



# **9.0 Open Space, Landscaping, and Site Lighting Design Standards**

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**9.1. Purpose / Intent:** Open space standards are intended to provide a balance between the built and natural environments in order to provide open space that can help relieve pressures from urban areas. Open spaces are also meant to maintain the vital, geological, and cultural link to the volcanic escarpment and the petroglyphs.

**9.2. Applicability**

- 9.2.1. This Plan differentiates residential, mixed-use, and non-residential developments.
- 9.2.2. This Plan differentiates development projects by the following sizes: (1) less than 2 acres, (2) 2-5 acres, and (3) greater than 5 acres.

**9.3. Open Space Requirements:** All properties within Volcano Heights shall require both **Detached Open Space** and **Usable Open Space**. [See **Table 9.1** for Types of Open Space. See **Section 3.5** for definitions of all types of open space.]

- 9.3.1. **Detached Open Space** is required per the standards in **Section 9.4**.
- 9.3.2. **Usable Open Space** is required per the standards in **Section 9.5**.
- 9.3.3. Landscape strips within the public right-of-way shall not count as usable open space or detached open space provided on-site.

**TABLE 9.1 – TYPES OF OPEN SPACE**

Type of Open Space	Ownership	Management	Access	Included Spaces
Major Public Open Space (MPOS)	City	City	Public	Trails, trailheads, undeveloped recreation areas > 5 acres or acceptable to City Open Space Division
Usable open space	Private	Private	Private or Public*	<i>Developed: (including but not limited to) courtyards, forecourts, balconies, porches, playgrounds, pools, sport courts, picnic areas, community gardens, amphitheaters, roof terraces or gardens, parks, plazas, paseos, and landscaped areas and/or buffers</i>
				<i>Undeveloped: (including but not limited to) rock outcroppings, pristine setbacks and/or buffers around cultural or natural resources, pristine natural recreation areas</i>
Detached open space	Private	Private	Private or Public*	Developed or Undeveloped spaces provided <u>on-site</u> (see lists above)
	Public**	City	Public	See “Major Public Open Space” above

\* Public access shall be granted at the property owner’s discretion via Public Access Easement filed with the City.

\*\* Detached open space becomes public through dedication of undeveloped land within Volcano Heights acceptable to the City Open Space Division to the City via City Zoning Code §14-16-3-8(A).

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TABLE 9.2 – DETACHED OPEN SPACE: RESIDENTIAL USES

	VHTC	VHRC	VHVC	VHMX	VHNT	VHET	Total
Available Acreage*	61.2	89.1	10.8	162	28.8	54.9	406.8
Detached OS Requirement (square feet/dwelling unit)	400	400	400	400	400	400	—
Detached OS Requirement Cap (dwelling unit/acre)	40	20	30	30	6	6	—
Intended Resulting Detached Open Space Acreage**	22	16	3	45	2	3	91

\* Total acreage minus **Primary Streets** minus 10% for usable open space  
 \*\* For purposes of analysis only

TABLE 9.3 – DETACHED OPEN SPACE: NON-RESIDENTIAL USES

	VHTC	VHRC	VHVC	VHMX	VHNT	VHET	Total
Available Acreage*	61.2	89.1	10.8	162	28.8	54.9	406.8
Detached OS Requirement (square feet/30,000 SF building area)	2,400	2,400	2,400	2,400	NA	NA	—
Maximum Stories with Height Bonus	5	4	4	3	NA	NA	—
Intended Total Detached Open Space Acreage**	17	20	3	27	0	0	66

\* Total acreage minus **Primary Streets** minus 10% for usable open space  
 \*\* For purposes of analysis only

9.4. Detached Open Space Standards

9.4.1. **Purpose / Intent:** Detached open space is required to help provide relief from density to balance the urban environment of the proposed Major Activity Center. In addition, **detached open space** is intended to help preserve the integrity and fabric of this unique natural, cultural, geological, and volcanological area.

The detached open space requirements below are calibrated to result in desired development densities with enough open space to preserve **rock outcroppings** [see **Exhibit 9.1**] and other **sensitive lands** as well as to create private parks and other civic and open space amenities through optional height bonuses in the non-Transition Zones.

9.4.2. **Detached open space** standards are a zoning regulation separate from any subdivision regulations, such as those associated with Impact Fees. The City calculates and tracks these fees and any associated credits separately. The detached open space standards shall not count toward Subdivision Impact Fee credits associated with **parks** and/or **open space**.

9.4.3. **Detached open space** standards are separate from the **usable open space** requirement.

9.4.4. **Detached open space** may be counted toward optional height bonus criteria. [See **Section 6.4** starting on page 111.]



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9.4.5. **Detached open space** shall be provided via the alternatives listed in the City Zoning Code §14-16-3-8(A): (1) on-site, (2) dedication, or (3) cash-in-lieu. Dedications shall be for undeveloped land within Volcano Heights acceptable to the City Open Space Division.

9.4.6. **Residential or Mixed-Use Development:** Following the intent of the R-D Zoning per City Zoning Code §14-16-2-14(F) that these SU-2 zones have replaced in Volcano Heights, for all residential or mixed-use development, 400 SF of **detached open space** shall be provided per residential dwelling unit until the density threshold (i.e. dwelling unit per acre) per **Table 9.2** is reached on the site. This regulation and density threshold for each zone have been analyzed and calibrated to achieve a target open space acreage that can balance the density/intensity of proposed development as well as help to protect the **rock outcroppings** and **sensitive lands** within the Plan area.

9.4.7. **Non-Residential Development:** Following the intent to preserve open space in Developing Urban areas per City Zoning Code §14-16-3-18, for all exclusively non-residential developments, a minimum of 2,400 SF of open space shall be provided for every 30,000 SF of building area. [See **Table 9.3 on page 141.**] This regulation has been analyzed and calibrated to achieve a target open space acreage that can balance the density/intensity of proposed development as well as help to protect the **rock outcroppings** and **sensitive lands** within the Plan area.

#### 9.5. Usable Open Space Standards

9.5.1. All sites in Volcano Heights shall provide a minimum of 10% of their site acreage as **usable open space** on-site with the following exception:

- (i) Usable open space is not required for mixed-use or non-residential properties if located within 1,500 feet of a **park, plaza** or other **usable open space** that is at least one acre in size and accessible to the public.

9.5.2. Up to 60% of the required 10% of **usable open space** may be transferred across property lines and/or pooled to create larger open space areas within the Volcano Heights Plan area. In this event, the development and open space improvements shall be constructed concurrently.

9.5.3. When phasing of a Site Development Plan is involved, each phase must meet the 10% **usable open space** requirement. Subsequent phases shall not be built until the preceding phase's usable open space has been built and/or landscaped. Under no circumstances shall the **applicant** be allowed to defer providing and developing the required open space for each phase.

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### 9.5.4. Required Amenities on Usable Open Space by Project Size

- (i) **Projects 5+ Acres:** As part or all of their required **usable open space**, projects greater than 5 acres shall incorporate a publicly accessible **plaza/patio/courtyard**, or **amphitheater** a minimum of 5,000 SF in size. This may be counted toward an optional height bonus. [See **Table 6.2** for criteria, **Table 6.3** for standards, and **Table 9.4** for **private open space** standards.]
- (ii) **Projects 2-5 Acres**
  - a. *Residential:* Projects 2-5 acres in size that are exclusively residential development shall incorporate a recreational area or playground a minimum of 2,400 SF in size as part or all of their required usable open space, which can also count toward an optional height bonus. [See **Table 6.2** for criteria, **Table 6.3** for standards, and **Table 9.4** for private open space standards.]
  - b. *Non-residential or Mixed Use:* Projects 2-5 acres in size that are non-residential or mixed use shall incorporate a publicly accessible plaza/patio/courtyard, amphitheater, or roof garden at least 1,500 SF in size, which can also count toward an optional height bonus [86]. [See **Table 6.2** for criteria, **Table 6.3** for standards, and **Table 9.4** for private open space standards.]

- (iii) **Projects <2 acres:** Projects less than 2 acres in size may incorporate any combination of open space elements to satisfy the 10% **usable open space** requirement. [See **Table 9.4** for **private open space** standards.]

9.5.5. A minimum of 40% of the required on-site **usable open space** shall be permeable to rainwater. This requirement may be met through landscape area, **permeable paving**, unpaved pedestrian walkways, etc. This area may be broken up on the site but shall remain accessible and intended for public use.

9.5.6. Any developed **usable open space** (i.e. **plaza, amphitheater, playground**, etc.) shall include a landscaped portion equal to a minimum of 40% of the on-site usable open space. A minimum of 25% of all **developed open space** shall be shaded from the summer sun with trees and/or permanent or temporary shade structures.

9.5.7. All living material (i.e. plants, trees, etc.) shall be irrigated per City standards. [Contact the City **DRC** Section for the latest standards.] If native species are chosen from the Plant List in **Table 9.5** in this Plan [see also **Section 9.7.8 starting on page 153**], irrigation shall be provided for a minimum of the first three (3) growing seasons or until the plant/tree is firmly established.

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9.5.8. All private open space, regardless of public access, shall be privately owned and the responsibility of property owners/developers for the cost of construction, ongoing maintenance, and liability. These costs may be privately funded through homeowner or merchants associations. [In the event that they are ever dedicated to the City for ongoing maintenance and liability responsibility, open space amenities must meet City standards and be acceptable to and accepted by the relevant City department.]

9.5.9. Any **open space** amenity as provided per criteria in **Table 9.4 starting on page 146** shall count toward satisfying the 10% **usable open space** requirement. **Table 9.4** identifies whether each amenity is eligible for access by the public (i.e. civic open space), private only, or both.

9.5.10. For all non-residential or mixed-use projects, usable open space on-site shall be open and accessible to the general public, with the exception of balconies, porches, **courtyards**, and **community gardens**.

(i) Private open space accessible by the public and intended for public use is defined by this Plan as **Civic Open Space**. Such open space is privately owned, controlled, maintained, and managed. The property owner retains all property rights and responsibilities, including the rights to limit the hours of accessibility and enforce rules of conduct, dress, etiquette, etc.

(ii) All open space areas shall connect to public pedestrian walkways. If not easily identifiable from the **abutting** walkway, as determined by the Planning Director or his/her designee, signage must be provided to direct the public.

(iii) A public access easement shall be granted to provide public access to **private open space** amenities.

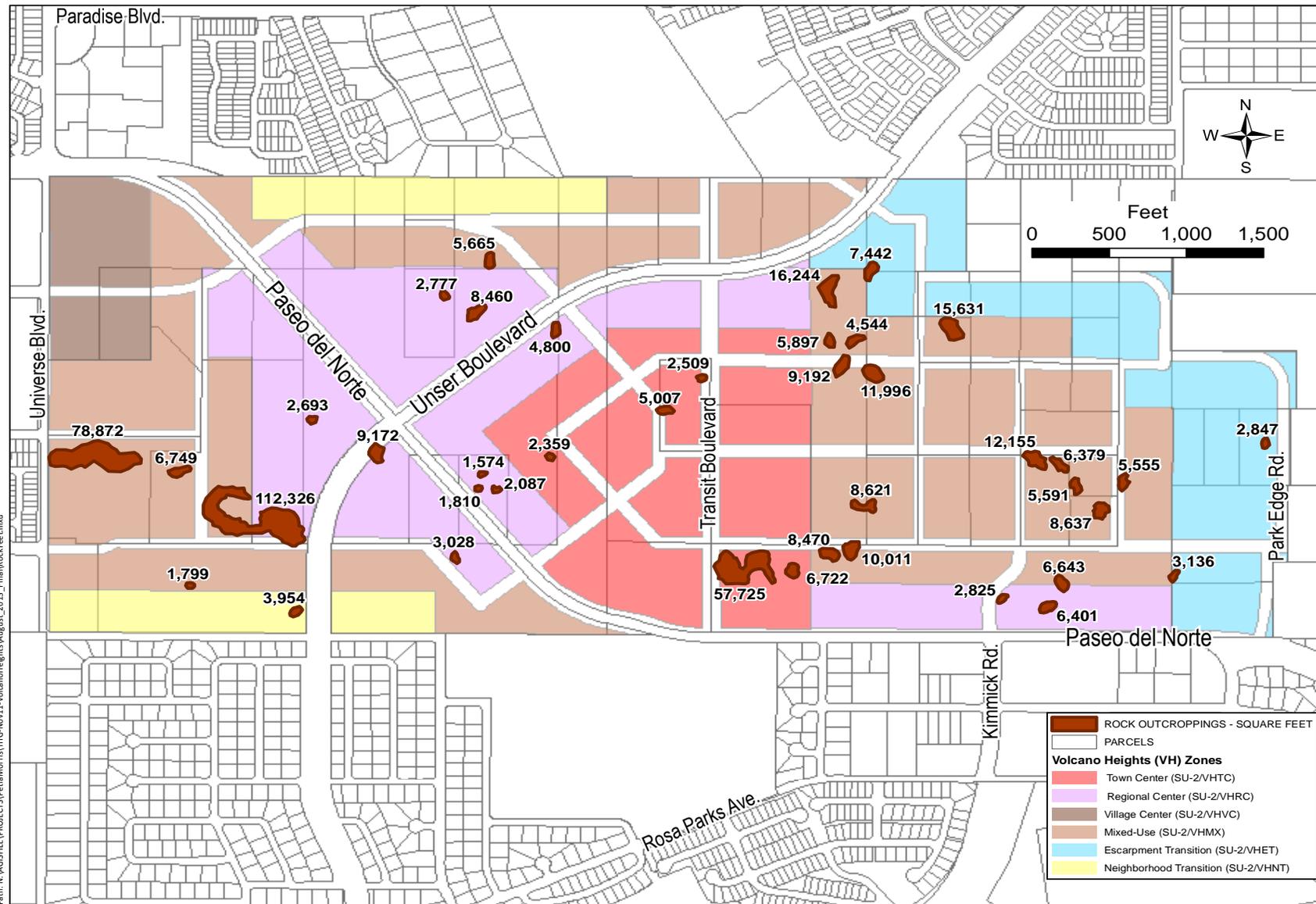
(iv) Private open space amenities accessible to the public shall be marked with a sign with contact information for the party responsible for maintenance and liability. [See **Table 8.1 starting on page 134** for sign standards.]

9.5.11. **Rock Outcroppings:** Significant **rock outcroppings** that are preserved shall count double their square footage as a landscaped area. [See **Section 3.5 starting on page 40** for definition and **Exhibit 9.1 on page 145** for locations and sizes.]

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Note: 1 acre = 43,560 square feet

Exhibit 9.1 – Significant Rock Outcroppings

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TABLE 9.4 - OPEN SPACE CRITERIA

Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(i) Amphitheatre	<ul style="list-style-type: none"> <li>Size, scale, and architectural style shall complement <b>adjacent</b> development.</li> <li>Noise shall be governed by the City Noise Ordinance [Article 9 of Building and Safety: ROA 1994 Sec. 9-9].</li> <li>Hours of operation shall be assessed on a case-by-case basis.</li> </ul>	Private
(ii) Ancillary Structure	<ul style="list-style-type: none"> <li>Ancillary structures shall have at least one open side and may have a roof or other means of providing shade.</li> <li>Architectural style and materials shall complement surrounding development, but size and scale shall be subordinate to surrounding buildings.</li> <li>Ancillary structures may be located at prominent locations within an appropriate civic or open space and may include casual seating areas.</li> <li>Ancillary structures in Mixed Use zones may have minor commercial uses, such as small food or news vendors, but may also serve as civic elements for general public use with more passive activities. Ancillary structures located within the Escarpment Transition zone should be more modest in use and character, ranging from a simple, public pavilion or pergola to a neighborhood kiosk or mail pavilion.</li> </ul>	Both
(iii) Balcony	<ul style="list-style-type: none"> <li>Balconies that are not flush shall be a minimum of 5 feet clear in depth and a minimum of 8 feet in width.</li> <li>Balconies may be semi-recessed or recessed.</li> </ul>	Private
(iv) Community Garden	<ul style="list-style-type: none"> <li>Maximum size shall be 1 acre.</li> <li>Gardens may be enclosed by a fence on all open sides.</li> <li>Fences should be installed straight and plumb, with vertical supports at a minimum of 8' on center. Chicken wire may only be used in conjunction with another permitted fencing material and must be supported along all edges.</li> </ul> <p><u>Fencing Materials:</u></p> <ul style="list-style-type: none"> <li>Permitted: pressure treated wood (must be painted or stained medium to dark color), chicken wire, wrought iron, painted galvanized steel</li> <li>Not permitted: Materials such as but not limited to chain link, barbed or razor wire and/or tape, vinyl, un-painted/stained pressure treated wood, plywood</li> </ul>	Both

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TABLE 9.4 – OPEN SPACE CRITERIA (Cont'd)



Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(v) Courtyard	<ul style="list-style-type: none"> <li>• <b>Courtyards</b> shall be surrounded on all sides by buildings with at least one pedestrian connection to an adjoining building or public sidewalk.</li> <li>• The <b>courtyard</b> shall be a minimum of 200 SF.</li> <li>• <b>Courtyard</b> may be landscaped or a combination of landscape and hardscape. However, they shall contain amenities for residents such as seating, water features, etc.</li> </ul>	Both
(vi) Forecourt	<ul style="list-style-type: none"> <li>• A <b>forecourt</b> shall be surrounded on at least two sides by buildings.</li> <li>• A <b>forecourt</b> shall be a minimum of 150 SF.</li> </ul>	Both
(vii) Landscaped Traffic Circle	<ul style="list-style-type: none"> <li>• Shall be designed, landscaped, and irrigated per City standards. [Contact City <b>DRC</b> Section for the latest standards.]</li> <li>• Planting shall not exceed maximum height requirements so that views are not obstructed.</li> </ul>	Civic
(viii) Landscape Strip (in addition to required streetscaping)	<ul style="list-style-type: none"> <li>• Shall exceed required streetscaping by at least 25% in area.</li> <li>• Shall be compatible with required streetscaping in design and function.</li> <li>• Shall be designed, landscaped, and irrigated per City standards. [Contact City <b>DRC</b> Section for the latest standards.]</li> <li>• Only permeable surfaces shall be used.</li> </ul>	Civic
(ix) Park	<ul style="list-style-type: none"> <li>• <b>Parks</b> shall be a minimum of 2 acres in size, with slopes no greater than 5 to 1.</li> <li>• There shall be street frontage with on-street parking on at least 2 sides.</li> <li>• Where a <b>park</b> abuts commercial uses on three (3) or more sides at the time of the park's approval, the property owner shall be required to provide a shared parking agreement with at least one (1) property owner on which a commercial use is located. Once constructed, the park's property owner shall provide signs visible to the public from the shared parking area explaining the terms of the shared use agreement.</li> <li>• Seating and shade covering at least 25% of the area shall be provided.</li> <li>• Co-location of drainage facilities shall be evaluated on a case-by-case basis.</li> <li>• <b>Parks</b> shall be built to City Standards and Specifications.</li> </ul>	Both
(x) Paseo	<ul style="list-style-type: none"> <li>• Shall include a hardscaped pathway with pervious pavers.</li> <li>• Shall be primarily defined by building façades.</li> <li>• Shall be wide enough to ensure sunlight (12-foot minimum) and incorporate shade trees.</li> <li>• Shall be designed to complement the character of surrounding buildings.</li> <li>• Shall be landscaped and irrigated per City standards. [Contact City <b>DRC</b> Section for the latest standards]</li> </ul>	Both

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TABLE 9.4 – OPEN SPACE CRITERIA (Cont'd)

Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(xi) Permeable Landscaped Area	<ul style="list-style-type: none"> <li>• Shall be designed, landscaped, and irrigated per City standards. [Contact City <b>DRC</b> Section for the latest standards.]</li> <li>• Shall be constructed and use materials to allow rain or stormwater to infiltrate the ground.</li> </ul>	Both
(xii) Playground	<ul style="list-style-type: none"> <li>• <b>Playgrounds</b> shall be a minimum of 400 SF.</li> <li>• Landscaping shall be provided on 80% of the area.</li> <li>• Seating and shade covering at least 25% of the area shall be provided.</li> <li>• Playground equipment and design shall be reviewed and approved by the City prior to installation.</li> </ul>	Both
(xiii) Plaza	<ul style="list-style-type: none"> <li>• <b>Plazas</b> shall be a minimum of 0.25 acre and maximum of 1 acre.</li> <li>• <b>Building frontages</b> shall define these spaces. Plazas shall front at least one (1) street, preferably at the intersection of important streets. The landscape should consist primarily of hardscape. Casual seating, along with tables and chairs and/or benches, should be provided.</li> </ul>	Both
(xiv) Private Open Space Amenities (pool, play courts, picnic area, etc.)	<ul style="list-style-type: none"> <li>• Such <b>private open space</b> may be incorporated with <b>roof terraces</b> or <b>courtyards</b> based on the appropriateness of the design and accommodation of privacy.</li> </ul>	Private
(xv) Pedestrian walkway to Rock Outcroppings	<ul style="list-style-type: none"> <li>• Pedestrian walkways to dedicated rock outcroppings shall be asphalt, cement, crusher fines stabilized with binder, or other materials deemed acceptable by the City Open Space Division.</li> <li>• Pedestrian walkways that connect more than one <b>rock outcropping</b> are eligible for up to 10 additional bonus points as deemed appropriate by the Planning Director or his/her designee.</li> </ul>	Private
(xvi) Recreation Area	<ul style="list-style-type: none"> <li>• Shall be limited to minimal site improvements, including landscaping.</li> <li>• Impermeable surfaces shall not be permitted.</li> <li>• No more than 25% of the gross area shall be seating and/or permanent shading.</li> <li>• No more than 5 parking spaces shall be allowed.</li> </ul>	Both
(xvii) Roof Garden or Roof Terrace	<ul style="list-style-type: none"> <li>• A <b>Roof Garden</b> shall at least be 50% of the building footprint area.</li> <li>• A <b>Roof Terrace</b> shall provide landscaping in the form of potted plants, seating, and other amenities for the users of the building.</li> <li>• A <b>Roof Terrace</b> may also include a portion of the roof as a green roof which may or may not have public access.</li> </ul>	Both

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9.6. **Petroglyphs:** Development, trails, and **recreation areas** shall be set back at least 50 feet from prehistoric petroglyphs or other sites with high archaeological value as identified by City Open Space Division and/or Planning Director, unless approved by Planning Director or his/her designee. This setback may be counted as **usable open space**.

9.6.1. No petroglyph shall be moved, altered, or defaced without written approval of a National Park Service representative from the Petroglyph National Monument in consultation with City of Albuquerque Open Space Division staff. This provision is of major significance to the City of Albuquerque.

9.6.2. All other archaeological sites shall be protected or mitigated per City Zoning Code §14-16-3-20. Site treatment shall include preservation, avoidance, testing, or documentation of surface and/or subsurface remains and/or artifacts.

9.6.3. All **rock outcroppings** containing petroglyphs shall be protected per City Zoning Code §14-16-3-20.

9.7. **Landscaping Standards**

9.7.1. **Landscaped Areas**

- (i) Landscaped areas shall be covered with a minimum of 75% living vegetative materials, such as trees, grasses, vines, flowers, and/or bushes/shrubs. Coverage shall be calculated from the expected average size of mature plants.
- (ii) Where a property owner includes a transit shelter, any paved areas shall count as landscaped areas.

9.7.2. **On-Lot Trees:** Where buildings are placed more than 10 feet from a street-side property line, at least one tree shall be planted per property within the street-side **setback**. Properties with a street frontage over 100 feet shall have a minimum of one tree for every 40 feet. Trees shall be maintained by the property owner.

- (i) **Native Species Requirement:** For properties within 200 feet of the Petroglyph National Monument, only tree species listed as native in the Plant List in **Table 9.5** may be used. [See also **Section 9.7.8 starting on page 153.**]
- (ii) **Plant List:** For properties 200 feet or more from the Petroglyph National Monument, any tree species listed in the Plant List in **Table 9.5** may be used. [See also **Section 9.7.8 starting on page 153.**]

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#### 9.7.3. Walls & Fences Material Finishes & Design

##### (i) Height & Placement

- a. Walls and fences shall not exceed a height of 36 inches where allowed within street-facing setbacks (except for columns that support arcades or trellises). Retaining walls in all locations shall not exceed 48 inches, unless approved by the City Hydrologist. Fences and walls shall not exceed a height of 72 inches inside required setbacks along rear and interior side property lines. Height shall be measured from the lower side on the public side of the side or rear yard. Public utility structures are excluded from these requirements.
- b. Where new single-family residential lots and homes back up to Connector streets, solid rear and/or side-yard walls bordering the street and pedestrian realm shall not exceed a height of 48 inches. Twenty-four (24) additional inches of transparent fence material (but not chain-link fencing) are permitted above the solid portion of the wall.

- (ii) **Adjacency to Monument and City Major Public Open Space:** Properties **abutting** the Petroglyph National Monument and/or **Major Public Open Space** shall use coyote fencing, post and wire (not barbed), or view fencing. View fencing allows for a general sense of openness, visual transparency, and passive surveillance, while still maintaining perimeter security.

- (iii) **Design & Prohibited Materials:** Wood board, cyclone, chain link, and barbed and/or razor wire and/or tape fencing are prohibited except at public utility structures. The end of walls shall have a pier or **pilaster** at least 12 inches wide to give a substantial appearance. Use of block to create patterns is encouraged.

- a. *Perimeter Walls:* Exposed plain block, including all colors, is not allowed on walls visible from or **adjacent** to the public **ROW, private open space**, or private or public **parks**.
- b. *Site Walls:* Block walls not visible from or **adjacent** to the public **ROW, private open space** or **Major Public Open Space**, or private or public **parks** must have integral color (i.e. plain, grey cement blocks are prohibited).
- c. *Color:* In order to assure durability and minimize the visual impact of development, stucco and concrete shall have an integral color with a "light reflective value" (LRV) rating within the range of 20-50 percent [See **Exhibit 7.1 on page 125.**]

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- d. *Screen Walls:* See **Section 6.8. Street Screens** starting on page 120.
- e. *Living Fence:* A living fence shall be a minimum of three feet tall, which may include an earth berm, with vegetation dense and tall enough at maturity to provide sufficient screening and/or sense of delineation. Appropriate species shall be selected from the Plant List in **Table 9.5** starting on page 154. Additional low-water, non-invasive species may be used to supplement the living fence if approved by the Planning Director and City Open Space Division.

9.7.4. **Pedestrian walkways:** In surface parking lots, pedestrian walkways shall not extend more than 75 feet without one of the following features to provide shade, spatial definition, and pedestrian-friendly amenities:

- (i) arcades,
- (ii) trellises,
- (iii) shade structures, and/or
- (iv) trees.

9.7.5. **Gateway Monuments:** Pillars or walls are permitted at entry points to neighborhoods and developments. Walls shall not be more than 12 feet long and conform with **Section 9.7.3** in this Plan. Pillars shall not be more than 3 feet wide and 10 feet high. Pillars and walls shall be stucco, masonry, rammed earth, adobe, native stacked stone (or synthetic equivalent), or straw bale. Exposed plain block, of any color, is not allowed. Stucco and concrete shall have an integral color other than grey.

- 9.7.6. **Rainwater Quality and Management**
- (i) Sites shall be required to retain the first flush storm event. It may be possible to employ a regional solution.
  - (ii) All new developments shall incorporate **water harvesting** methods to supplement landscape irrigation. Water harvesting shall capture the first 1/2-inch of rainfall. Parking surfaces and other impermeable surfaces shall route rainwater through water harvesting areas on-site with 5% grade or less. [See also **Section 6.8.9** starting on page 121 for screening requirements.]
  - (iii) Where appropriate, development projects shall incorporate unobtrusive rainwater features that facilitate the detention and infiltration of rainwater and the filtration of pollutants from urban run-off. [See also policies in **Section 13.5.3** starting on page 229.] At all densities and intensities, appropriate techniques include:
    - a. permeable pavers & concrete,
    - b. infiltration beds placed below paved areas,
    - c. stone-filled reservoirs and dry-wells,
    - d. roof storage systems & cisterns designed with materials allowed by this Plan,
    - e. small “rain gardens” (low-lying with moisture-tolerant grasses, wildflowers, shrubs, and trees), and
    - f. vegetated swales (in **courtyards**, street medians, and landscape strips).
  - (iv) Materials and treatments used for rainwater management shall be natural in appearance. Channels lined by concrete or rip-rap are prohibited, unless necessary for public safety.



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- (v) The potential impacts of water retention shall be thoroughly studied prior to use of detention areas to control flows.
- (vi) Fencing of detention ponds shall be avoided. The bottom slopes of detention basins shall be designed for safety. In addition, a hydrological study and design may be required of new development by the City of Albuquerque to identify appropriate rainwater detention and energy dissipation features.
- (vii) Within large unbuilt areas, developed flows shall be modified through check dams or other means to approximate undeveloped flows to minimize impacts on the Escarpment and to minimize the intensity of channel treatment required. The impact of check dams as a method of controlling flows shall be thoroughly studied prior to their use.
- (viii) Developed flows shall be managed to minimize their impact on **Major Public Open Space**, Northern Geologic Window, archeological sites, and the Escarpment.
- (ix) Developed flows into the Petroglyph National Monument shall not be permitted in excess of, or more concentrated than, natural flows and shall require approval by City Open Space Division in coordination with the National Park Service.
- (x) Developments that propose more than 4 feet of fill shall be required to go through the **DRB** for **approval** and require sign-off from the City Hydrologist.
- (xi) All developments within the Impact Area as defined by the NWMEP shall be required to go through the **DRB** for **approval** and require sign-off from the City hydrologist.

#### 9.7.7. Channel Design

- (i) **Purpose/Intent:** Improved naturalistic channel design shall retain as much undisturbed desert vegetation and rock formations insofar as practicable.
- (ii) **Channel Treatments:** Shall meet the following requirements:
  - a. Limited stabilization of natural channels, according to the policies contained in the City of Albuquerque Facility Plan for Arroyos, unless such treatment is determined to be infeasible by the City Hydrologist or the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA) as appropriate.
  - b. Use of many small, unobtrusive structures, such as check dams or small drop structures, rather than larger, more obtrusive structures, when structural solutions are required.
  - c. Use of materials in treated channels that blend visually with the Escarpment and **adjacent** open space. Naturalistic treatments are the preferred treatment types.
  - d. Protection of canyons from erosion through control of developed flows and through stabilization techniques that are consistent with the visual character of the open space.

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9.0 Open Space, Landscaping, and Site Lighting Design Standards

9.7.8. Plant Lists

- (i) **Purpose/Intent:** The purpose of regulating plants is to reduce water use, maintain the character of native plants now existing in the Petroglyph National Monument, and provide a harmonious landscape.
- (ii) **Landscaping:** Appropriate plants shall be chosen from the Plant List in **Table 9.5** for landscaping within the Plan area. Shrubs and trees shall be nursery grown in order to minimize poaching from the Monument and Major Public Open Space.
  - a. *Native Species Requirement:* Within 200 feet of the Petroglyph National Monument or other **Major Public Open Space**, only plants and trees listed as native in the Plant List in **Table 9.5** shall be used in order to limit impact of invasive and/or non-native plants on native vegetation, except for street trees. [See Section **11.3.5 starting on page 196.** for details about street trees.] Native plant species were selected from a list compiled during an inventory within the Petroglyph National Monument by the National Park Service in 1994-1995, including almost 200 plants (amended).

- b. *Plant List Requirement:* Two-hundred (200) feet or more from the Petroglyph National Monument or other Major Public Open Space, any plant from the Plant List in **Table 9.5** may be used. In addition to species native to the Petroglyph National Monument, additional plant species were selected from the official xeric or low-water use plant list of the Albuquerque Bernalillo County Water Utility Authority (ABCWUA).
- (iii) **Streetscaping:** See **Section 11.3.5 starting on page 196.**
- (iv) **Construction Mitigation:** Land disturbed in development shall be re-vegetated using either native or xeric plants as appropriate from the Plant List in **Table 9.5.** [See also **Section 6.6 starting on page 116.**]



9.0 Open Space, Landscaping, and Site Lighting Design Standards



TABLE 9.5 - PLANT LIST (TREES)

Scientific Name	Common Name	Native or Xeric	Deciduous or Evergreen	Approx. Height x Width at Maturity (in ft.)
<i>Cercocarpus ledifolius</i>	Curlleaf Mountain Mahogany	Xeric	Evergreen	12x8
<i>Chilopsis linearis</i>	Desert Willow	Native	Deciduous	20x20
<i>Juniperus monosperma</i>	Oneseed Juniper	Native	Evergreen	15x15
<i>Juniperus scopulorum</i>	Rocket Mountain Juniper, female	Xeric	Evergreen	40x20
<i>Juniperus virginiana</i>	Juniper, female	Xeric	Evergreen	20x10
<i>Leucana retusa</i>	Golden ball leadtree	Xeric	Deciduous	15x15
<i>Melia azedarach</i>	Chinaberry	Xeric	Deciduous	25x20
<i>Prosopis glandulosa</i>	Honey mesquite	Xeric	Deciduous	25x30
<i>Prosopis pubescens</i>	Screwbean Mesquite	Xeric	Deciduous	20x20
<i>Prosopis torreyana</i>	Western Honey Mesquite	Xeric	Deciduous	18x20
<i>Prosopis velutina</i>	Velvet Mesquite	Xeric	Deciduous	20x25
<i>Quercus grisea</i>	Gray Oak	Xeric	Evergreen	30x30
<i>Quercus suber</i>	Cork Oak	Xeric	Evergreen	30x30
<i>Quercus turbinella</i>	Shrub live oak	Xeric	Evergreen	18x20
<i>Sambucus mexicana</i>	Mexican Elder	Xeric	Deciduous	20x25
<i>Sapindus drummondii</i>	Western soapberry	Xeric	Deciduous	30x30
<i>Zizyphus jujuba</i>	Jujube	Xeric	Deciduous	25x25



9.0 Open Space, Landscaping, and Site Lighting Design Standards



TABLE 9.5 - PLANT LIST (SHRUBS)

Scientific Name	Common Name	Native or Xeric	Deciduous or Evergreen	Approx. Height x Width at Maturity (in ft.)
Agave sp.	Agave	Native	Evergreen	varies
Artemisia filifolia Torr	Sand sage	Native	Evergreen	3x3
Atriplex canescens	Fourwing saltbrush	Native	Deciduous	5x5
Brickellia californica	California brickellbush	Native	Deciduous	3x3
Dalea sp.	Purple sage	Native	Deciduous	5x5
Dasyilirion sp.	Sotol	Xeric	Evergreen	5x5
Fallugia paradoxa	Apache plume	Native	Deciduous	5x5
Fouquieria splendens	Ocotillo	Xeric	Deciduous	15x10
Krascheninnikovia lanata	Winterfat	Native	Deciduous	5x5
Nolina microcarpa	Beargrass	Xeric	Evergreen	5x6
Opuntia sp.	Prickly pear	Native	Evergreen	varies
Rhus trilobata	Skunkbush sumac	Native	Deciduous	3x3
Ribes sp.	Gooseberry	Native	Deciduous	5x3
Yucca sp.	Yucca	Native	Evergreen	varies



9.0 Open Space, Landscaping, and Site Lighting Design Standards

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TABLE 9.5 -PLANT LIST (FORBS, GRASSES, AND GROUNDCOVERS)

Scientific Name	Common Name	Native or Xeric	Approx. Height x Width at Maturity (in inches)
<i>Abronia villosa</i>	Sand verbena	Native	1x4
<i>Andropogon saccharoides</i>	Silver beardgrass	Native	2.5x2
<i>Aristida purpurea</i>	Purple threeawn	Native	1x1
<i>Artemisia ludoviciana</i>	Prairie sage or White Sagebrush	Native	3x3
<i>Asclepias speciosa</i>	Showy milkweeds	Native	2x3
<i>Baileya multiradiata</i>	Desert Marigold	Native	varies
<i>Bouteloua curtipendula</i>	Sideoats grama	Native	2x1
<i>Bouteloua gracilis</i>	Blue grama	Native	1x1
<i>Bouteloua eriopoda</i>	Black grama	Native	1x1
<i>Elymus elymoides</i>	Bottlebrush squirreltail	Native	varies
<i>Eriogonum annuum</i>	Annual buckwheat	Xeric	1-5x2
<i>Gaillardia pulchella</i>	Firewheel	Native	varies
<i>Hilaria jamesii</i>	Galleta	Native	2x1
<i>Linum perenne lewisii</i>	Blue flax	Xeric	2x2
<i>Mirabilis sp.</i>	Four O'clock	Native	1x4
<i>Muhlenbergia porteri</i>	Bush Muhly	Native	varies
<i>Oenothera sp.</i>	Evening primrose	Native	1.5x4
<i>Oryzopsis hymenoides</i>	Indian ricegrass	Native	varies
<i>Parthenium incanum</i>	Mariola	Native	varies
<i>Penstemon ambiguous</i>	Beardtongue	Native	2x1
<i>Phacelia integrifolia</i>	Scorpionflower	Native	1x1
<i>Philostrophe taetina (also Psilostrophe taetina)</i>	Paperflower	Native	3x3
<i>Sporobolus cryptandrus</i>	Sand dropseed	Native	varies
<i>Zinnia grandiflora</i>	Desert zinnia	Xeric	varies

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## 9.0 Open Space, Landscaping, and Site Lighting Design Standards

### 9.8. Site Lighting Standards

- 9.8.1. Lighting shall have a cut-off angle that directs light downward and only toward the property on which the light source is located, per the New Mexico Night Sky Ordinance [74-12-1 to 74-12-10 NMSA 1978]. Light fixtures shall be of a type that throws light downward and have baffles, hoods or diffusers so that no light point source shall be visible from a distance greater than 1,000 feet. On-site light poles shall not exceed a height of 16 feet. High-intensity discharge lamps and sodium lamps shall not be used.
- 9.8.2. All new developments shall provide pedestrian-scaled streetlights. [See **Section 11.4 starting on page 197.**]
- 9.8.3. Shoe box style lighting shall not be used, except in large parking areas. Metal halide lights are encouraged. High pressure sodium lights are discouraged since they visually render all colors the same.



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