VI. OPEN SPACE

1. CHARACTER AND INTENT

The Volcano Heights area is endowed with an extraordinary geologic and cultural heritage. Natural areas and connections with New Mexico's Pueblo, Hispanic, and Paleo-Indian past will be maintained and parks and trails will be added to enhance the quality of life for Volcano Heights residents and Albuquerque residents as a whole.

Most of the key geologic and cultural features have been set aside in 7,000 acres of Federal and City-owned open space, forming a U-shaped pattern around the Plan Area. Volcano Heights development lies between open space lands preserving volcanoes and geologic windows on the west, open space on the south, and lands preserving the volcanic escarpment on the east. The Plan completes the open space network by connecting the existing large tracts to each other along arroyo corridors and greenbelts. This is accomplished by acquiring ~~approximately 400~~ additional acres of open space land in the form of arroyos and surrounding habitat, archeological sites, rock outcrops, and widening escarpment lands.

Development in Volcano Heights creates miles of edge between development and open space. The Plan calls for a clear demarcation between the built environment and nature to both conserve natural features and to open dramatic views of the area's scenic features.

Maintaining natural areas is a proven development strategy for creating communities that hold their desirability and value. Natural areas contribute to a positive image and a sense of community identity. They enhance neighborhood livability and their recreational components are an important ingredient for promoting the physical and mental health of residents – especially youth.

The Plan provides a comprehensive strategy to protect valuable resources and deliver exceptional recreational features. Policies of the Albuquerque/Bernalillo County Comprehensive Plan specifically state: "(o)pen space lands and waters should 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."

Conservation of Arroyo Corridors. Arroyos (natural drainages) traverse the Plan Area and connect it to major geologic features to the east and west. ~~In the western portion of the area,~~ The North Fork of the Boca Negra Arroyo runs from the Northern Geological Window to Boca Negra Canyon. A smaller arroyo, the Middle Fork of the Boca Negra Arroyo, runs eastward from the Middle Geologic Window to Boca Negra Canyon. Consideration should be given to linking ~~Future efforts should link~~ this ecosystem to the Rio Puerco wilderness in the future.

Preserving the arroyos as natural drainages with ample buffers will maintain the richest habitat of sensitive plants and animals, which propagate in greater abundance and with greater diversity where water gathers naturally. Uninterrupted arroyo corridors link the largest expanses of open space to each other and thereby maintain the ecosystem by permitting species to migrate without barriers. The arroyo corridors also have cultural significance as the historic spine of a trails system that ran from the former Pueblos on the Rio Grande, up the slopes and Escarpment, past the Petroglyphs and other shrines, to the Volcanic cones.

The arroyo corridors will need to be of sufficient width to reduce erosion and to allow for the flow of arroyos to change -- as impervious surfaces from development increase the quantity and decrease the quality of stormwater run-off.

The arroyo corridors present important trails and recreation opportunities, so long as they do not compromise overriding environmental objectives.

Buffer along Petroglyph National Monument. While the Petroglyph National Monument (the "Monument") preserves the rocky escarpment that contains many petroglyphs, additional open space just above the escarpment is desirable. Trails will be limited in Monument lands, but trails should be created in the Buffer area just above the Escarpment. ~~Small p~~Parks along the escarpment will further expand opportunities for the public to ~~enjoy~~ engage in active recreation in an exceptional setting ~~and~~ with expansive views. The distinct horizon created by the top of the Escarpment as seen from much of the West Side and the city as a whole could be lost if development is placed too close to the Escarpment's edge. (see the View Shed Analysis)

Trail Network. An exceptional trail system will be established by joining together the arroyo corridors, the buffer along Monument, major utility easements, and open space ~~linkages~~ into a continuous network.

Accessible and Diverse Parks. The Plan calls for a park within walking distance of most residents, and usually without the need to cross a busy arterial road. In many cases, neighborhood parks are co-located with elementary schools, to offer an efficient way of delivering a greater range of facilities. A larger Community Park is also provided with multiple sports fields and features that serve the area ~~greater West Side~~. A village plaza or small urban park is ~~designated~~ called for near the center of every mixed-use Town and Village Center. In addition, shared community spaces are required of larger development projects to embed smaller park-like spaces within neighborhoods.

Protection of Archeological and Cultural Resources. The Volcano Heights Plan Area contains several sites of archeological significance, many of which (but not all) have been designated as open space. These Petroglyph and settlement sites tend to be concentrated within ~~and at the edge of~~ the Northern Geologic Window, in the large tract owned by the State of New Mexico, along arroyo corridors, on ~~many~~ some rock outcroppings, and within the Monument. Importantly, many Petroglyph sites can only be fully understood and appreciated if visual connections are maintained to the volcanoes, Sandia Mountains and Rio Grande ~~.River~~.

Portions of the State Land parcel between the Northern Geologic Window and the high school site are proposed for open space acquisition because of their archeological and ecological significance. Here a reach of the North Fork of the Boca Negra Arroyo includes numerous stands of juniper that make a rich bird habitat. Near the gasline easement is the Boca Negra Wash Folsom site which tells the story of Ice Age Native Americans living 12,000 years ago. To the north of the Folsom site, there is a dry playa that contains a rich record of environmental change that spans the last 14,000 years.

Managing Valuable Natural Resources. Through a range of policies and actions, development in Volcano Heights can maintain high air and water quality, minimize the use of energy and materials, and protect the environment. Doing so will help provide for a more sustainable future, whether measured in environmental, health, or economic terms. Good stewardship of natural resources can also establish Volcano Heights' identity as a place that supports the on-going health of the community and its citizens – quality of life features recognized by the marketplace including corporations looking for new locations.

Scenic Corridors. The Volcano Heights area is endowed with scenic views of the Sandias, the volcanoes, and, from certain locations, the Rio Grande and New Mexico wilderness. Views and scenic qualities of natural lands should be extensively preserved to maintain an 'open feel' to the public lands while development moves into the area.

Scenic corridors allow the general public to experience and view public open space lands in everyday ways, such as part of their commute. The careful design of roads through open space areas will do much to maintain ~~a~~ the high desert character in the area. Scenic corridors also allow people of varying physical abilities and interests to enjoy natural ~~desert~~ lands. Trails are provided immediately adjacent to permanent open space, which reduces the demand for human travel on the ecologically sensitive lands.

Neighborhood Edge / Transitions. Landscaping, buildings, and roads are transitions from ~~the natural desert of~~ open space and the Petroglyph National Monument to the built environment. Numerous miles of 'edge' will be developed in Volcano Heights. Generally, roads or low density, one-story residential development abuts the open space. ~~Where larger lots are anticipated,~~ Small outbuildings or building wings can create an 'inhabited wall' that avoids the monotony of an uninterrupted wall of uniform character. This wall also "frames" and encloses the natural landscape, separating it visually from development beyond. Building colors should be in harmony with the desert palette. Preferred edge fencing is stucco walls, ~~post and wire, split rail,~~ or 'coyote fencing.' Native vegetation should be used wherever landscaping is visible to the public.

2. ARROYOS AND DRAINAGE

Master Drainage Plan. The natural drainage function of the North and Middle Forks of the Boca Negra Arroyo shall be maintained. To accommodate historic and developed flows, a "prudent line" treatment shall be used, which maintains as a drainageway a combination of the 100-year floodplain plus a 30-year erosion line. For the Boca Negra Arroyos, new development shall maintain at least a 300-foot open space corridor (edge-to-edge). The exception is that the Middle Fork of the Boca Negra will transition to a naturalized, engineered channel at Albericoque Place, the western edge of the Vista Vieja subdivision.

Setback & Street Frontage. Development should be set back at least 150' from the centerline of the North and Middle Forks of the Boca Negra Arroyo. This 300 foot drainage corridor shall remain as undistrube ddesert with natural vegetation, rock formation, and drainageways intact. Only minimal alternations are permission if essential for stormwater management or for the initial construction of a trail or recreational amenity. Streets shall be located outside of the setback. Streets or open space shall be required along at least ~~50%~~ 80% of any linear edge between the arroyo and private development except within the Executive and Rural Residential zones.

Stormwater Management. The hydrology of the arroyos will be dynamic as development occurs. Generally, installation of stormwater management and recreational features should be avoided until changes resulting from development can be observed and inform their design. Naturalized features are encouraged for retaining stormwater and slowing its velocity. Fenced-off features are prohibited. Hydrological study and design shall be required of new development to determine what, if any, stormwater detention and energy dissipation features are needed.

Stormwater Design and Management Standards. More specific standards for the design and management of stormwater flows are contained in the Appendix under *Stormwater Design and Management Standards.* These regulations are fully part of this Sector Plan and shall be enforced as such.

Trails & Recreation. Trails may be located within the required setback, and shall be located along at least 80% of any linear edge between an arroyo and private development. Areas may be set aside for recreation, after hydrological changes from new development have become evident. No trail or recreational space should be placed within 50 feet of an arroyo centerline or any area deemed to have high biological value. For trail design, see "Public Trails" below.

Lighting. Only bollard lighting may be used within the Arroyo setbacks and along streets that abut or are within 100 feet of the setback.

Maintenance. It is recommended that AMAFCA assume responsibility for maintaining floodways within the specified setbacks. The City of Albuquerque shall be responsible for maintaining open space areas outside the floodway

Migration of Plants and Wildlife. Crossings of the North Fork of the Boca Negra Arroyo are limited to Rainbow, Rosa Parks, Scenic, and Unser Boulevards. Crossings of the Middle Fork of the Boca Negra Arroyo are limited to Albericoque and Quivira. An oversized culvert should be used that provides for the movement of wildlife. The length of the culverts should be minimized; streets that cross should not have on-street parking and should bring sidewalks to the curb

3. PETROGLYPH NATIONAL MONUMENT BUFFER

Trails & Recreation. Trails should be provided within the Monument Buffer Area to form a continuous network from Unser Blvd. to the northern boundary of the Plan Area. Areas for active recreation should be located at least 75 feet from the Monument boundary. For trail design, see "Public Trails" below.

Setback & Street Frontage. Streets shall be located outside of the Monument Buffer, and shall be required along at least 80% of any linear edge between the Monument Buffer and private development.

Lighting. Only bollard lighting may be used within the Buffer and along streets that abut or are within 100 feet of the Buffer.

Stormwater Management. Stormwater run-off shall be intercepted and managed as per standards developed by the City and National Park Service. Within the Monument Buffer, stormwater management features shall have a naturalized appearance and shall not be fenced off.

4. NEIGHBORHOOD EDGE / TRANSITIONS

Design Standards. Special design standards are provided to create an "inhabited wall" at the edge of the built environment and open space that "frames" and encloses the natural landscape, separating it visually from development beyond. These standards apply to the edge identified in Exhibit XX, generally the higher density areas and not including the Executive Residential and Rural Residential zones. These standards are compatible with the regulations calling for a high percentage of the frontage along arroyos and Petroglyph National Monument to be adjacent to streets primarily and open space. They address the built environment on private parcels adjoining these streets.

A house front and vehicular access to housing, when a street is present, shall be toward the street adjoining the open space or the open space itself at the edge identified in Exhibit **. Small outbuildings, building wings, wall or fences limited to stucco and coyote fencing (5 ft. height maximum) and gates, shall create an 'inhabited wall' along a minimum of 80% of the lot frontage on the street facing the street or open space thereby creating uninterrupted wall of uniform character. Within this objective, the "inhabited wall" shall be articulated to provide variety in linear appearance and interest. (See Exhibit XXX and the "Neighborhood Edge" conceptual design shown at the beginning of the Open Space Section.

5. ARCHEOLOGICAL RESOURCES

Setbacks. Development, trails, and recreation areas should be set back at least 50 ft. from prehistoric petroglyphs or other sites with high archeological value, unless part of an approved interpretive exhibit. ~~Archeological sites may be fenced off using wrought iron or metal bar fencing not exceeding 5 feet in height. (See also *Landscape Design*.)~~

View Corridors. To the extent possible, streets and linear open spaces ~~should~~ shall extend from archeological sites of major cultural importance toward the Sandia Mountains to the east and the two northern-most volcanoes to the west. (See *View Shed Findings*)

Interpretive Features. ~~When approved by a~~ A National Park Service representative for the Petroglyph National Monument and the City Open Space Division for other open space and park locations shall determine the appropriate design and development standards for interpretive signage and exhibits ~~are encouraged~~ where major trails are near prominent archeological features~~, but should not exceed 3 feet in height.~~ Trails & interpretive features should not come within 50 ft. of these sensitive features, unless designed under the guidance of a qualified archeologist.

Conservation. Rock outcrops--volcanic knolls or hillocks--occur randomly throughout the Plan Area. The exposed basalt retains both water and heat and, therefore is host to richer habitat. From an archeological point of view, these knolls were frequently used as viewpoints, resting areas, and places for various field activities occurring away from the primary ~~p~~Pueblo residential areas.

All rock outcroppings containing petroglyphs shall be conserved. No petroglyph shall be defaced, altered, or moved without approval of a National Park Service representative from the Monument. Major rock outcroppings that exceed 1 foot in height and 6 feet in volume shall be conserved, except in the Town Center, Village Center, Neighborhood Mixed-Use, and Campus zones, as provided below.

Other archeological sites shall be protected or mitigated. Site treatment shall include preservation, avoidance, testing, or documentation of surface and /or subsurface remains, as provided below.

Plan documents. All subdivision, site plans, and master plans including those developed for Public Infrastructure Districts / Special Assessment Districts, and Tax Increment for Development Districts shall include a survey by a qualified archeologists (as defined in the Sector Plan Appendix) to identify such rock outcrops and any petroglyphs that may be located on them and other archeological sites. A survey report shall be provided including recommendations on preservation and mitigation. The surveys will be required at the earliest possible level of approval

For private utility and public projects, an archeological survey report must be submitted prior to approval of Rank 3 corridor plans or facility designs. The review function in the City shall be carried out by a trained archeologist either in the Parks and Recreation Department or the Planning Department. Once a survey is accepted it shall be utilized to meet this requirement for subsequent approvals of the tract.

Within Urban Residential, Suburban Residential – Large Lot, Suburban Residential – Small Lot, Executive Residential and Rural Residential Zones, development plans ~~should~~ shall make adjustments to site and lot layouts and building pads in order to preserve rock outcroppings, and clusters of major rock outcroppings should be placed within publicly accessible open space. Within Town Center, Village Center, Neighborhood Mixed-Use, and Campus Zones, subdivision, site plans, and master plans including those developed for Public Infrastructure Districts / Special Assessment Districts, and Tax Increment for Development Districts shall be designed to conserve these outcroppings to the extent practicable and submittals for development approval shall contain a description of the actions taken to carry out this requirement.

~~5. PUBLIC~~ MULTI-USE TRAILS

Multi-use trails provide for varied, non-vehicular access including bicycles, strollers, scooters, skate boards, walking, jogging, skating, and so on. As such the mixed-use trails shown in **Exhibit 30** should be considered in conjunction with the Bicycle Trails Network identified in **Exhibit 21**.

Access. Access to trails shall be reasonably direct, well-signed and ADA compliant. Break-away or removable bollards shall prevent access to trails by motorized vehicles, while allowing maintenance and emergency vehicles.

Design. Trails should be at least 9 feet wide to accommodate pedestrians, bicyclists, and maintenance and emergency vehicles. Trail design shall be coordinated with the Trail Design division of the City Parks and Recreation Department.

Lighting. Bollard lighting should be used adjacent to the Monument Buffer and arroyo corridors, as specified above. In no case ~~should~~ shall light standards exceed 14' along trails.

Interpretive Features. Interpretive signs and overlooks ~~should be considered so as~~ shall be provided to increase public awareness of unique cultural and geographic features.

Stormwater Management. Runoff from trails ~~should~~ shall be managed to avoid erosion. Trails should utilize permeable materials, if not in conflict with ADA compliance.

Shade Trees. Native, drought-tolerant shade trees ~~should~~ shall be planted along trails in a continuous way, but ~~should not obstruct~~ views of the volcanoes, the Rio Grande from the Monument Buffer~~)~~, and the Sandia Mountains shall not be obstructed, nor should ~~negatively affect~~ sensitive habitats be negatively affected.

6. PARKS

Neighborhood Parks. Neighborhood Parks ~~should~~ shall be distributed throughout the Plan Area, and be placed in locations where large numbers of residents can walk a short distance to the park without crossing an arterial road. If new streets and trails are planned in concert with parks, circulation routes between the park and surrounding development shall be direct and not circuitous. Neighborhood Parks are between 2 and 8 acres. Neighborhood Parks ~~may be~~ are joined with an Elementary School ~~with a combined site area of at least 13 acres~~. Neighborhood Parks ~~should~~ include a playfield or multi-purpose lawn suitable for "pick-up" soccer or softball, and include play equipment for small children with nearby picnic tables. At least 60% of a park's perimeter ~~should~~ shall front onto a public street. Each development project or Sector Plan area should provide at least 2.6 acres of Neighborhood Park per 1,000 residents.

Community Park. The Community Park ~~should~~ provides 1 acre per 1,000 residents. The Community Park should contain multiple sport fields and/or other facilities of more regional importance, such as tennis courts, a swim center, group picnic areas, an amphitheater, and/or unique play structures. Features requiring floodlights or prone to a high level of noise ~~should~~ shall be sited away from residential uses. At least 50% of ~~a~~ the Park's perimeter should front onto a public street.

Village Plazas and small parks. The Town Center and Village Centers shall have a Plaza that is one to three acres. (See Illustrative Plans in the Urban Design Section.) Buildings shall face into at least 80% of the perimeter of the Plazas.

Shared Open Space. Shared open spaces, such as courtyards, plazas or play areas, are required of projects exceeding 100 units. Such recreational facilities shall be privately owned and maintained, and may restrict use by non-residents. (See also *Land Use Element, Residential Open Space*.)

Community Support. The City shall encourage resident support groups for the purpose of fund-raising and organizing special events.

Lighting. Light standards ~~should~~ shall not exceed a height of 16 feet. Light bollards are recommended along most paths.

Parking. On-street parking within 300 feet of parks and joint-use opportunities ~~should~~ shall be considered to help meet projected parking demand. On-site parking ~~should~~ shall be incorporated only after it is demonstrated that available on-street parking is insufficient. (See Neighborhood Permit Parking discussion in the Urban Design Section.) Where parking is incorporated, it ~~should~~ shall be landscaped with at least one tree for every six parking spaces.

7. SCENIC CORRIDORS

Application. Scenic Corridors are roads that abut portions of the ~~O~~open ~~S~~space network. (See the *Open Space and Scenic Corridor Plan*). Segments of the arterials Unser, Paseo del Norte, and Rainbow are designated as scenic corridors. Many collector and local segments are also scenic corridors, e.g., Lynn, Faciel, Scenic, Vista del Prado, Urraca, Pettrojo, and Alderete. As the preferred edge to open space is a public street, more scenic corridors will be added as area roads are designed abutting arroyos or the Monument buffer.

Abutting Development & Roads. Roads shall occur along at least ~~60%~~ 80% of any edge between development and any open space (i.e. any protected arroyo or Monument ~~Buffer~~) except for the Executive Residential and Rural Residential zones. Narrow roads such as local streets less than 30 feet wide with one-side parking are encouraged. Local roads edging the escarpment will carry the designation 'scenic walking street' where the function of the road will emphasize pedestrian travel as much as automobile travel. Traffic calming devices to reduce speeds to 25 mph or less will be employed, i.e., speed bumps, bulbouts, etc. (See *Transportation*) Trails ~~within the public right-of-way and~~ abutting the escarpment shall be made of stabilized, decomposed granite.

Street signs. A unique scenic corridor street sign will be established to designate all scenic corridors in Volcano Heights.

Design Standards. As scenic corridors are designed, the following design elements ~~may~~ shall be regulated to provide a uniform character to the scenic corridor: landscaping (public and private), walls and fences (public and private), medians, sidewalks/trails, pavement widths, speed limits, commercial building materials, and parking lot treatments. (see *Neighborhood Edge / Transitions* above) Median and landscape strips ~~should~~ shall vary in width to avoid rock outcroppings and to be sensitive to natural and cultural features. Native plants shall be used in medians and sidewalk buffers (see *Appropriate Planting Lists* in the *Landscaping in the Architectural and Landscape Design* Section and Appendix).

Lighting. Only bollard lighting shall be used within 100 feet of any Scenic Corridor (i.e. any arroyo or Monument buffer), with the sole exception of. arterial-arterial and arterial-collector intersections. This restriction will enhance desert views of sky and city, support desert wildlife, and reduce the impact of Volcano Heights on views from other parts of Albuquerque.

Arroyo Crossings. Bridges shall be made of concrete that is stained brown. Railings shall use Cor-ten steel. If Jersey barriers are used, they shall be painted to match other bridge features.

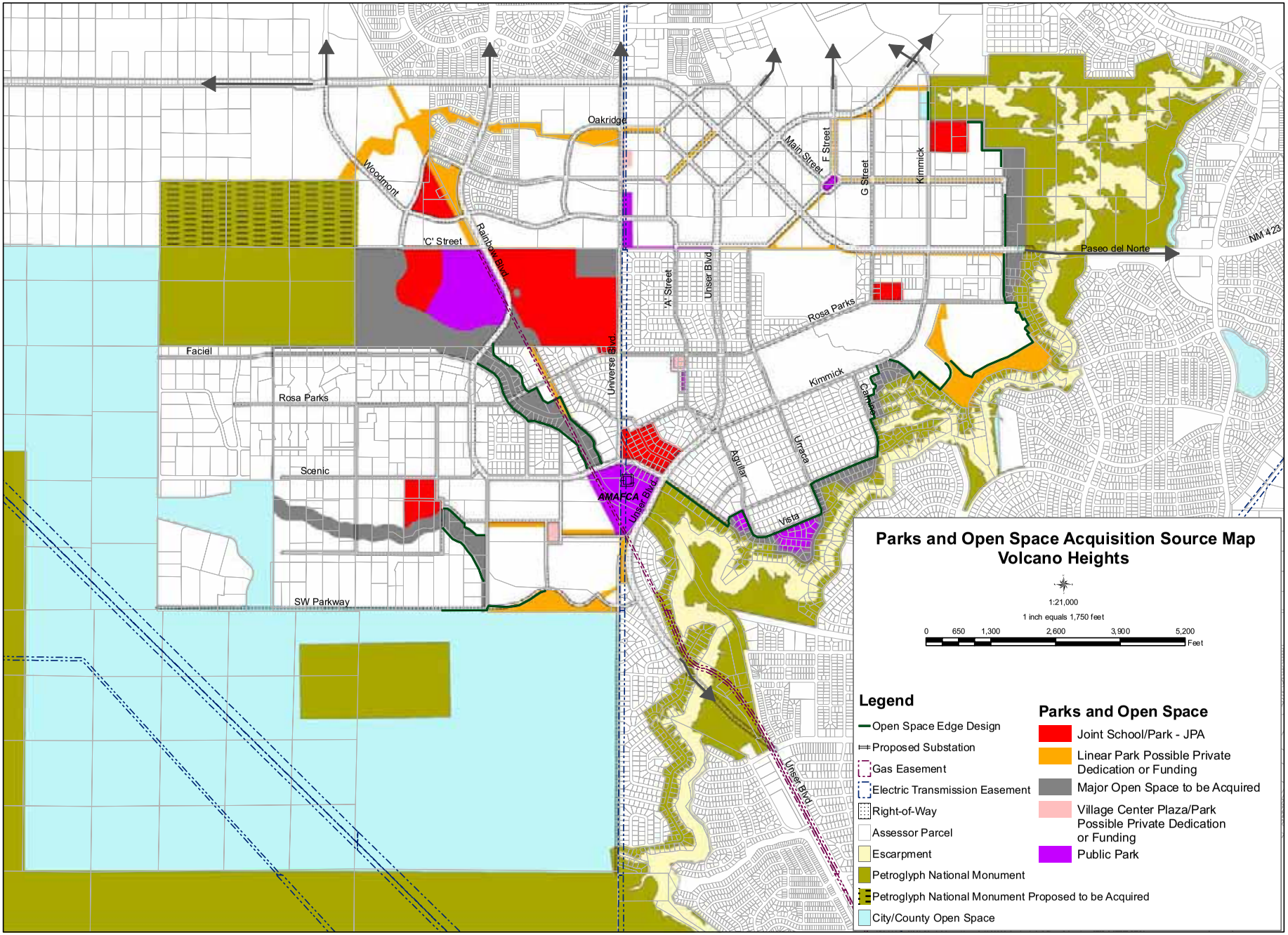
Paved widths shall be minimized where roadways cross arroyos (no parking or shoulders), and culverts shall be sized to accommodate the migration of wildlife.

Stormwater. The City of Albuquerque and AMAFCA shall develop standards to mitigate the impact of run-off on arroyos and the Monument. The National Park Service has a policy of no developed flows in the Monument, and ~~a~~ all needed development plans ~~is needed to~~ shall address how flows will be mitigated ~~flows~~. Standards shall be developed (or project-specific studies shall be requested) for roadway and development projects. Features to be considered include: piping to maintain natural flows, energy dissipating rockery, swales, drywells and other infiltration features. Stormwater features shall have a natural appearance. (See section on *Landscaping Design*)

SECTION 8. ADJACENCY TO OPEN SPACE.

On-site open space. On-site open space areas, as indicated in subdivision, site plans, and master plans including those developed for Public Infrastructure Districts / Special Assessment Districts, and Tax Increment for Development Districts, shall be designed to connect with adjacent open space as indicated on Exhibit 29 and also with Mixed-Use Trail shown in Exhibit 30 and Bicycle Trail show in Exhibit 21. The location and design of private open space shall be consistent with the conservation of the multiple resources of the Petroglyph National Monument, Major Public Open Space, and archeological sites.

Development adjacent to open space. Within the range of residential and non-residential densities provided as indicated in Table 5 and Table 6, the lower densities of the range and less intense uses shall border the open space.


Parks and Open Space Acquisition Source Map
Volcano Heights
1:21,000
1 inch equals 1,750 feet
0 650 1,300 2,600 3,900 5,200
Feet
Legend
Open Space Edge Design
Proposed Substation
Gas Easement
Electric Transmission Easement
Right-of-Way
Assessor Parcel
Escarpment
Petroglyph National Monument
Petroglyph National Monument Proposed to be Acquired
City/County Open Space
Parks and Open Space
Joint School/Park - JPA
Linear Park Possible Private Dedication or Funding
Major Open Space to be Acquired
Village Center Plaza/Park Possible Private Dedication or Funding
Public Park
Oakridge
Woodmont
'C' Street
Rainbow Blvd
Main Street
F Street
G Street
Kimmick
Paseo del Norte
NM 423
'A' Street
Unser Blvd.
Rosa Parks
Faciel
Universe Blvd.
Kimmick
Camino
Urraca
Agular
Vista
Scenic
AMAFCA
Unser Blvd.
SW Parkway
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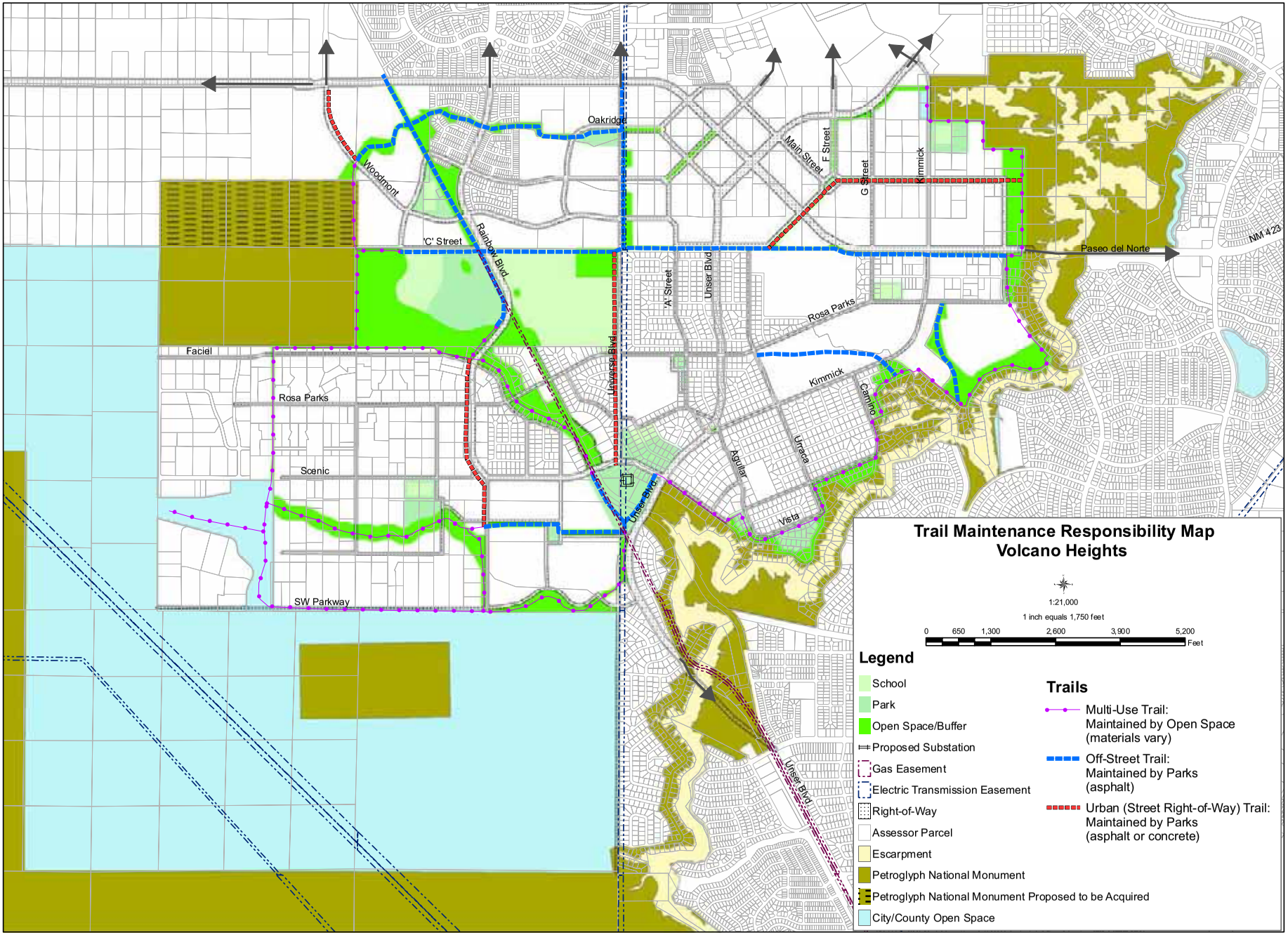
Trail Maintenance Responsibility Map
Volcano Heights
1:21,000
1 inch equals 1,750 feet
0 650 1,300 2,600 3,900 5,200
Feet
Legend
School
Park
Open Space/Buffer
Proposed Substation
Gas Easement
Electric Transmission Easement
Right-of-Way
Assessor Parcel
Escarpment
Petroglyph National Monument
Petroglyph National Monument Proposed to be Acquired
City/County Open Space
Trails
Multi-Use Trail: Maintained by Open Space (materials vary)
Off-Street Trail: Maintained by Parks (asphalt)
Urban (Street Right-of-Way) Trail: Maintained by Parks (asphalt or concrete)
Oakridge
Woodmont
'C' Street
Rainbow Blvd
Main Street
F Street
G Street
Kimmick
Paseo del Norte
NM 423
'A' Street
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Aguilar
Vista
Scenic
SW Parkway