IV
Urban Design

1. Intent

Urban design considers the inter-relationship among buildings, streets, private open space (like yards and courtyards), and publicly-accessible open spaces (like parks, plazas, and conservation areas). For Volcano Heights, urban design standards focus on ways to make places where walking is a more attractive option, where a sense of community is fostered, where resources are used more efficiently, and where the scenic beauty of the area is celebrated. The Urban Design element seeks to establish functional relationships that foster healthy communities, add economic value, and to enhance Albuquerque's aesthetic character. These objectives are essential, not only for the well-being of local residents and workers, but also as an important ingredient for attracting and retaining businesses in a global economy.

Neighborhoods & Mixed-Use Centers. Walkable mixed-use neighborhoods and mixed-use centers provide the basic building blocks for more livable—and environmentally sustainable—places. Design plays a vital role in their creation. At a large scale, the arrangement of complementary land uses and transportation can influence how easily people can walk to local destinations or transit. At the scale of the street, landscaping and street-facing building entrances and windows create community-supportive places that support neighborhood life, discourage crime, and make walking an attractive alternative to the car. At the scale of the building, porches, overhangs and other architectural features offer protection from heat and reduce energy use.

Pedestrian-Supportive Environments. Good design influences how people perceive a neighborhood or city. Design can help make mixed-use centers (with shops, businesses and housing) vibrant and make residential neighborhoods more welcoming. Perhaps the most important "framework" for community life is how buildings face streets and open spaces. Windows should create the possibility that someone is watching, and therefore discourage unwanted behavior. Ground-floor entrances and (where viable) shops help make streets more active. In more urban locations, buildings will frame streets spatially, and building design and construction communicate a sense of pride and permanence. Furthermore, buildings shall reflect Albuquerque's unique climate and architectural traditions, and thoughtful site design should offer views toward the volcanoes, Sandia Mountains, and Rio Grande.

Business Destination. Businesses are increasingly concerned with the quality of life and housing opportunities that are available to their workforce. Thus, these urban environments increasingly influence where businesses choose to locate. Volcano Heights character, the West Side's well-educated workforce, and regional access provided by Unser, Paseo del Norte and regional transit, will help recruit businesses to the Area and improve the West Side's jobs-housing balance.

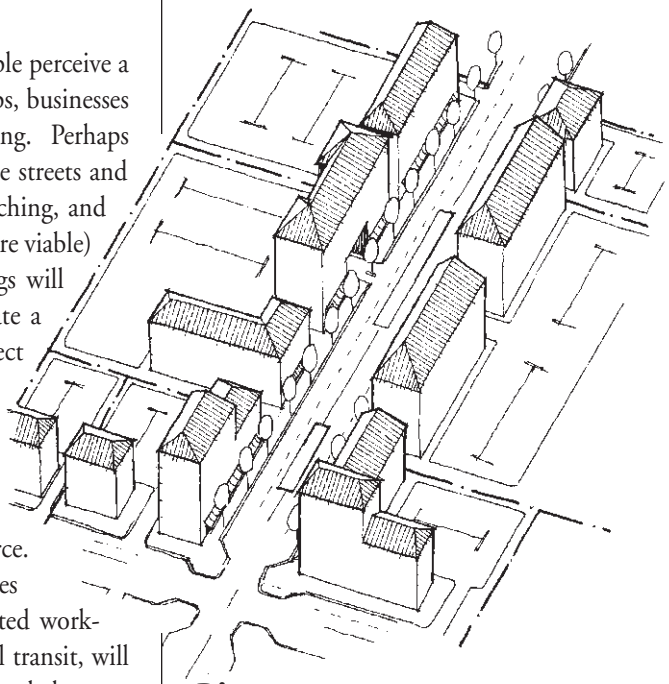


Diagram 11
Desirable Building Street Pattern

Great Streets. The design of streets influences community life. Streets can do more than move traffic. Residential streets can provide a safe place where neighbors come together and where children play, but they must be designed to calm traffic. Shopping streets can provide a stimulating place where people come together to people watch and participate in community life. Frequently traveled streets are places where residents can enjoy scenic views as part of their daily lives.

Conserving Nature & Celebrating Volcano Heights' Scenic Beauty. The Sector Plan contains many provisions for minimizing the environmental impacts of development by setting development back from arroyos, open space and the escarpment contained in the Petroglyph National Monument, and by clustering buildings to maintain large contiguous expanses of open space. Many of the area's unique outcroppings will also be conserved. These open spaces and others will form a connected network of open space, which will contain trails, maintain scenic views, and connect residents to the area's unique wildlife and plant life.

Residential Neighborhoods. Street- and courtyard-facing residences—with entrances and windows facing pedestrian paths—support neighborhood life and improve safety. They make activity along the street more likely and make walking more inviting—whether it is to run an errand or use transit. Street-facing buildings, keep "eyes on the street" and deter unwanted behavior. Furthermore, when paired with calm streets, street-facing architecture can encourage neighbors to come together and socialize.

Not all residential buildings must have an entrance that faces a street. Buildings facing courtyards or natural open space are also acceptable if a direct path to a street is provided. While all residences need not face a street, all streets must have building windows and entrances that face onto them. Street-facing buildings are essential for safety, visual interest, and neighborhood life. Conversely, blank walls, garage doors, and parking lots have deleterious effects on streets (and parks), and shall be avoided or mitigated.

These standards as contained in the following regulations seek to ensure these critical dimensions for accomplishing a healthy and attractive neighborhood, while allowing flexibility with regard to style and use.

Diverse housing opportunities also support community health. Housing diversity allows all stages of life to be accommodated within the same community. It also provides opportunities to know and interact with neighbors from all walks of life, which benefits the health of the city as a whole. Traditional neighborhoods often provide a variety of single-family homes, townhouses, duplexes and apartments. Single-family detached homes can also vary considerably in building size, lots size and design. Development projects are increasingly recognizing the benefit of mixing housing types to provide a greater range of options and accelerate the rate at which homes can be sold.

Urban Residential Neighborhood

2. Building Heights & Setbacks

Within 200 feet of open space and parks, within Areas adjacent to the Escarpment Face, designated as Conservation and Impact within the Northwest Mesa Escarpment Plan, as specified in **Exhibit 29, *Building Height Volcano Heights,*** buildings shall be limited to 15 feet in height (The overlap of the Conservation Area and Impact Area in the Northwest Mesa Escarpment Plan and the land uses within the *Volcano Heights Sector Development Plan* is shown in "Appendix A".

Table 11
Building Heights and Setbacks

Primary Building	Town Center	Village Center	Neigh Mixed Use	Urban Resid	Office	Suburb. Resid. Small Lot	Suburb. Resid. Large Lot	Exec. Resid.	Rural Resid.
Building Height (1,2)	65' max (5 st.) 26' min (2 st.)	35' max (3 story) (7) 26' min (2 story)			52' max (4 st.) (7) 26' min (2 st.)	26' max (2 story)	18' max (1.5 story)		
Street-Facing Setback with Ground-Floor Storefront (3,4)	0' min. 5' max.			not applicable					
Street-Facing Setback without Ground-Floor Storefronts (4,5)	5' min. 10' max.					5' min 15' max	10' min. 20' max.	20' min. no max.	
Interior Side Setback (from property line)	attached or 5' min.					5' min.	10' min.		
Interior Side-Side Separation (btw. adjacent buildings)	attached or 10' min.					10' min	10' min.		
Interior Rear Setback (from property line) (6)	5' min. from alley row; 15' min. if no alley (projects < 10 acres only) *(7)* & 0' if detached garage					5' min. from alley row, 0' if detached garage, 15' if no alley	10' min. from alley row; 30' min. if no alley		
Interior Rear-Rear Separation (btw. adjacent buildings) (6)	attached or 30' min.					30' min.		40' min.	
Interior Side-Rear Separation (btw. adjacent buildings) (6)	attached or 15' min.					20' min	30' min.		

(1) Occasional projections may extend 10' beyond these height limits, such as chimneys, cupolas, flagpoles, and screened equipment.

(2) Within 300 feet of the BRT Transfer Station in the Town Center, building heights may extend to 90 feet (7 stories) for a building footprint area not to exceed 20,000 square feet total.

(3) Features that may encroach into sidewalk right-of-ways up to the maximum specified: eaves (4' max.), awnings (8' max.), and minor ornamental features (2' max.). Over sidewalks, projections must be more than 8 feet above finished grade.

(4) Buildings used to meet Street Frontage requirements (noted below) should not exceed the maximum street-facing setback indicated. Maximum setback requirements do not apply to buildings that are not being used to meet Street Frontage requirements.

*(5) Features that may encroach into street-facing setbacks (but not street right-of-ways), up to the maximum specified: arcades & trellises (to */street r.o.w.), porches & stoops (8' max.), eaves (4' max.), awnings (8' max.), and minor ornamental features.*

(6) In all zones, detached garages may come within 0 feet of rear and side property lines.

(7) The portion of a structure in the Village Center, Office, Neighborhood Mixed Use, and Urban Residential zones that is within 35' of parcel in the Suburban Residential – Large Lot zone, shall have a height limitation of 26 feet.

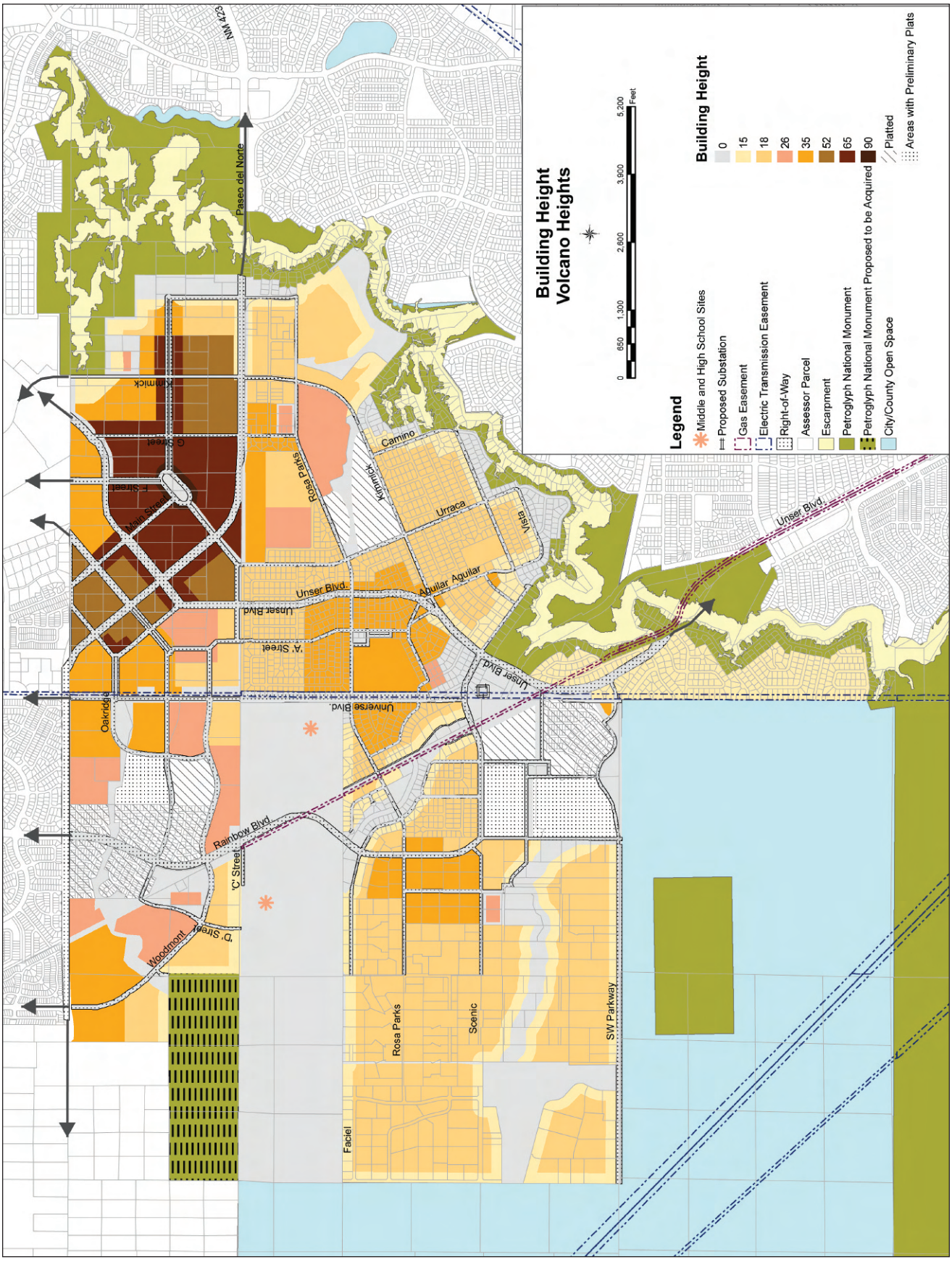

Building Height
Volcano Heights
0
650
1,300
2,600
3,900
5,200
Feet
Legend
Middle and High School Sites
Proposed Substation
Gas Easement
Electric Transmission Easement
Right-of-Way
Assessor Parcel
Escarpment
Petroglyph National Monument
Petroglyph National Monument Proposed to be Acquired
City/County Open Space
Building Height
0
15
18
26
35
52
65
90
Platted
Areas with Preliminary Plats
Paseo del Norte
Kimmick
Camino
Rosa Parks
Urraca
Vista
Unser Blvd.
Aguilar
Universe Blvd.
'A' Street
Oairidge
Rainbow Blvd.
'C' Street
'D' Street
Woodmont
Rosa Parks
Scenic
SW Parkway
Faciel

Exhibit 29

3. Public Building Standards

Public buildings should have greater height at the entry. Positioning of an entry or tower at the end of a street vista can be a very effective statement emphasizing the prominence of public buildings.

Building Height: 39 foot (3 story) maximum; 24 foot (1.5 story) mininimum

Setbacks:

Street-Facing Setback (from property line):

- 10 foot minimum; 30 foot maximum (to meet Frontage requirement below)
- Interior Side Setback (from property line): 15 foot minimum; no maximum
- Interior Rear Setback (from property line): 20 foot minimum; no maximum

Street Frontage. Public building fronts shall be built to within 20 feet of a street right-of-way for at least 300 feet or 50% of all available street frontage on each block face, whichever is less. To be counted toward this requirement, buildings must meet Entry & Transparency requirements (see below), and may not be separated from the street by on-site parking or drive lanes. Landscaped plazas and/or passages may be used in lieu of buildings for up to 10% of the required frontage.

Parking Lots. Parking lots should be placed to the rear and side of buildings. Parking lots shall not comprise more than 25% or 130 feet of the total available street frontage whichever is less.

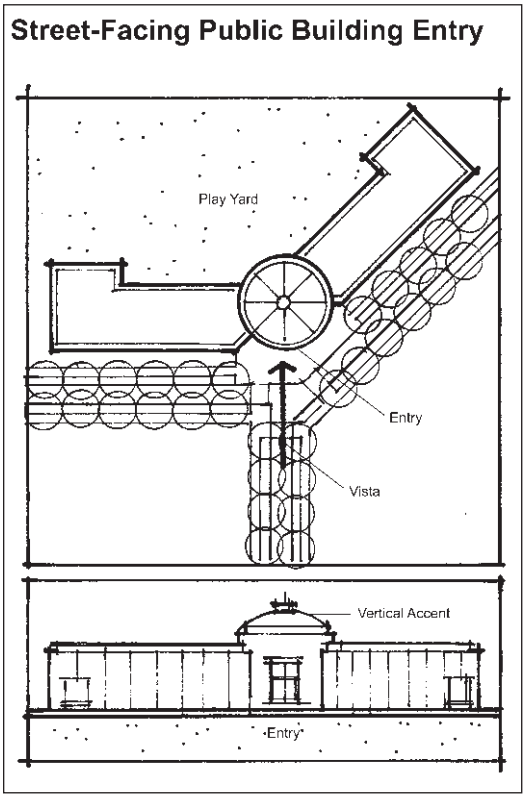


Diagram 13

Walls & Fences. Walls & fences shall conform to requirements noted within Landscape Design. In addition, gates shall be provided to provide direct connections between streets and on-site destinations. A pedestrian path and gate shall be provided at least every 300 feet.

Building Entry. Street-facing entrances shall be built to within 30 feet of a street right-of-way, and should be accompanied by additional building height and/or hardscaped forecourt for visual emphasis.

Vistas. Street-facing entrances (and accompanying height) should be positioned to accentuate vistas (or directed views) at the end of streets or where streets turn.

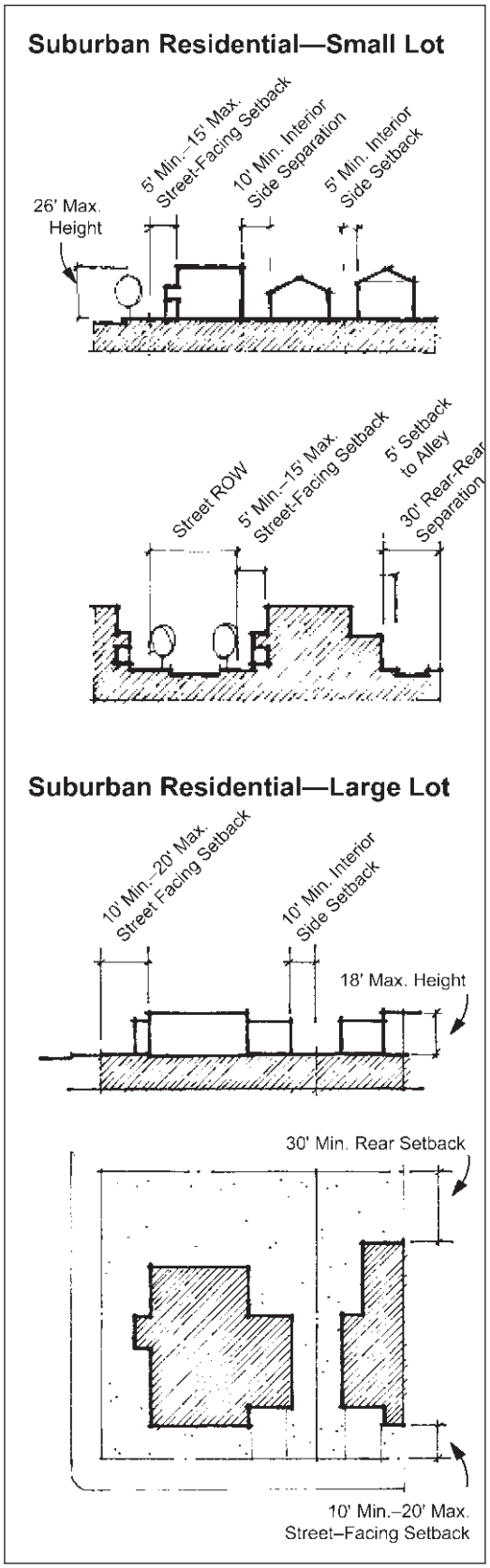


Diagram 12

Building Transparency. At least 35% of the area of street-facing elevations shall be comprised of windows and/or entrances. Measure Transparency by taking the total area of all windows and entrances, and dividing it by the total area of the street-facing building elevation. Glass block, mirrored glass, frosted glass, clerestory windows (sill heights over 5 feet from floor-level), and other obscured openings may not be used to meet this requirement. (Additional requirements for windows are contained in Architectural Standards.)

Play Areas. Ideally, the edge of play areas should abut natural features or parkland. Where the edge of play area abuts rear-yard fences or walls, landscaping shall maintain clear lines of sight for security.

Civic Tower—Santa Fe

4. Other Essential Building-Street Relationships

Street-facing Development. The Illustrative Plans in "III. Land Use" contain Urban Form Diagrams that show locations in each Center where building within 5 feet of a public sidewalk is required.

Storefronts are strongly encouraged in Town Center, Village Center, and Neighborhood Mixed Use zones and should be street-facing. Uses that qualify as Storefronts are: retail shops, personal services, restaurants, cafes, entertainment establishments, professional offices, day care, health clinics, community uses, and other uses that contribute similar levels of activity and visual interest to the street. To qualify as a Storefront, buildings must also conform to the Building Frontage, Setback, Entry, and Transparency requirements described below.

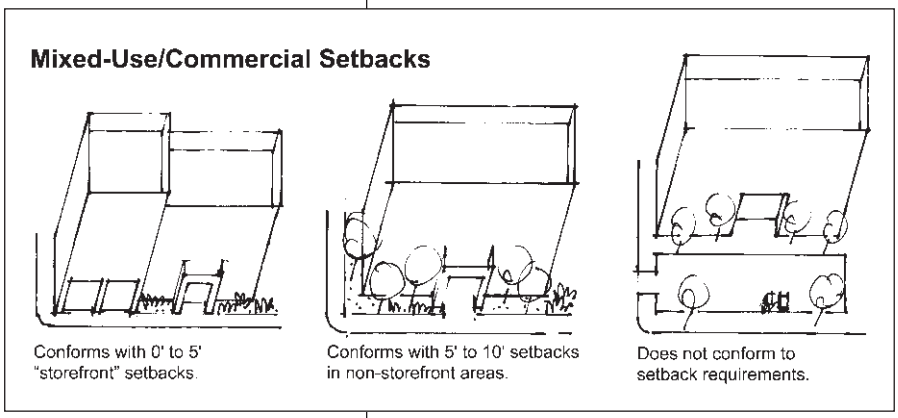


Diagram 14

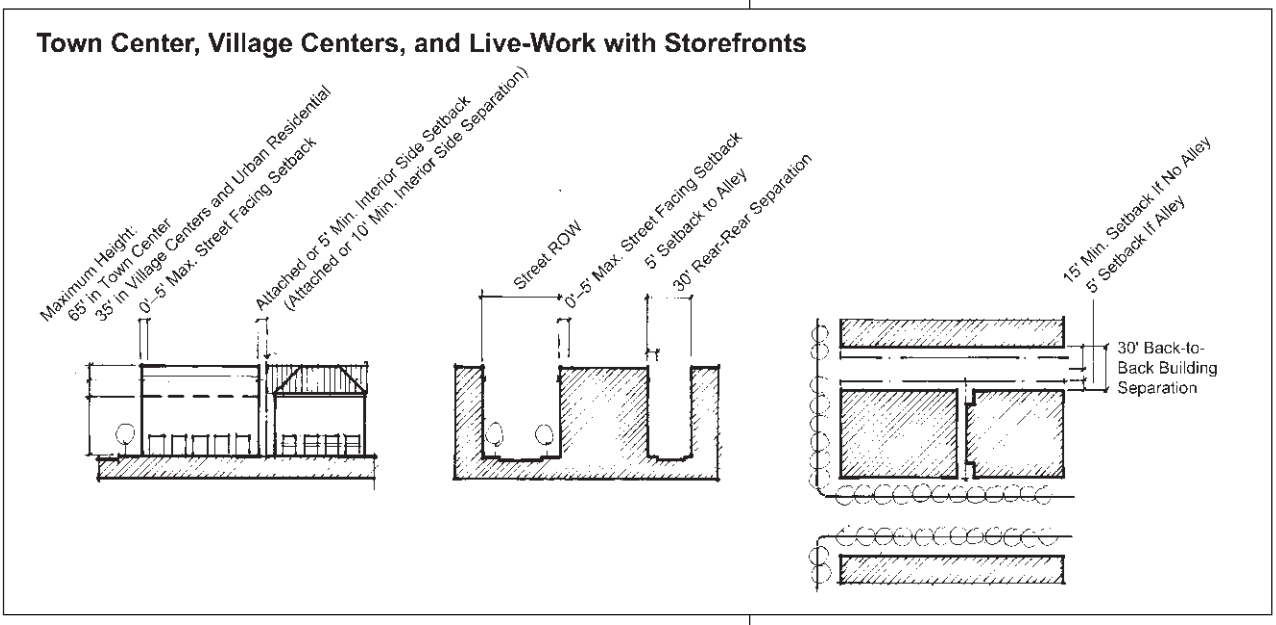
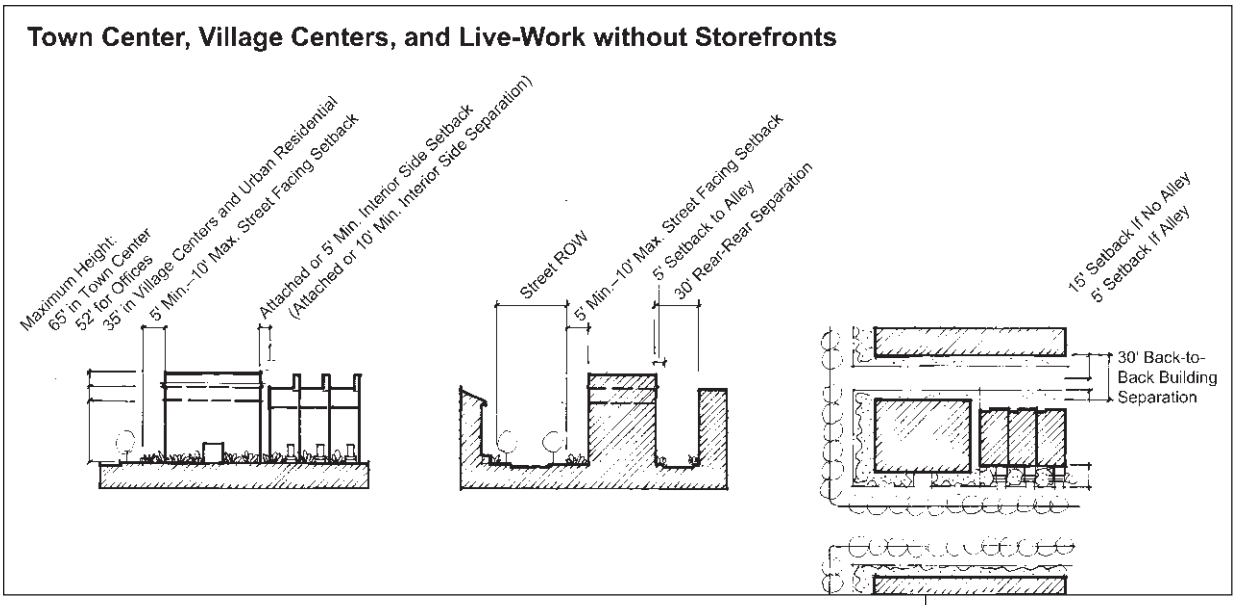


Diagram 15

Diagram 16



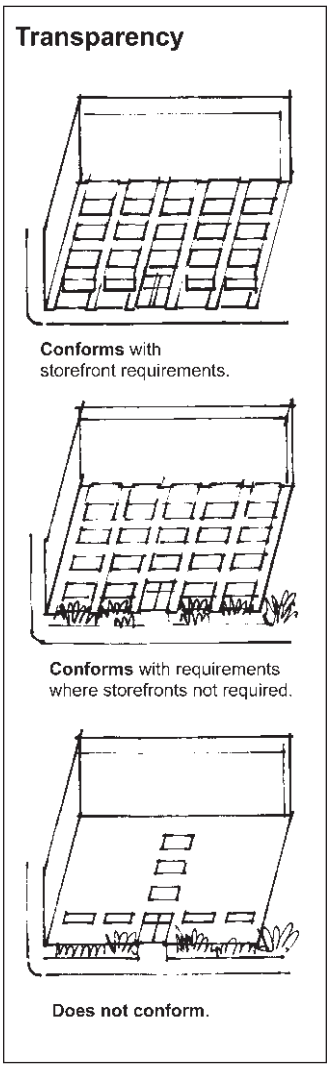


Diagram 18

Street Frontage Length. All streets shall be lined as specified below by buildings with windows and entries, not parking lots nor garage doors. In Town Center, Village Center, Office, and Neighborhood Mixed Use areas, building façades shall occupy at least 75% of the available street frontage on each side of a block (i.e. each block face). A substantial part, not less than 50%, of the building façades shall be accompanied by portals, verandas, or arcades. In Urban Residential areas, building façades should occupy at least 50% of the available street frontage on each block face.

To be counted toward this requirement, buildings must be within the maximum allowable street-facing setback (see "Setbacks" above) and meet Entry & Transparency requirements (below). Qualifying buildings may not be separated from the street by on-site parking or drive lanes. Landscaped plazas and/or passages may be used in lieu of buildings for up to 10% of the available frontage. The required frontage may be reduced to provide a single 20 foot driveway, where site access cannot be provided otherwise. Blocks must conform with "Block Size" requirements (see "II. Transportation, 2. Street Network" element). Construction may be phased along a block face, but a developer guarantee shall be required to enforce this provision.

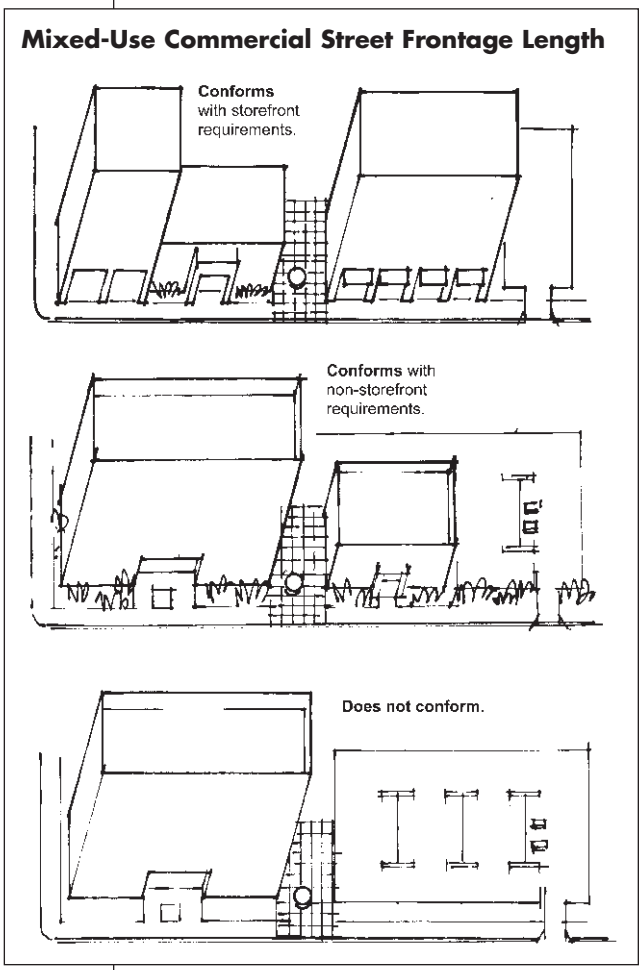


Diagram 17

Building Entry. (See **Diagram 19,** ***Street Facing Residential Entries*** and **Diagram 20,** ***Buildings Oriented to Courtyard****)* Primary entries for new buildings shall connect to a street via a sidewalk, connecting directly and visibly from the street where possible, otherwise connecting via landscaped courtyard(s) or plaza(s). To be clearly expressed and provide shelter from sun and rain, residential building entries shall have the following features with the floor area stipulated below.

- **Apartment buildings–** a covered porch or interior vestibule with 60 sq. ft. floor area and at least 6 feet clear in any direction; interior vestibule entry doors shall be accompanied by an overhang and clear glazing within the door or immediately to the side of the door;
- **Single-family detached houses–** a covered porch with 100 sq. ft. floor area and at least 6 feet clear in depth and 12 feet clear in width.
- **Townhouses–** a covered porch, veranda or stoop with 40 sq. ft. floor area and at least 6 feet clear in any direction.

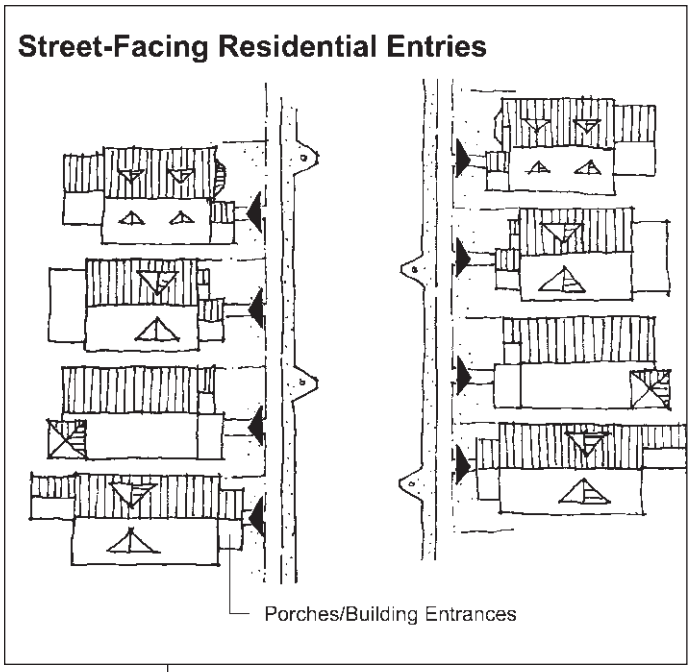


Diagram 19

Building Transparency. At least 25% of the area of street-facing elevations shall be comprised of windows and/or entrances. To qualify as a Storefront, at least 50% of the ground-floor elevation shall be comprised of windows and/or entrances. Transparency is measured by taking the total area of all windows and entrances, and dividing it by the total area of the street-facing building elevation. Glass block, mirrored glass, frosted glass, clerestory windows (sill heights over 5 feet from floor-level), and other obscured openings may not be used to meet this requirement. (Additional requirements for windows are contained in "Architectural Standards".)

Garages for Residential Building Types. Within the Town Center, Village Center, Urban Residential, Neighborhood Mixed use, and Suburban Residential–Small Lot zones, garage access shall be off alleys except where lot access cannot be otherwise provided in which case they shall be accessed via a side drive where one of the garage sides abuts the rear edge or the Building Envelope or the back yard setback, or attached to the back of the house within the Development Envelope.

Within the Suburban Residential—Large Lot zone, garages shall be accessed via alleys, a side drive where one of the garage sides abuts the rear edge of the Building Envelope or the backyard setback, or attached to the back of the house within the Development Envelope.

Within Executive Residential, and Rural Residential zones, garages shall be via a side drive and may not comprise more than 30% of any single family street facing façade and shall be set back at least 25 feet from the street or 10 feet behind the front façade, whichever is greater.

These standards do not apply to parking structures that are addressed elsewhere.

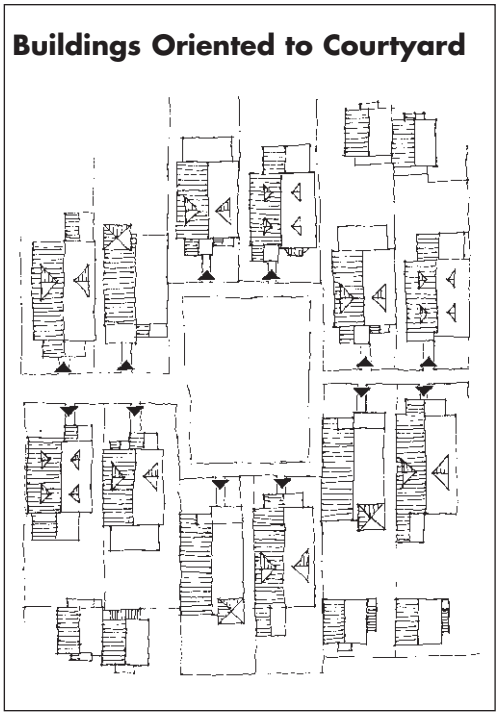
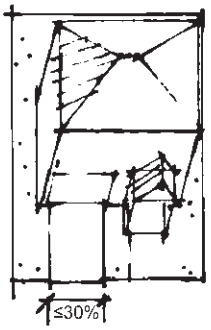


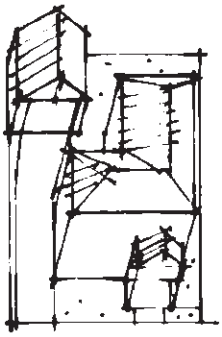
Diagram 20

Garages and Residential Street Frontage

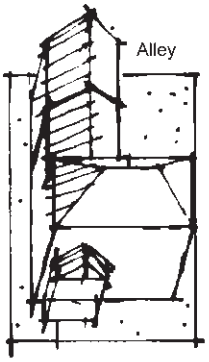
Single-Family



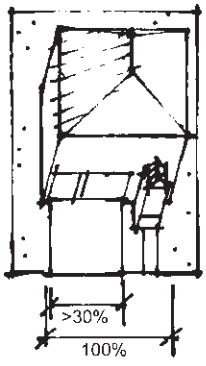
Executive Residential and Rural Residential conforms.
Garage 30% or less of front facade.



Conforms.
Garage accessed via side drive.

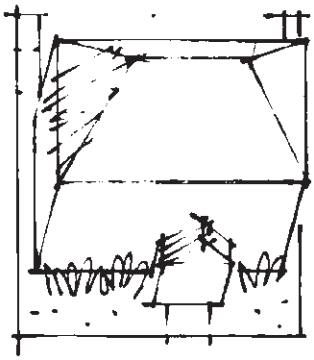


Conforms.
Garage accessed via alley.

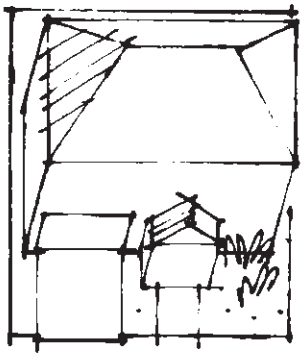


Does not conform.
Garage over 30% of front facade prohibited in Executive Residential and Rural Residential areas; all front garages prohibited in other areas.

Multi-Family



Conforms.
Alley accessed garage.



Does not Conform.
Garage on front facade.

Diagram 21

5. Parking Standards

Projecting Demand. For individual uses, peak demand for individual uses should be calculated by using **Table 12, *Peak Demand for Individual Uses*** (below) and by applying reduction factors for mixed-use development and proximity to transit.

Residential entries dominated by garage doors not permitted.

Table 12
Parking Standards
Peak Demand for Individual Uses

Amusement enterprises	1 space per 4 occupants
Banquet halls	1 space per 4 seats
Bars, pubs, and cocktail lounges	1 space per 4 seats
Cultural facilities	1 space per 3 seats
Churches and other places of worship	1 space per 4 seats
Cinemas, theatres, & auditoriums	1 space per 3 seats
Community & Recreation Facilities	1 space per employee plus 1 space per 1,000 square feet, plus curbside drop-off
Financial, insurance, & real estate services	3 spaces per 1,000 square feet (net leasable area)
Food stores	3 spaces per 1,000 square feet (net leasable area)
General merchandise retail	3 spaces per 1,000 square feet (net leasable area)
Health clubs	3 spaces per 1,000 square feet (net leasable area)
Lodging	1 per room
Parks, Plazas & Passive Open Space	On-Street within 1 block, unless demand is demonstrated to be higher. 5 to 7 off-street parking spaces to accommodate ADA parking and parents with strollers.
Personal services	3 spaces per 1,000 square feet (net leasable area)
Professional services	3 spaces per 1,000 square feet (net leasable area)
Residential and Live-Work	1 space per 1 bedroom & studio 1.5 spaces per 2 bedrooms 2 spaces per 3+ bedrooms
Residential Accessory Units	1 space per unit
Restaurants	1 space per 4 seats
Retail trades	3 spaces per 1,000 square feet (net leasable area)

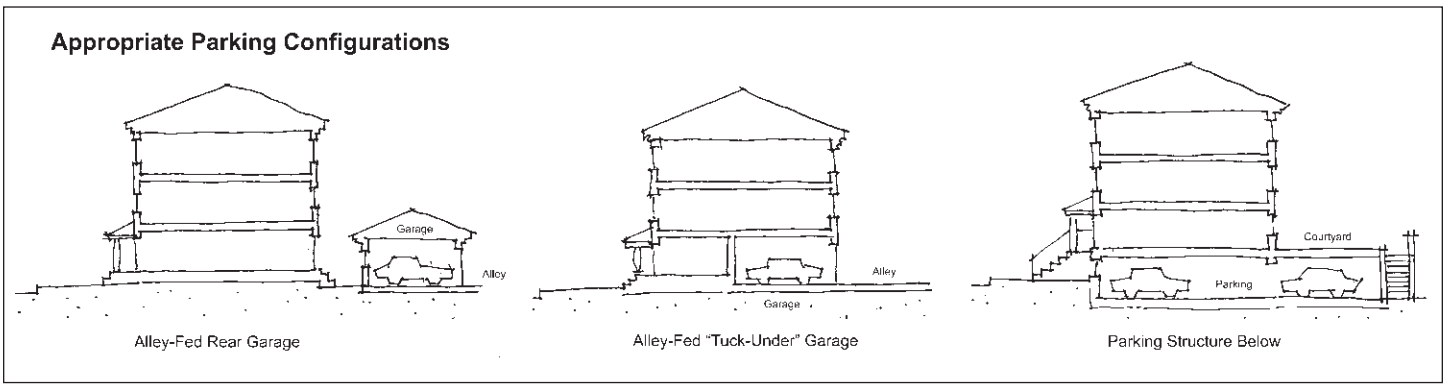


Diagram 22

Parking reductions may be taken for the following.

- Uses in mixed-use Village Center or Town Center, or within 650 feet of a Village Center or Town Center, may factor a 20% reduction in parking requirements.
- Uses from 650 feet to 1300 feet of a Village Center or Town Center may factor a 10% reduction in parking.
- Uses within 650 feet of Bus Rapid Transit stops may factor a 20% reduction in parking requirements.
- Uses from 650 feet to 1300 feet of Bus Rapid Transit stops, or within 650 feet of other bus stops, may factor a 10% reduction in parking requirement.

Reduction factors may be added together where uses are near both a mixed-use center *and* transit but the total will not exceed 30% reduction.

Calculating Supply. Parking requirements shall be met by considering the sum of all on-site parking (at surface and in structures), *plus* on-street parking contained within or immediately adjacent to the project, plus contributions made by off-site parking facilities within 900 feet (including joint use facilities).

Parking Dimensions–On-Site. Parking spaces shall be assumed to have a length of 18 feet; this may be reduced to 16 feet where cars can overhang wheel stops or curbs. Standard parking spaces shall have a width of 9 feet, and compact parking spaces shall have a width of 8.5 feet. Within every parking lot or garage, up to 25% of all spaces shall be compact and shall be dispersed throughout any lot.

Parking Dimensions–On-Street. On-street parking spaces shall have a length of 20 feet and a width of 7 feet.

Landscaping. Surface parking shall have one tree planted adjacent to every six parking spaces. Diamond-shaped tree wells (approximately 5 feet x 5 feet) are an efficient means to meet this requirement, as they take advantage of car overhangs. Surface parking lots may not exceed a dimension of 260 feet in any direction without providing a landscaped pedestrian walkway.

Parking Location & Design. Street Frontage requirements (see "4. Other Essential Building-Street Relationships" above) necessitate that parking lots be placed to the rear or side of buildings. Where parking lots abut streets, a 5 foot landscaped setback shall be provided, which shall contain a 3 foot hedge or screen wall.

Parking Structures. Street Frontage requirements apply. Parking structures shall contain ground-floor storefronts or residences along 80% of any street-facing frontage.

Neighborhood Permit Parking. Neighborhoods adjoining a Town Center, Village Center, Neighborhood Mixed Use Area, Office Campus, high school site, and access points to the Petroglyph National Monument, parks, and open space may initiate a petition and establish a Neighborhood Permit Parking system without regard to the percentage of on-street parking spaces used by persons who are not residents of the neighborhood.

6. Conservation Development and Development Envelopes

Intent and Definitions

The *Comprehensive Plan, West Side Strategic Plan* (WSSP), and the *Northwest Mesa Escarpment Plan* (NWMEP) provide substantial support preserving open space, the landscape and other features of the natural environment, and view corridors within the Volcano Heights Plan Area. An adopted goals of the WSSP is "Protecting significant natural assets of the West Side escarpment, bosque, open space, views, clean air and water" (Goal 6). WSSP Policy 7.10 states: "The City of Albuquerque…shall protect and expand both public and private open space on the West Side…Private developers are encouraged to include open space in all major private developments…" Both the *Comprehensive Plan* (Policy 5.f) and the WSSP (Policy 7.24) endorse "cluster housing to provide more open space and efficient provision of infrastructure . . . ." In the NWMEP, Policy 11-5 states "Private open space shall be left in its natural undeveloped condition . . . ." This guidance applies to the Conservation and Impact Areas in the NWMEP, but here we have applied it to the Volcano Heights Plan Area more broadly.

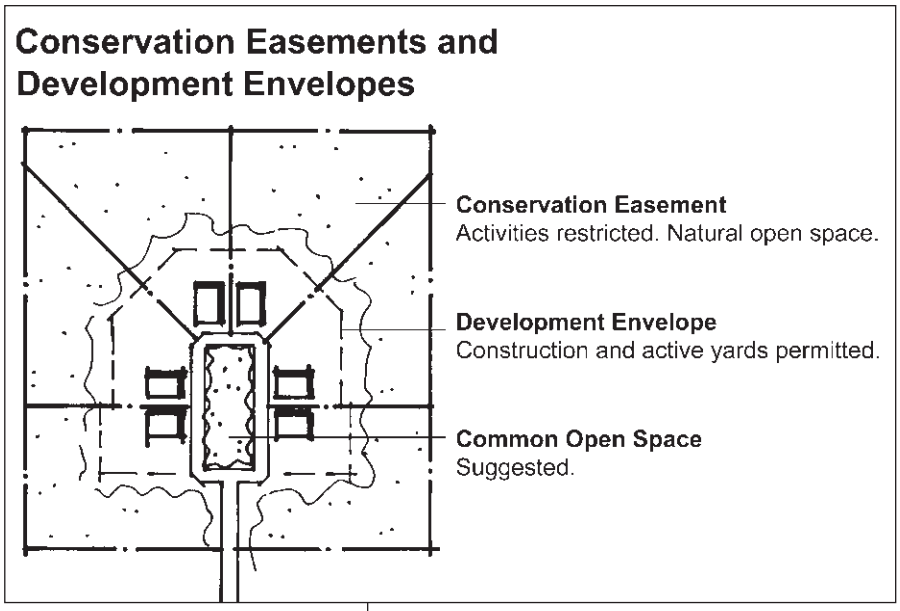


Diagram 23

These policies are incorporated into the *Volcano Heights Sector Development Plan*, as described below, through:

- Large minimum residential lot sizes in the Executive Residential and Rural Residential zones especially,
- Development Envelopes,
- Conservation Easements,
- Trails / Linear Parks Dedication Requirements,
- Clustering,
- Appropriate Development Regulations.

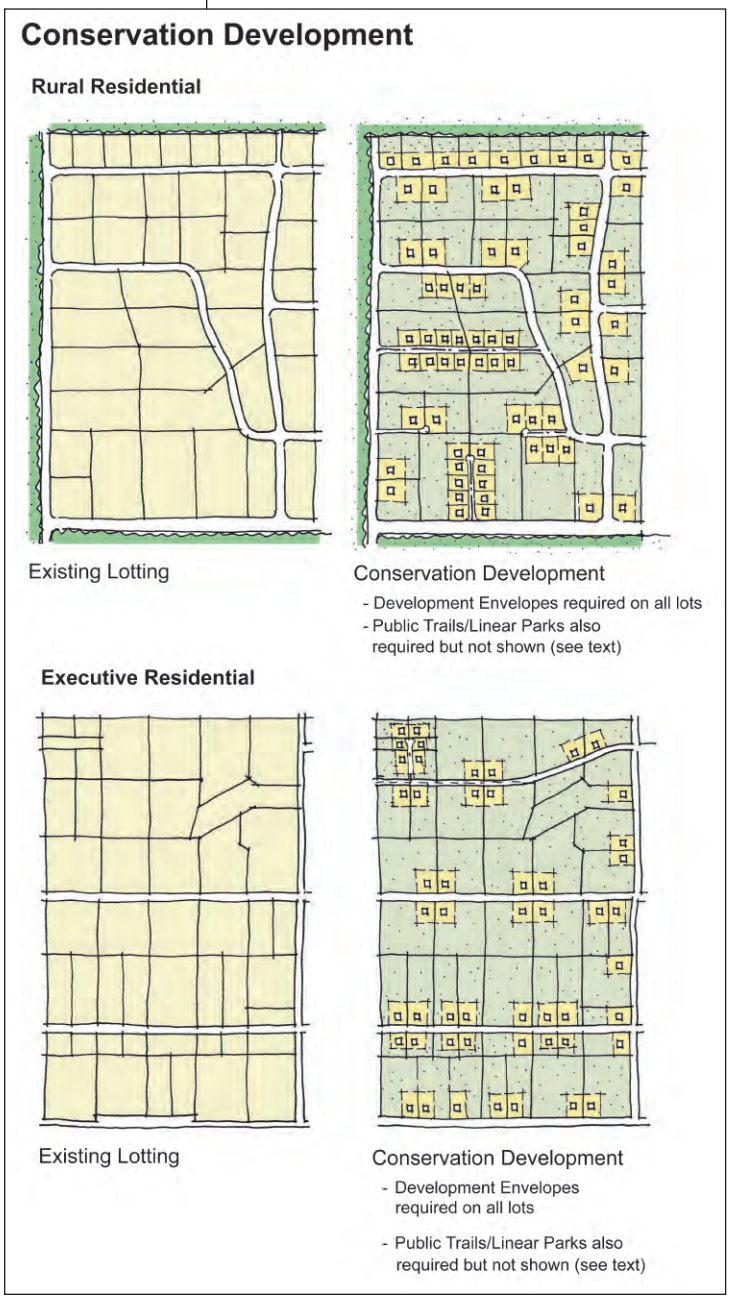
Conservation Easements. Conservation Easements are permanent deed restrictions that limit construction and ecologically-harmful activities on a portion of a property that is owned by an individual. Except for restrictions on construction and certain activities, areas held in Conservation Easements remain available for private use and enjoyment. Conservation Easements provide a buffer to ecologically-sensitive areas. Conservation Easements also increase the potential for long views that are uninterrupted by development. Conservation Easements rarely contain provisions for public access. (The donation of a conservation easement may be considered to be a tax-deductible gift, provided that the easement is perpetual and donated exclusively for conservation purposes to a qualified conservation easement or public agency.)

Development Envelope. That portion of an individual's property that is not within a Conservation Easement is called the Development Envelope. Limits on construction

are similar to those that apply to other developable areas. Landscaping within the Development Envelope is allowed using Plant List B (See section "V. Architectural and Landscape Design, 4. Landscape Design Standards"). Walls and fences as provided in these regulations also are allowed for the purpose of enclosing private areas, mitigating noise, and providing security.

Clustering. Clustering is the practice of bringing together two or more Development Envelopes. Clustering provides a larger, more contiguous ecological buffer area, uninterrupted by structures or environmentally damaging activities. Clustering also reduces the visual profile of development and provides longer, uninterrupted views. Combined with Conservation Easements, Clustering is an important ingredient for maintaining the rural character of an area.

Diagram 24



Subdivision of Large Lots. In the Executive Residential and Rural Residential zones, subdivision of existing large parcels into large lots is possible, with public trails / linear park dedication requirements. The resulting private open space areas will help maintain the scenic quality of these areas by providing long views and by conserving unique features like small arroyos and rock outcroppings.

Requirements

Conservation Easements & Development Envelopes. Conservation Easements shall be established on private lots for areas outside of designated Development Envelopes as specified below. The size of the Development Envelopes varies by zone and parcel size.

In Conservation Easement areas, permanent deed restrictions shall prohibit: pasturing of livestock; gardening; the use of cars, motorcycles, or other motorized equipment; grading and construction (except to provide a 12 foot maximum width side yard driveway, an 8 foot maximum front walk, utility access, and a trail between Development Envelope and adjacent public open space and trails) and clearing and planting of vegetation (except for habitat restoration using Plant List A, see section "V. Architectural and Landscape Design" under "Landscape Design Standards"). Lot perimeter fencing is limited to post and wire. Disturbance of the soils in the Conservation Easement must be remediated using Plant List A (in "Appendix C"). Damage to slope shall be mitigated and rock outcrops shall be protected as provided in section "VI. Open Space, 5. Archeological Resources". Naturalized stormwater features may be constructed, but must be based on a plan endorsed by both a qualified biologist and qualified hydrologist. Note that there are special design regulations for some development areas adjacent to open space and the Monument. These are covered in the Open Space Section of the Plan.

Public Trails / Linear Parks. Properties in Executive Residential and Rural Residential zones shall dedicate land to Public Trails / Linear Parks (as described by tables at the end of this section). These land dedication requirements are based on the planning objectives below.

Public Trails / Linear Parks shall be multi-use, follow the topography of the environment, and be 30 foot minimum width and located approximately 1/4 mile from other trails and open space areas. Trails shall be designed to connect with adjacent open space as indicated on **Exhibit 33, *Open Space and Scenic Corridors Diagram*** and also shown in **Exhibit 34, *Multi-Use Trail Network*** and shown in **Exhibit 24, *Bicycle Trail Network***. 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. Trails shall be designed within master plans including those developed for Public Infrastructure Districts / Special Assessment Districts.

In Executive Residential Zone, it is assumed that three east-west and two north-south Public Trails / Linear Parks are needed. The north-south Trails shall be located approximately (a) from the north fork of the Boca Negra Arroyo just west of the Urban Residential zoned land adjacent to the Rainbow Village Center to the park / school site just north of the Middle Fork of the Boca Negra Arroyo; and (b) approximately midway between the trail in "a" above and the north-south Trail / Linear Park dividing the Executive Residential Zone and the Rural Residential Zone. The three east-west Trails shall be located approximately: (a) just south of the Middle Geologic Window from Moqui Street to the edge of the Rural Residential Zone; and (b) equally divided the area north of the Middle Fork of the Boca Negra Arroyo into three areas.

In the Rural Residential Zone, it is assumed that two east-west and one north-south Public Trails / Linear Parks are needed. The north south Trail is shown on the land use map dividing the Executive Residential Zone and the Rural Residential Zone from the North Geologic Window to the City Open Space at the west end of the Middle Fork of the Boca Negra Arroyo. One east west trail shall continue the trail just south of the Middle Geologic Window from Moqui Street to the edge of the Rural Residential Zone so that it connects to the City Open Space on the west side of the Plan Area. The other east west Trail shall continue the middle Trail through the Executive Residential Zone to the City Open Space on the west.

Fences between Public Trails / Linear Parks and private lots shall be designed to permit the movement of wildlife at their base. Post and wire fence shall be 3 inch-4 inch diameter wooden posts, approximately 36 inches in height, spaced about 15 feet apart, with no more than 4 strands of non-barbed wire. (See **Exhibit 32, *Allowed Perimeter Fencing*** for example)

Clustering. To "cluster" development, Development Envelopes shall abut a street or abut a neighboring Development Envelope. At least one side of a Development Envelope constituting at least 20% of the perimeter of the Development Envelope must be completely adjacent to another Development Envelope or to a street if an adjacent Development Envelope is not accessible. Clustering of two or more Development Envelopes is encouraged within Executive Residential and Rural Residential Zones and is required in the Suburban Residential–Large Lot zone.

Conservation Design Features

Ecologically and cultural sensitive area. Community Easements shall conserve ecologically and culturally sensitive areas. Ecologically sensitive areas may include arroyos and rock outcroppings and other natural areas with more abundant vegetation and wildlife. Culturally sensitive areas may include archeological sites and areas where development may be visually intrusive, as seen from public open spaces or frequently traveled roads.

Drainage. Impermeable surfaces shall not cover more than 50% of Development Envelope areas in Executive Residential and Rural Residential zones and 68% of the Development Envelope in the Suburban Residential–Large Lot zone. Stormwater shall not be concentrated, except through the use of naturalized swales. Stormwater features that occur outside of Development Envelopes, driveways, or street rights-of-way must be based on a plan endorsed by both a qualified biologist and qualified hydrologist.

Rural Streets. Only local streets with no parking (24 foot paved width) or one-side parking (28 foot paved width) shall be used in Executive Residential and Rural Residential areas. Gravel shoulders may be provided. Curbs shall not be used, except where needed to address site-specific erosion issues.

Trails. The trail network should connect to streets with signed trailheads.

Subdivision of Large Lots Provisions. Smaller lots sizes shall be granted, consistent with the following table. This table indicates minimum lot sizes and Trail / Linear Park Dedication Requirements for Executive Residential and Rural Residential Zones. Per the City Zone Code, parcels smaller than the minimum lot size are grandfathered and may contain no more than one residence and an accessory unit.

Table 13
Minimum Lot Size and Trail/
Linear Park Dedication Requirements

	Minimum Lot Size	Trail / Linear Park Dedication Requirement
Executive Residential	1 acre (43,000 s.f.)	5%
Rural Residential	2 acres (87,000 s.f.)	3%

Rural Residential–Private Commons Development

As addressed in "7. Rural Residential–Private Commons Development" in the "III. Land Use" section, Private Commons Development (PCD) is a permitted use in the SU-2 Rural Residential Zone in order to achieve a greater amount of private open space, private commons, clustering of homes, and smaller Building Envelopes.

A Private Commons Development may be established on a lot 4 acres or more in size within the Rural Residential Zone. The use is limited to single family residential with no accessory unit. The Public Trail / Linear Park Dedication shall be 3%. The private open space in the Conservation Easement shall be 65% of parcel size after the Trail / Linear Park Dedication. The Minimum Lot Size / Development Envelope shall be no larger than 15,000 sq. ft. and no smaller than 14,000 sq. ft. with 50% maximum impermeable surface.

Building Envelopes shall be clustered on two sides if possible. The area outside the Development Envelopes is the Conservation Easement, as provided above, and shall be a private commons and shall not be fenced except at the periphery of the parcel. The maximum building heights, setbacks, architectural design standards, placement of mechanical units, grading and drainage plan, landscape design standards, parking, lighting, design of walls and fences, and other design standards shall be as provided for the Rural Residential Zone in this Sector Plan.

A PCD is created through a Site Development Plan utilizing the approval process provided in Section 14-16-2-22 ROA 1994 SU-1 Special Use Zone and specifically for Planned Residential Development (PRD).

Development Envelopes

Development Envelopes are required for Suburban Residential–Large Lot, Executive Residential, and Rural Residential Areas regardless of whether a Density Bonus is applied.

Development Envelopes define an area in which buildings (including accessory structures), landscaping (restricted to the plants contained in Plant List B), construction activity, walls and fences, and recreational activities are permitted. Impermeable surfaces shall not cover more than 50% of Development Envelope areas in Executive Residential and Rural Residential zones and 68% of the Development Envelope in the Suburban Residential–Large Lot zone. Stormwater shall not be concentrated, except through the use of naturalized swales.

The sizes of Development Envelopes are restricted as follows.

- Development Envelopes in Rural Residential areas shall not exceed 20,000 square feet for lots 87,000 sq. ft. or larger. For lots 30,000 sq. ft. or smaller, the Development Envelope standard for Suburban Residential-Small Lot shall apply, i.e. 6,500 sq. ft or 50% of the parcel size whichever is greater. For lots greater than 30,000 sq. ft. and smaller than 87,000 sq. ft., the Development Envelope shall be 50% of the parcel size whichever is greater not to exceed 20,000 sq. ft.
- Development Envelopes in Executive Residential areas shall not exceed 15,000 square feet for lots 43,000 sq. ft. or larger. For lots 20,000 sq. ft. or smaller, the Development Envelope standard for Suburban Residential-Small Lot shall apply, i.e. 6,500 sq. ft or 50% of the parcel size whichever is greater. For lots greater than 20,000 sq. ft. and smaller than 43,000 sq. ft, the Development Envelope shall be 50% of the parcel size whichever is greater not to exceed 15,000 sq. ft.
- Suburban Residential–Large Lot. There are two standards for the Suburban Residential Area. Development Envelopes are the areas in which construction activity may occur and Plant List B must be used. (See "4. Landscape Design Standards" in section "V. Architectural and Landscape Design"). Development Envelopes shall not exceed 7,000 sq. ft. or 50% of the lot size, whichever is greater. This total does not include a drive access to the Development Envelope and a front walk which shall be direct and not wider than 12 feet and 8 feet respectively. Backyards are contained within Development Envelopes and are areas where recreational activities may occur. (See "4. Landscape Design Standards" in section "V. Architectural and Landscape Design") Backyards only shall be located behind the residence.

V
Architectural and Landscape Design

I. Intent


Suburban Residental Neighborhood

Suburban Residential Neighborhood

Public Purpose. Several policies in the *Comprehensive Plan* and *West Side Strategic Plan* address design. The *Comprehensive Plan* supports design standards that are "appropriate to the Plan area" (Policy 5.l), and that "preserve and enhance…cultural and historical features that identify Albuquerque…sub-areas as distinct communities" (Policy 8). The *West Side Strategic Plan* contains an objective to "preserve a sense of community and quality of life" (Objective 4) and envisions more detailed designed guidelines to be developed in subsequent Plans such as this one (Policy 4.6). The concepts of quality, place, community and neighborhood identity are supported in the Volcano Heights Plan by architectural and landscape regulations as provided here and elsewhere. In part, these are related to approved building and landscape materials but also are fostered by distinct themes in the built and natural environment established through regulations that are compatible with the unique natural environment of the area and that foster a sense of place and identity that are important to people's sense of well being.

Quality. The quality of individual buildings contributes to the sense of place and permanence. These architectural and landscape standards apply to individual buildings, lighting, utilities, walls, and landscape design, with the intent of creating a high quality built environment with lasting character that draws on southwestern regional styles and traditions. Individual design expression and the diverse character of the land use districts can all flourish within an overall framework of quality.

Climate. Architectural elements respond to unique southwestern climatic conditions. This means providing shade as relief from harsh sunlight and heat, and conserving water.

Views. In order to fully understand the rationale for the regulations related to the visual qualities of buildings and landscaping, it is necessary to understand the importance of the area culturally and to the rest of the city. Ruth Eisenberg in communication with members of Save the Volcanoes expressed the visual significance of the Escarpment in 1980: "When people say 'volcanoes' they do not mean the cones and nubbins alone…. They are referring to the desert sloping up gradually, the expanse ending in the row of cones which seem to accentuate our sky, especially at sunset." Many points throughout the city offer panoramic views of the full length of the volcanic flows.

An analysis of the views of Volcano Heights and from Volcano Heights provides the basis for regulations dealing with color, reflectivity, lighting, building materials, and landscape design. To minimize the visual impact of development, predominant colors used on structures will blend with the natural colors of the mesa.

2. View Shed Findings

The Volcano Heights Plan addresses preserving views and visual experiences especially related to the volcanic cones, the buffer edge of the Escarpment, Rio Grande, and Sandia Mountains. A background discussion related to these concerns is contained in section "I. Conditions and Considerations, 2. The Meaning of Place: Natural / Cultural Features."

The objectives include preserving views:

- Of the Volcanic cones from within the Volcano Heights Plan Area and the rest of the city of Albuquerque to the east,
- Minimizing the visual impact of Volcano Heights development, especially along the Escarpment edge, to the city of Albuquerque,
- Protecting views from key cultural locations including from the Volcanic cones and the Petroglyph cluster within the North Geologic Window to the Rio Grande and the Sandia Mountains; minimizing the visual impacts of Volcano Heights development from these locations.

The Volcano Heights Plan establishes building height restrictions consistent with these objectives. These objectives are also addressed through architectural standards such as building materials, reflectivity, and color. Others are achieved through providing facilities such view points on the Escarpment and calling for streets to be aligned to preserve views.

Analysis

A View Shed analysis was conducted to determine what could be seen from different locations within Volcano Heights and the city assuming that the area was completely developed at the maximum heights allowed. This was done by building a 3-D computer model of the land use plan and then moving the "observation point" to different locations. The light green shading in the Exhibits that accompany this discussion indicates what is visible from the observation point.

Views from Volcano Heights Looking East

The views from Volcano Heights to the east are shown in **(Exhibit 30, *View Shed Analysis from Observation Points 1 and 2*)**. Observation 1 is from a point within the North Geologic Window containing a number of Petroglyphs. The Planning Team was told that active Pueblo cultural practices call for protecting this view. The map indicates it will be possible to see from the foothills to the crest of the Sandia Mountains from this location assuming development as in the land use plan. The light green shading in these Exhibits indicates what part of the landscape it is possible for one to see from the Observation Point. Apparently it will not be possible to see the Volcano Heights buildings from this location.

An analysis was conducted from each of the Volcanic Cones as separate observation points. Observation 2 from the northernmost volcano is typical of the results. From the northernmost Volcanic Cone one has an almost uninterrupted view to the east toward the Volcano Heights Plan Area, the Rio Grande, city of Albuquerque, and the face of the Sandia Mountains beyond.

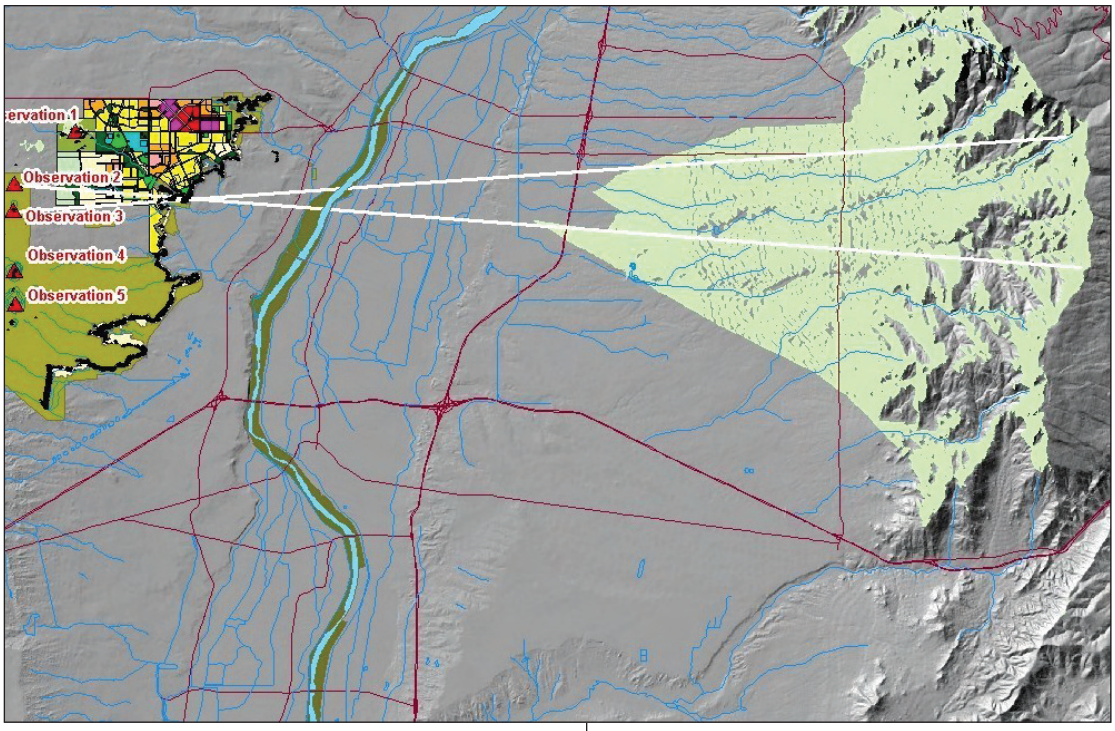
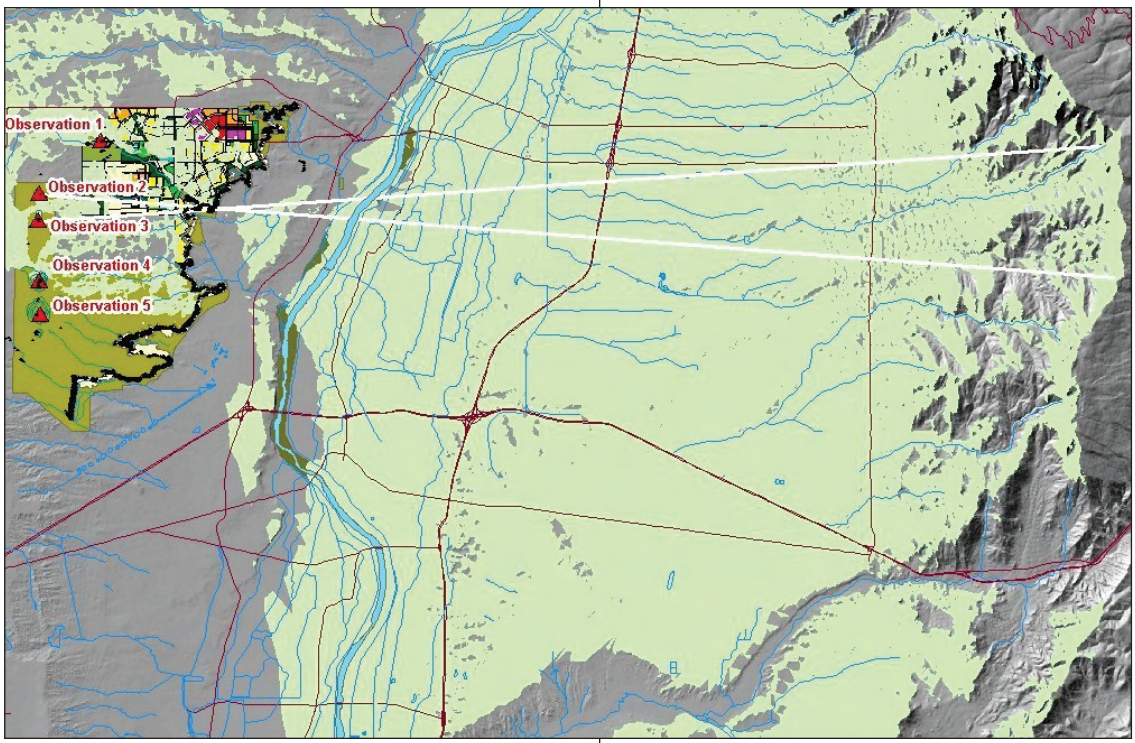


Exhibit 30
View Shed Analysis from
Observation Point 1

Both the maps in Exhibit 30 indicate the part of the Sandias within lines that start at the tops of the two northernmost volcanoes and move through the concentration of Petroglyphs on the Escarpment at the Boca Negra arroyo. As indicated in section "I. Conditions and Considerations, 2. The Meaning of Place: Natural / Cultural Features" an important path for Native Americans was from the former Pueblos along the Rio Grande along the Boca Negra arroyo to the North Geologic Window and these two volcanoes. Some traditional Pueblo people place importance on the straight line connections between landscape features. In this case, these lines frame the least steep and most accessible route from the Sandia foothills to the Crest. It is assumed that this path was used to access shrines and other resources on the face and crest of the Sandias.



View Shed Analysis from
Observation Point 2

Views from the City of Albuquerque to Volcano Heights

The View Shed (indicated in light green) from Observation Point 6 (See **Exhibit 31, *View Shed Analysis from Observation Points 6 and 9)*** is from an observation point at Paseo del Norte and Golf Course Road. This map indicates that the only buildings that could be built in a small portion of eastern edge of the La Cuentista subdivision may be observable from this location.

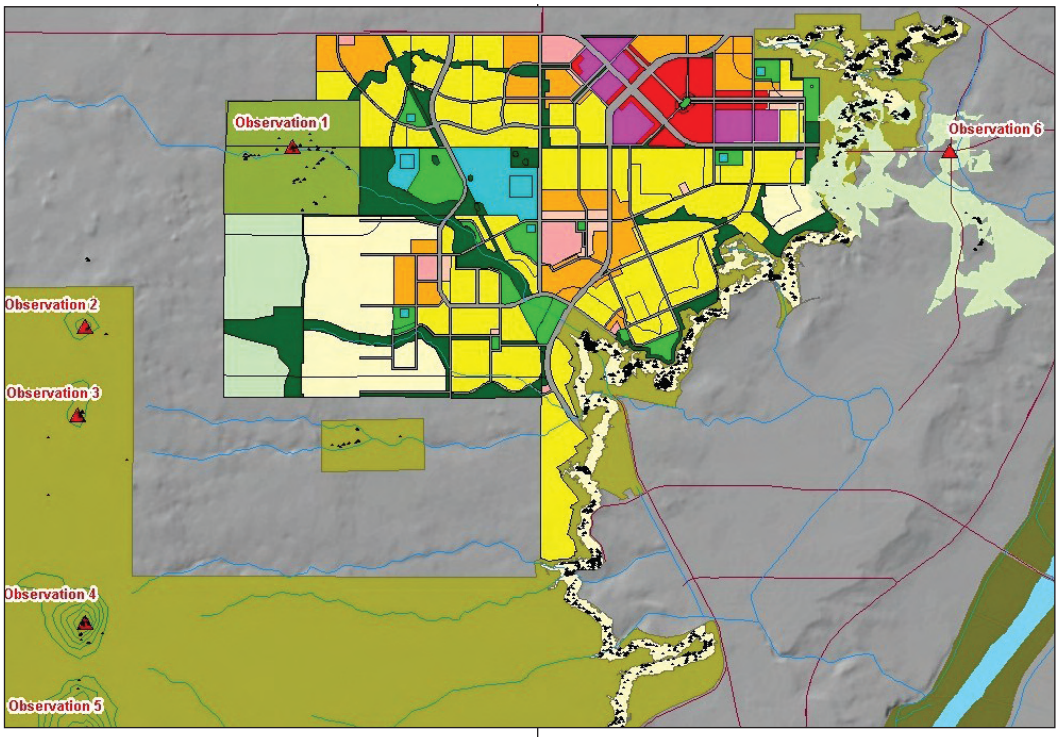
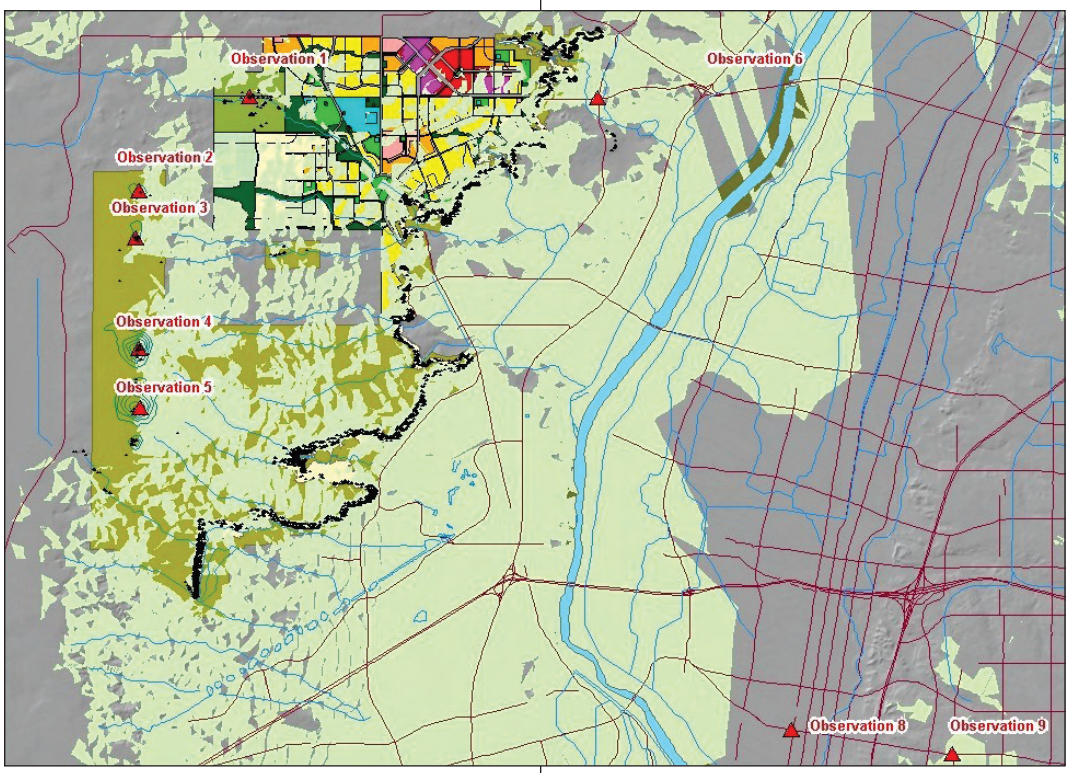


Exhibit 31
View Shed Analysis from Observation Point 6

This situation changes materially when the observation points are moved further east and south. The views from the overpass at Interstate 25 and Paseo del Norte and from a point at the University of New Mexico (Observation 9) are nearly the same. One is able see development on the eastern portion of Volcano Heights–SAD 227, further north and east within Volcano Heights, and the eastern parts of the Town Center and the Universe Village Center. Importantly, one is also able to see the lower density executive and rural residential areas to the west of the Universe Village Center to the Volcanic cones. The views appear to be unimpeded from these locations in the city to the open space in the Petroglyph National Monument.



View Shed Analysis from Observation Point 9

Conclusion

The View Shed analysis found that:

- Important views from locations within Volcano Heights to the Rio Grande basin, the city of Albuquerque and the Sandia Mountains are protected; and
- Development within Volcano Heights will be visible from most of the City of Albuquerque; hence care needs to be taken in order to achieve non-visually intrusive development especially in the lower density residential areas and in all of Volcano Heights.

3. Architectural Design Standards

Architectural Design Standards are applied to all uses as specified below.

Climatic Response. Building elements that shelter pedestrians such as portals and arcades are required as specified in the "Urban Design" section. Windows and openings shall be deeply recessed or accompanied by verandas, deep eaves, or metal, glass, or cloth awnings. These responses to climate reduce solar gain with traditional southwestern features.

Building Walls. Walls shall be stucco, masonry, rammed earth, adobe, native stacked stone (or synthetic equivalent), or straw bale. Plain block is not allowed for exterior walls. Wood and reflective panels shall not be used as an exterior finish. Stucco and concrete shall have integral color. Veneer materials shall extend around exterior corners at least one foot. Brick coping and trims as per traditional New Mexico architectural styles are permitted. Steel and synthetic wood substitutes are permitted for trim and detailing. Massing and articulation are required to be developed so that no more than 60 feet of wall may occur with an offset vertically or horizontally of at least 24 inches, or at same intervals, a change in material may be used for articulation. For free-standing walls see "Walls & Fences" in "4. Landscape Design Standards".

Posts & Beams. Exterior posts and beams shall consist of heavy timbers, concrete or steel. Beams made of composition or laminated wood are not to be used.

Roofs. Roof forms shall be traditional to New Mexico. Reflective roofs are prohibited. Parapets shall hide flat roofs. Asphalt shingle and mansard roofs are prohibited. Solar panels are permitted. Flashing shall match roof or building color.

Windows. Windows shall be recessed in the façade so that the glass plane is a minimum of 1 1/2" back from the external plane of the adjacent wall. Glass on any surface shall not be reflective or mirror glass, that is, glass having greater than 15% average daylight exterior reflectance. Highly reflective or mirrored glass is prohibited. Glass for non-residential and mixed-use areas shall have light transmission between exterior and interior rated at a minimum of 90% for the ground story and at least 75% for the upper stories (modifications permitted as necessary to meet any applicable building and energy code requirements).

Entrances, Porches, Stoops & Vestibules. See "4. Other Essential Building-Street Relationships" described earlier in "IV. Urban Design".

Color. Building walls and roofs in lower density residential areas (i.e. Suburban Residential–Small Lot, Suburban Residential–Large Lot, Executive Residential, Rural Residential zones) shall not use bright colors (accept as accents). Buildings throughout shall not use highly reflective surfaces. Colors used on building walls and roofs within all lower density residential areas (Suburban Residential–Small Lot, Suburban Residential–Large Lot, Executive Residential, and Rural Residential zones), shall use earth tones and reflectivity standards consisting of "Approved Colors" specified in the Plan Appendix. Mechanical devices, roof vents and screening materials are also subject to this regulation, as are fences and walls. Trim materials constituting less than 10% of the façade's opaque surface may be any complementary color.

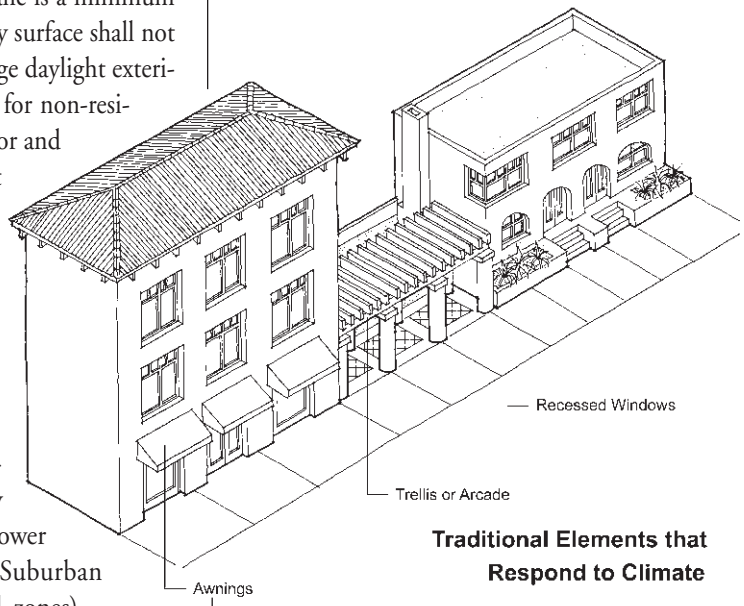


Diagram 25
Traditional Elements that Respond to Climate

Within Town, Village centers, Neighborhood Mixed-Use, Office Campus, and Urban Residential Districts, colors outside the Approved Colors list may be used.

Service Areas. Service areas shall not be visible from streets or public open spaces. They shall be located away from streets or recessed within the building envelope. Service areas recessed within the building envelope, and facing streets or public open spaces, shall not comprise more than 20% of a building's linear frontage; and be accompanied by roll-up doors. Free-standing equipment and refuse containers shall be screened from view of streets and public open space.

Commercial Signage. Signs shall complement adjacent architecture. Appropriate signage includes blade signs, awning signs, and wall-mounted or hanging metal panel signs. Internally illuminated box signs, billboards, roof-mounted, free-standing, any kind of animation, and painted window signs, and signs painted on the exterior walls of buildings are not allowed. No flashing, traveling, animated, or intermittent lighting shall be on or visible from (i.e. through windows) the exterior of any building.

Wall signs are permitted within the area between the second story floor line and the first floor ceiling within a horizontal band not to exceed 2 feet in height. Letters shall not exceed 18 inches in height or width and 3 inches in relief. Company logos or names may be placed within this horizontal band or placed or painted within ground floor or second story office windows and shall not be larger than a rectangle of 8 sq. ft. Projecting signs may not be more than 24 inches by 48 inches and a minimum 10 feet clear height above the sidewalk and may be hung below the third story level. Signs may not project more than 36 inches perpendicular to the right of way beyond the façade.

Awnings shall be cloth or equivalent, metal, or glass. "Quarter-cylinder" awning configurations are not permitted. Lettering on awnings is limited to 9 inches in height.

Equipment & Antennas. Mechanical equipment and antennas shall not be visible from a street or public open space. Equipment may be recessed within the profile of the building, or it may be screened architecturally, such as though the use of false dormers, parapets or cupolas. Roof-mounted heating and air conditioning equipment shall be fully screened from views, both from the ground and from the escarpment. Screening materials shall be of Approved Colors in "Appendix B" of this Plan.

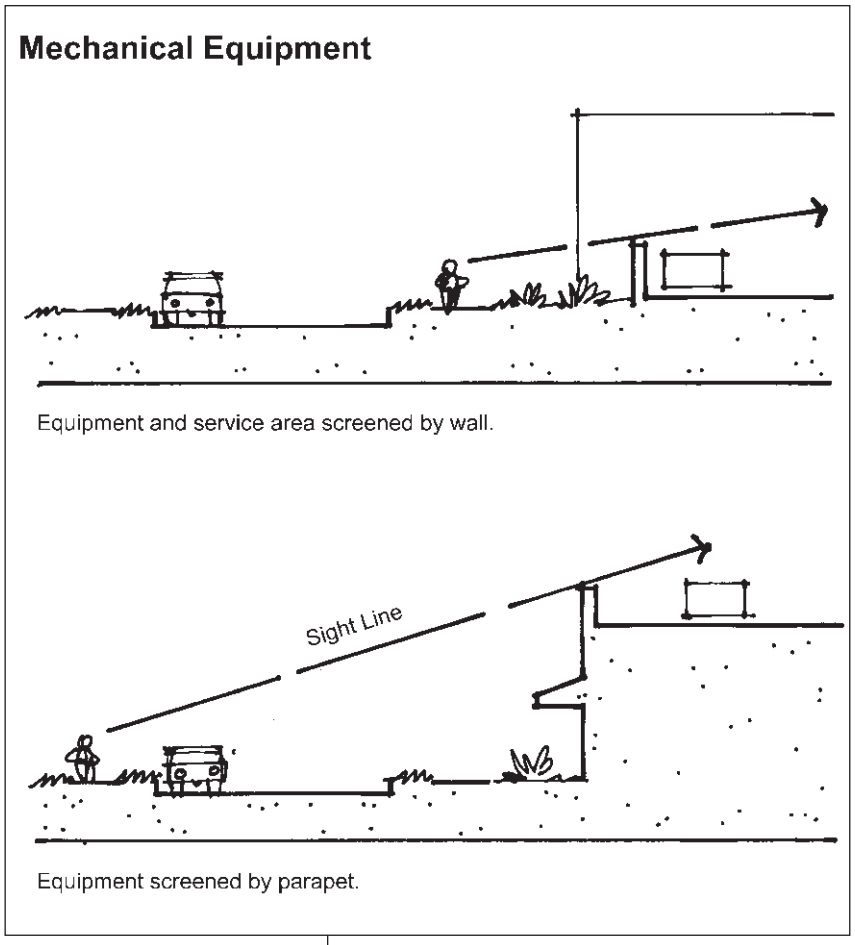


Diagram 26

Energy-Efficient Buildings. Buildings that are energy efficient are strongly encouraged. One or more of the following features shall be included in building design:

- interior daylighting;
- fluorescent lighting;
- shaded windows;
- heat-exchange units;
- super-insulated low-emissive windows;
- passive solar heating;
- passive solar hot water;
- natural cross-ventilation;
- highly efficient appliances, heating and cooling systems; and
- generation of electricity through wind generation and photovoltaics.

Arroyos, Petroglyph National Monument Buffer, and Other Public Open Space Corridors. See "8. Scenic Corridors" in "VI. Open Space" below.

4. Landscape Design Standards

Walls & Fences– Height & Placement. Walls and fences are allowed in the Development Envelopes (Backyard portion) of houses in Suburban Residential–Large Lot and in the Development Envelopes of Executive Residential and Rural Residential. Properties generally along the Petroglyph National Monument and Open Space in higher density areas has special design requirements (see "VI. Open Space"). Post and Wire fences, utilizing the standards addressed in "Walls & Fences–Materials and Design" below, are allowed at the parcel perimeter of these zones, except as provided otherwise in "4. Neighborhood Edge / Transitions" in section "VI. Open Space".

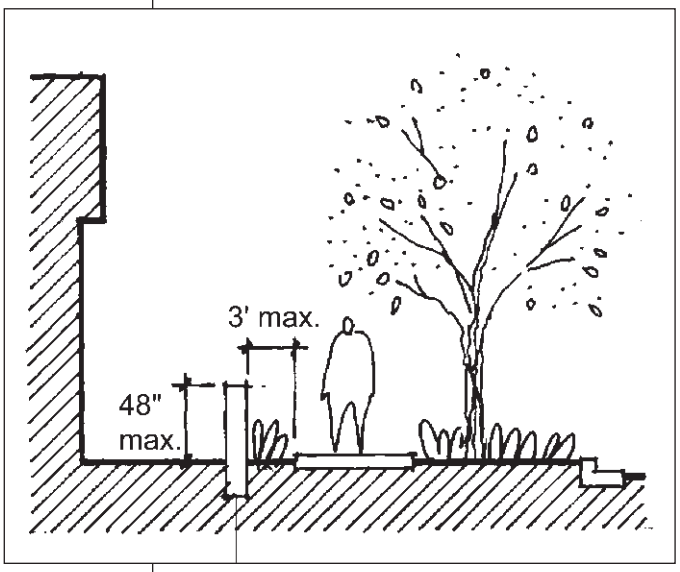


Diagram 27
Front Walls

In the Town Center, Village Centers, Neighborhood Mixed Use, Urban Residential areas and Suburban Residential–Small Lot zones, walls shall be constructed within 3 feet of street-facing property lines, where buildings are not within 10 feet of the property line. Walls and fences should not exceed a height of 48 inches where allowed within street-facing setbacks (except for columns that support arcades or trellises). Fences and walls should not exceed a height of 72 inches along rear and interior side property lines, where they are outside of required street-facing setbacks.

Walls & Fences– Materials & Design. Walls shall be stucco, masonry, rammed earth, adobe, native stacked stone (or synthetic equivalent) or straw bale. Walls may be clad or plastered with stucco, brick and tile masonry, or native stone (or synthetic equivalent). Plain Block, including all colors, is not allowed for exterior walls. Stucco and concrete should have integral color (see "Color" above). The end of walls should have a pier or pilaster that is at least 12 inches in width, to give a substantial appearance. Fencing should be post and wire, or coyote fencing. Fencing of the Conservation Easements is limited to post and wire. Post and wire fence shall be 3 inches to 4 inches diameter wooden posts, approximately 36 inches in height, spaced about 15 feet apart, with no more than 4 strands of non-barbed wire. (See **Exhibit 32, *Allowed Perimeter Fencing*** for example) Wood board, cyclone, chain-link, and razor-wire fencing are prohibited.

Exhibit 32
Allowed Perimeter Fencing

Yards & Courtyards. An irrigated zone of up to 600 sq. ft. per unit is allowed within the Town Center, Village Center, Neighborhood Mixed-Use, and Urban Residential Zones. Xeric plants are permitted as specified in "Plant List B" (See "5. Appropriate Planting Lists").

Please refer to "IV. Urban Design, 6. Conservation Development and Development Envelopes" section for the landscape standards in the following Zones: Suburban Residential–Large Lot, Executive Residential, and Rural Residential.

Pedestrian Walkways. Arcades, trellises awnings, and/or trees are encouraged along pedestrian paths for shade and spatial definition. In parking lots, Pedestrian Walkways should not extend more than 75 feet without one of these features.

On-Lot Trees. Where buildings are placed more than 10 feet from a street-side property line, at least one tree should be planted per property within the street-side setback. Properties with a long street frontage should have one tree every 50 feet or less. Street trees on local streets shall be maintained by the property owner. Street trees on collector or higher capacity streets shall be maintained by the City Parks and Recreation Department.

Lighting. Lighting shall have a cut-off angle that directs light downward and only toward the property on which the light source is located. Light fixtures shall be of a type that throws light downward and have baffles, hoods or diffusers so that no light point source should be visible from a distance greater than 1000 feet. On-site light poles shall not exceed a height of 16 feet. High-intensity discharge lamps and sodium lamps shall not be used. Other lighting standards can be found in "2. Arroyos and Drainage", "3. Petroglyph National Monument Buffer", "6. Multi-Use Trails", "7. Parks", and "8. Scenic Corridors" in section "VI. Open Space". For street lighting, see "3. Street Design" in "II. Transportation".

Overhead Utilities. Construction of new overhead electrical distribution lines is prohibited. City code allows an exception where subsurface conditions make underground lines economically unreasonable. If this exception is sought, PNM shall provide justification. Granting of this exception must be reviewed and approved by the City Council.

The City shall work with the electric utility company to explore ways to either re-route or place underground the major overhead 115kV utility transmission lines along Universe at the Village Center locations. At these locations if the transmission system is above ground the electric lines should be stacked vertically and the utility easement limited to 20 feet.

Current PNM practice is to place large electrical transmission facilities overhead. If underground transmission and/or distribution lines are desired for a particular project or area, the requesting entity should examine the funding mechanisms available to fund underground installation of distribution and/or transmission line facilities consistent with the requirements of any applicable rules of the electric utility on file with the NMPRC or successor agency. Installation of underground facilities would be contingent upon (1) the agreement of the electric utility that undergrounding is appropriate and that any undergrounding system would be technically and operationally equivalent to the above ground system that would otherwise be constructed; and (2) the availability of funding for the differential costs associated with underground construction.

Gateway Monuments. Pillars or walls may be built at entry points to neighborhoods and projects. Walls shall not be more than 12 feet long and conform with "Walls & Fence" guidelines above. Pillars shall not be more than 3 feet in width and 10 feet in height. Pillars and walls should be stucco, masonry, rammed earth, adobe, native stacked stone (or synthetic equivalent) or straw bale. Plain block, including all colors, is not allowed. Stucco and concrete should have integral color (see "Color" in "3. Architectural Design Standards" above).

Archeological Sites. Development, trails, and recreation areas should be set back at least 50 feet from prehistoric Petroglyphs or other sites with high archeological value, unless designed under the guidance of a qualified archeologist. In general, calling attention to archeological sites is discouraged either through fencing or signage. Appropriate

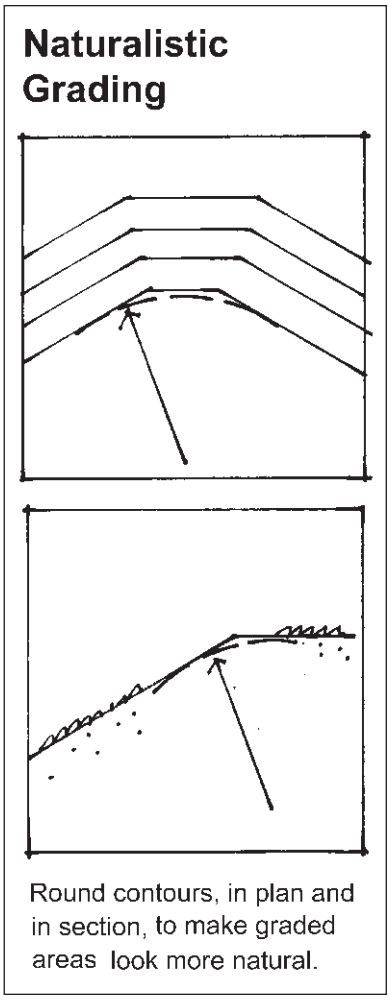


Diagram 28

City of Albuquerque Open Space Division or Petroglyph National Monument staff shall determine the appropriate design and development standards in situations where it is necessary to either exclude people from a site or to draw attention to an archeological site.

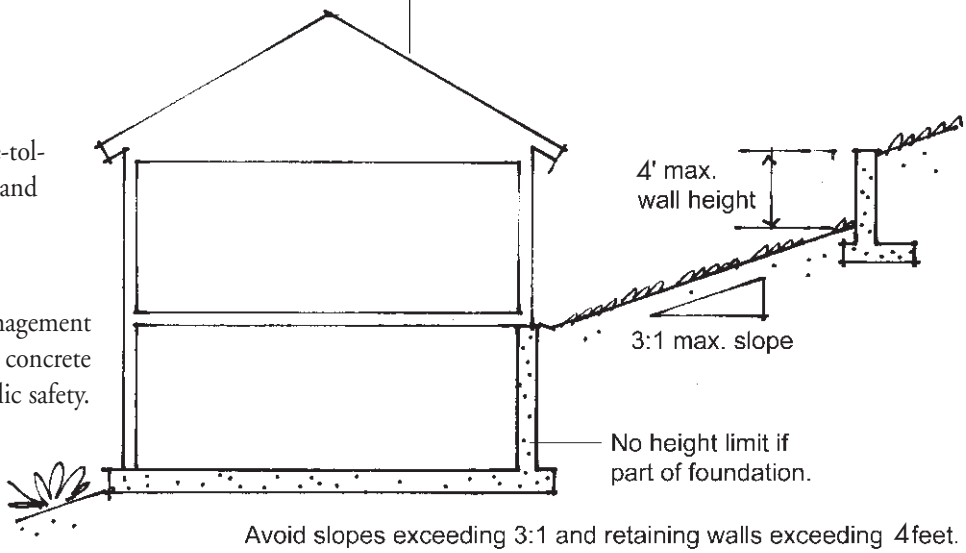
View Corridors. Views should extend from archeological sites of major cultural importance toward the Sandia Mountains to the east, the two northernmost volcanoes to the west, and the Rio Grande and should be considered in site and master planning. (See "2. View Shed Findings" above.)

Grading. Cut and fill slopes shall be no steeper than 3:1 on average; and retaining walls shall not exceed 4 feet in height unless incorporated within a building's foundation. Graded areas shall maintain the character of the natural terrain by varying gradients, undulating contours, and rounding the toe and crest of any slope greater than 10 feet in height. Fill shall be limited to a height of 4 feet measured from one corner of the Development Envelope, except to fill discrete depressions, and except in zones containing Development Envelopes including Suburban Residential–Large Lot, Executive Residential, and Rural Residential where the height at one corner of the Development Envelopment shall not exceed 18 inches except to fill discrete depressions.

Stormwater Quality and Management. (See **Diagram 30, *Benefits of Natural Drainage and Infiltration Opportunities*)** Hydrological study and design may be required of new development by the City of Albuquerque to identify appropriate stormwater detention and energy dissipation features. Development projects shall incorporate unobtrusive stormwater features that facilitate the detention and infiltration of stormwater, and the filtration of pollutants from urban run-off. At all densities and intensities, appropriate techniques include:

- permeable pavers & concrete,
- infiltration beds place below paved areas,
- stone-filled reservoirs and dry-wells, and
- small "rain gardens" (low-lying with moisture-tolerant grasses, wildflowers, shrubs, and trees); and
- vegetated swales (in courtyards and street medians and planting strips).

Materials and treatments used for stormwater management shall be natural in appearance. Channels lined by concrete or rip-rap are prohibited, unless necessary for public safety. Fencing shall be avoided, meaning that the bottom slopes of detention basins should be designed for safety. For properties adjacent to Arroyos, Petroglyph National Monument Buffer, and Other Public Open Space Corridors, see "Scenic Corridors" below.



Avoid slopes exceeding 3:1 and retaining walls exceeding 4 feet.

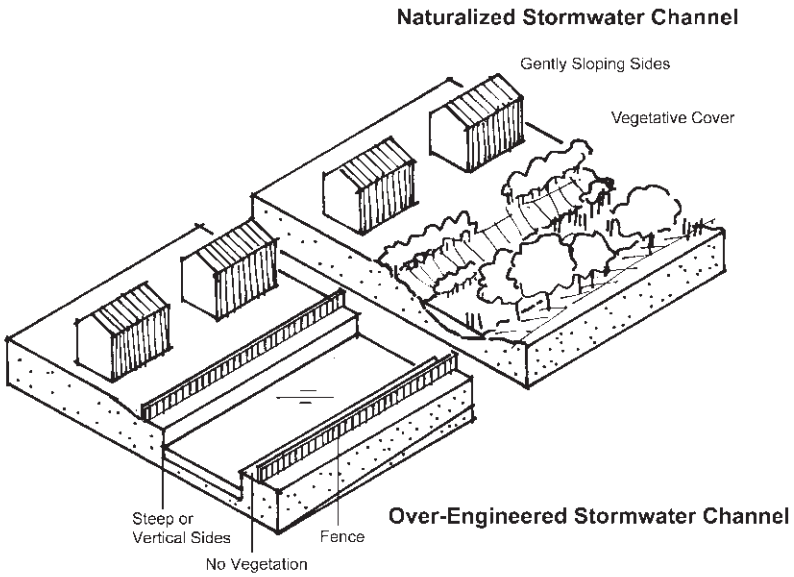
Alternatives to Mass Grading

Diagram 29

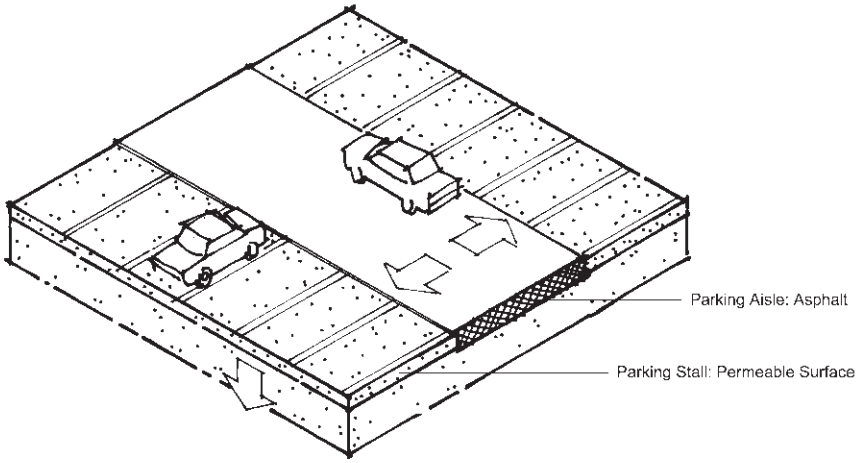
Conservation Development. In Conservation Development areas, only native plants as contained in Plant List A should be used in Community Conservation Areas and areas held in Conservation Easements. See "6. Conservation Development and Development Envelopes" in "IV. Urban Design" for other open space requirements.

Construction Mitigation. Construction within the Volcano Heights Sector Development Plan area or parts of the area shall be mitigated as provided by the regulations in "Appendix D. Construction Mitigation". These regulations are fully part of this Sector Plan and shall be enforced as such.

Benefits of Natural Drainage



Infiltration Opportunities: Parking Lots

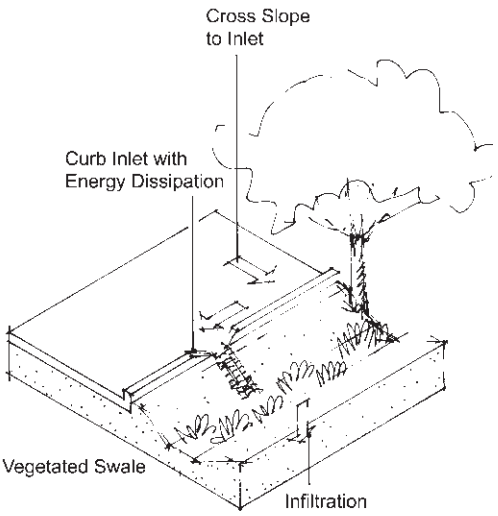


Parking stalls receive less wear and make good locations to increase infiltration through the use of permeable materials.

Diagram 30

Swale Streets

Urban Curb with Inlet to Swale



Urban Curbless Drainage to Swale

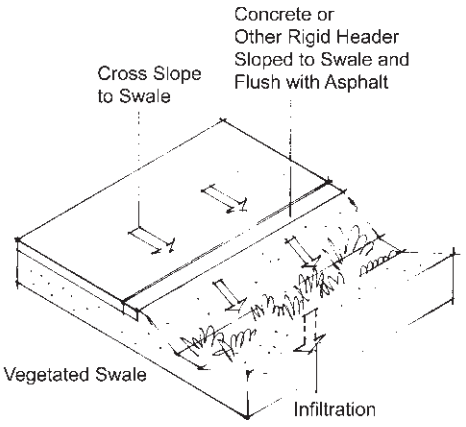


Diagram 31

5. Appropriate Planting Lists

The purposes of directing landscaping plants are to: reduce water usage, maintain the character of native plants now existing in the Monument, and to provide a harmonious landscape image.

Two plant lists shall guide landscaping within Plan Area. Shrubs and trees shall be nursery grown when available. The Plan expressly supports enforcement activities to prevent illegal removal of naturally occurring vegetation from its existing location. More specific landscaping for subareas of Volcano Heights shall be provided in required site plans and master plans.

List A - Petroglyph National Monument Plant List.

These are the plant species that were inventoried by the National Park Service in 1994-5 and represent almost 200 plants (amended). This plant list is in Appendix C.

List B - Xeric Plant List:

The plant species are the official xeric or low-water use plant list of the City of Albuquerque Water Conservation Office. The majority of the list is low and medium water-use plants. Some high-water use plants are also listed in order to classify them as such in implementation of the water conservation program. This xeric plant list is extensive and is maintained by the City. Contact the City of Albuquerque Water Conversation Office to obtain the most current information.

Where landscaping follows the Plant List B, at least 50 percent of the landscaped area should be covered by live plants in contrast to rock.

Land disturbed in development shall be re-vegetated using the appropriate Plant List above.

Table 14
Appropriate Planting Lists

X= Allowed

	Plant List A Native	Plant List B Xeric
Conservation Areas (Arroyos, Buffer Areas, and so on)	X	
Rural Residential, Executive Residential, and Suburban Residential – Large Lot Outside Development Envelope	X	
Rural Residential, Executive Residential, Suburban Residential – Large Lot Inside Development Envelope		X
Town Center, Village Center, Neighborhood Mixed-Use, Office Campus, Urban Residential, Suburban Residential – Small Lot		X (1)
Scenic Corridor	X	
Other Roads		X (1)

(1) Landscaping within this range to be determined at the level of specific plans for these areas and roads.