates could be obtained. However, reinvestment of the current amount in the permanent fund should only be viewed as a strategy to relieve the General Fund from the amount that it now contributes to Open Space management. It would not be a sufficient method to fund recommended increases in staffing or projected future growth of the system for the next 5 to 10 years.

Increases in user fees are a potential source for funding some aspects of Open Space management and should be evaluated as a contribution to offsetting operational costs. It should

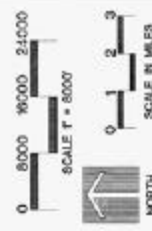
be noted that user fees or increases from revenues alone will not ever contribute enough funding to address open space management needs.

In all likelihood, it will take a combination of extending taxes, increasing the permanent fund, reinvesting the permanent fund for higher yields, and subsidy from the General Fund to accommodate future needs. Regardless of which solution or combination of solutions is selected, it needs to be recognized that recommendations in this Facility Plan are only intended to make up for existing shortfalls in staffing to catch up with acceptable standards. This needs to be done prior to future expansions of the Open Space system, adjusting for cost-of-living, or attempting to achieve any standards higher than the minimums that have been suggested by this Plan.

CITY of ALBUQUERQUE OPEN SPACE FACILITY PLAN VICINITY MAP

- CITY OF ALBUQUERQUE**
- MAJOR PUBLIC OPEN SPACE LOTS *
 - OPEN SPACE LOTS TO BE ACQUIRED
 - OPEN SPACE AND SPACE
 - OPEN SPACE FACILITIES
 - OPEN SPACE FACILITIES
 - STREETS
 - EXISTENTIAL BOUNDARIES
 - ADDITIONAL

* Includes land designated Major Public Open Space in the 1985 Comprehensive Zoning Ordinance (CZO) and the 1995 Comprehensive Zoning Ordinance (CZO) as well as land designated Major Public Open Space by resolution of the City Council.



for: **CITY OF ALBUQUERQUE
OPEN SPACE DIVISION**

by: **Southwest Land Research,
Bohannon-Huston Inc.**

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