



# **TOWN OF CAREFREE**

**PLANNING AND ZONING DEPARTMENT**

**2021**

# **MOUNTAINSIDE**

**RURAL-190   RURAL-70   RURAL-43   R1-18   R1-10**

# **COMMUNITY DESIGN STANDARDS & GUIDELINES**



# **TOWN OF CAREFREE**

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## **INTRODUCTION**

Mountainside lots provide a spectacular view of the valley floor and the surrounding mountains, but they are also environmentally sensitive and challenging to develop. The Zoning Ordinance regulations governing mountainsides have been written to protect public health, safety, and welfare. The Design Standards and Guidelines are used to address the visual appearance of all site improvements with the goal of blending all improvements into the natural beauty and tranquility of the upper Sonoran Desert and preserving significant mountainside views that have historically defined the community's sense of place.

The founders of Carefree created a town of distinction, faithful to its vision and its General Plan, where the Sonoran Desert remains the dominant element which binds the community together. This set of Design Standards and Guidelines contains building practices that perpetuate the desired qualities of our community and environment.

## **DEFINING A BUILDING SITE**

Defining an appropriate building site is one of the most important decisions in the development process. This analysis should consider both the natural elements of the site and sensitive orientation of the proposed structures. A thorough analysis of these factors will assure environmentally sensitive design, enhance the value of the property, result in less maintenance and repair of structures, and in many instances will cost less to develop. The failure to consider these factors may cause problems with settling foundations, drainage difficulties, and result in temporary solutions to stabilize eroding and unstable slopes.

## **DEFINING NATURAL OPPORTUNITIES AND CONSTRAINTS OF A SITE**

Each property is unique and contains both natural building constraints and opportunities that must be studied individually and in relationship to one another before plans for the home are created.

1. Identify all boulder outcroppings—Site improvements should be planned around boulder formations to complement and protect what nature has created.
2. Topography—Slopes shall be identified according to the Mountainside Regulations Article X, Section 10.03. Severe slopes and primary ridgelines should be protected and development on them should be avoided.
3. Soils—Stable soils, well-draining soils and good soils for supplemental indigenous landscaping should be identified.
4. Hydrology— All natural drainage patterns should be identified and preserved as part of the desert ecosystems.
5. Native vegetation—In accordance with the Carefree community vision, mature trees, shrubs and cacti should be preserved.

## **IDENTIFICATION OF SUITABLE BUILDING AREAS**

After identifying and understanding the site's natural constraints, the placement and orientation of the buildings on the site are key considerations in the design and function of the structure.

1. Views—Consider the placement of rooms within the residence to maximize views of

surrounding mountains and desert.

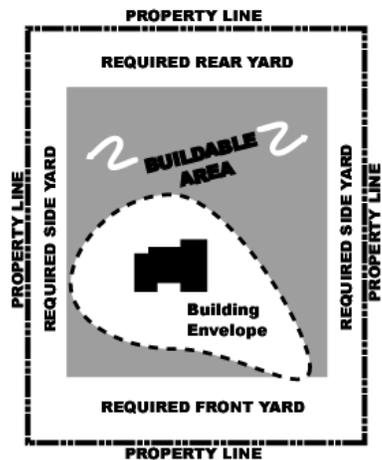
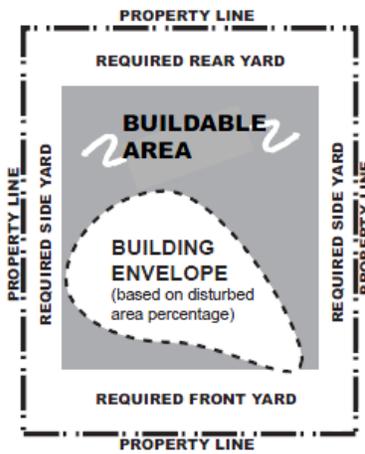
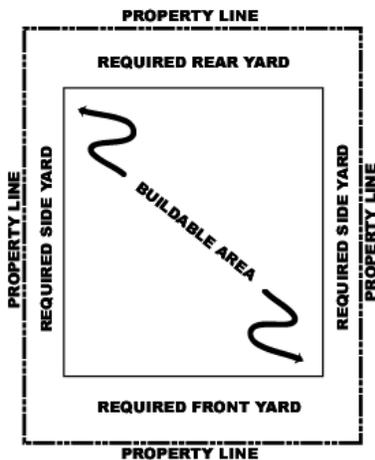
2. Sun angles—Consider the angle of the sun throughout the year to maximize the sun's light and warmth in winter and minimize heat gain in the summer.
3. Prevailing winds— Determine the prevailing breeze and orient structures so the wind is beneficial rather than detrimental.

## **SITE IMPROVEMENTS**

**Site improvements should adapt to the natural features and terrain of the site rather than manipulating the site to fit a predetermined vision for the residence. Prior to conceiving a building design, the site should be studied to understand how a building could be naturally integrated into the mountainside. In order to achieve this objective, it is critical that the following guidelines be incorporated into the design of the residence and associated site improvements.**

1. Each residence should adapt to its rigorous terrain to reduce visually prominent scarring. To ensure the most sensitive and compatible development possible, it is imperative that the home steps with the natural contours of the site.
2. Homes should be set down from a ridgeline and stepped into the side of the ridge to preserve Carefree's prized view corridors. The height of any building placed on top of a ridge should not exceed twelve (12) feet above the ridgeline. The mass of such building intercepting the ridgeline should not exceed 1,000 feet (livable space).
3. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(4\) E](#), to ensure that the natural contours of the land are closely followed, the amount of fill shall not exceed the amount of cut on the site. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(4\) \(H\)](#), the height of any individual cut may not exceed twelve (12) feet.
4. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(10\) \(B\) \(5\)](#), in order to minimize significant scarring to mountainsides, retaining walls shall be used to contain all fill slopes.
5. Where natural rock is exposed by cuts into the mountainside, desert varnish should be applied to return the disturbed rock to a more natural appearance.
6. Where cuts expose native, unstable soils, retain walls of a compatible material and color that blend with the surrounding desert should be used. According to the Zoning Ordinance, Article X, [Section 10.06 \(10\) \(B\) \(4\)](#), retaining walls more than seven (7) feet in height shall be terraced, with the upper section not to exceed four (4) feet in height and five (5) feet of level landscape soil between walls.
7. In order to preserve natural dips and washes bisecting a site, structures may be suspended over these elements provided they do not impede natural drainage corridors. The height of such a structure, as defined in the Zoning Ordinance, [Article X, Section 10.06 \(7\) E](#), shall not exceed twenty-four (24) feet as measured from the lowest point of the structure being suspended to the highest point of the road. Columns or other support structures that are no more than eight (8) feet in width or depth shall not be counted towards the height of the suspended structure.

8. Pursuant to the Zoning Ordinance, [Article IX, Section 9.10 \(4\) \(A\)](#), upon completion of construction, drainage patterns shall be consistent with pre-development conditions.
9. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(4\) \(D\)](#), all utilities shall be placed underground within the graded area of all streets and driveways. With the approval of the Development Review board, utilities may be placed outside of the driveways with an appropriate native restoration and revegetation plan.
10. Drainage improvements should maintain an organic rather than an engineered solution. The sides or banks of such improvements should undulate and contain indigenous plant material and boulders to minimize erosion.
11. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(4\) \(B\)](#), a building envelope shall be delineated on each lot, which defines the extent of all improvements including but not limited to buildings, driveways, utilities, courtyards, sport courts, grass areas, septic systems and any areas enclosed by a solid masonry wall. The building envelope should provide for any future expansion or accessory structures. The disturbed area shall not exceed the maximum disturbed area prescribed for each zoning district (see table on following page).



## STRUCTURE OF A LOT

DEVELOPMENT STANDARDS										
	Rural-190	Rural-70	Rural-43	R1-35	R1-18	R1-10	R-3	L	GO	C
Maximum Height - Feet	24 <sup>(1)</sup>	30 <sup>(2)</sup>	30 <sup>(2)</sup>	30 <sup>(2)</sup>						
Minimum Front Yard - Feet	60 <sup>(3) (6)</sup>	60 <sup>(3) (6)</sup>	40 <sup>(3) (6)</sup>	40 <sup>(3) (6)</sup>	30 <sup>(3) (6)</sup>	20 <sup>(3) (6)</sup>	25 <sup>(3) (6)</sup>	25 <sup>(3) (6)</sup>	40 <sup>(6)</sup>	10 <sup>(3) (6)</sup>
Minimum Side Yard - Feet	30 <sup>(6)</sup>	30 <sup>(6)</sup>	30 <sup>(6)</sup>	20 <sup>(6)</sup>	10 <sup>(6)</sup>	7 <sup>(6)</sup>	10 <sup>(6)</sup>	10 <sup>(6)</sup>	20 <sup>(6)</sup>	0 <sup>(4) (6)</sup>
Minimum Rear Yard - Feet	60 <sup>(6)</sup>	60 <sup>(6)</sup>	40 <sup>(6)</sup>	40 <sup>(6)</sup>	30 <sup>(6)</sup>	25 <sup>(6)</sup>	25 <sup>(6)</sup>	25 <sup>(6)</sup>	40 <sup>(6)</sup>	0 <sup>(5) (6)</sup>
Minimum Lot Area - Square Feet	190,000	70,000	43,560	35,000	18,000	10,000	43,560	43,560	35,000	6,000
Minimum Lot Width - Feet	300	230	145	145	120	80	145	145	145	60
Minimum Lot Area Per Dwelling Unit - Square Feet	190,000	70,000	43,560	35,000	18,000	10,000	6,000	N/A	N/A	N/A
Maximum Lot Coverage - % (area under roof)	6% <sub>(8)</sub>	13% <sub>(8)</sub>	17% <sub>(8)</sub>	20% <sub>(8)</sub>	25% <sub>(8)</sub>	30% <sub>(8)</sub>	50% <sub>(8)</sub>	60% <sub>(8)</sub>	25% <sub>(8)</sub>	60% <sub>(8)</sub>
Maximum Disturbed Lot Area - %	18% <sub>(7)</sub>	39% <sub>(7)</sub>	51% <sub>(7)</sub>	60% <sub>(7)</sub>	75%	100%	100%	100%	75%	100%

### **BUILDING DESIGN**

**Buildings should not be designed to become the dominant element of the site but should be thoughtfully designed to harmonize with the site. The use of building forms, materials and colors should be carefully selected to conform to the natural desert forms, textures and tones of the site.**

1. The building design should respond to the angles of the sun. Window glazing should typically be sheltered by deep eaves. Courtyards and patios should be designed to be well shaded in the summer and full of sun in the winter.
2. Recessing windows by a minimum of four (4) inches is highly encouraged to create depth and shadowing on the building façade. Tinted glass is also encouraged to decrease heat gain.
3. In order to encourage shadow patterns on the building fascia and to absorb rather than reflect light, strong textural patterns are encouraged on the building façade.
4. On rooftops, the application of skylights should be minimized to reduce heat gain and reflective properties. White skylights are highly discouraged.
5. In order to blend a building into the surrounding desert and reduce the perceived overall building massing, buildings with a mass greater than one story should be stepped into the

natural contours of the site.

6. Multiple roof forms should be used to further reduce the building mass. The layout and design for roof forms should also take into consideration off-site views from properties located higher on the mountainside.
7. Building materials and detailing should reflect the muted colors, tones and textures of the unique Sonoran Desert environment. Light reflective values should not exceed forty percent (40%) for all exterior colors. Finished materials such as railings, window frames entry doors and fascia may consist of an accent color with a light reflective value no greater than fifty-five (55%). Metals, including painted metal seam roofs, are not encouraged if they have any reflective/shiny properties. Shiny metals must be specifically approved by the development Review Board.
8. Accessory structures and buildings should be designed to visually connect to the primary residence through the use of landscaping and/or courtyards.
9. Pursuant to the Zoning Ordinance, [Article IX, Section 9.07](#), and to preserve offsite views from neighboring properties, all mechanical, heating and cooling equipment shall be located on the ground and screened from view by a solid masonry wall that blends with the architecture of the primary residence.
10. Pursuant to the 1996 Telecommunications act, satellite dishes one meter or less in diameter are excluded from this requirement. Satellite dishes larger than one meter in diameter must be screened from view in conformance to this requirement.

## **DRIVEWAYS**

**The location and design of the driveway is equally as important as the placement and design of the residence. A properly designed driveway should blend into the site, minimize mountainside scarring and preserve significant environmental features such as large boulder outcroppings or saguaros.**

1. The design and placement of a driveway should minimize disruption of significant environmental features and minimize grading.
2. Pursuant to the Zoning Ordinance, [Article X, Section 10.6 \(5\)](#), the use of pavers and/or exposed aggregate rather than asphalt will result in a reduction of the disturbed areas calculation for the driveway.
3. One drive/access point will be allowed for each residence. Shared use driveways are encouraged to minimize scarring of the mountainside.
4. Pursuant to the Zoning Ordinance, [Article X, Section 10.6 \(5\)](#), a maximum of 1/3 of any driveway cross section shall be on fill and minimum 2/3 on cut. The maximum slope of the driveway shall not exceed eighteen (18) percent and/or a paved width greater than twelve (12) feet. To ensure adequate emergency response time, Rural Metro will need to approve any driveway exceeding one hundred and fifty (150) feet in length.
5. Any cuts into the mountainside which expose native rock should be treated with an aging

agent. Where possible, native vegetation should also be used to restore disturbed areas and eliminate erosion risks.

### **SOLID MASONRY WALLS, RETAINING WALLS AND FENCES**

1. Pursuant to the Zoning Ordinance, [Article X, Section 10.6 \(10\)](#), solid masonry walls on mountainsides shall only be placed around courtyards and/or swimming pools adjacent to the primary residence and/or guest house.
2. The design of solid masonry walls should respond to the undulation of the natural terrain and preserve existing desert vegetation.
3. Native desert stone should be used to compliment the design of the wall and to create a more natural rather than an engineered appearance.
4. Pursuant to the Zoning Ordinance, [Article X, Section 10.06 \(4\) \(G\)](#), retaining walls shall be used to retain fill where slopes cannot be stabilized by the application of boulders, vegetation or the underlying native rock. River rock should not be used as a method to stabilize a cut slope.
5. Native desert landscaping should be used above, between and retaining walls to further screen the wall from view and to stabilize the soils/slopes.
6. Light reflective values of colors and finished materials for all free standing walls and retaining walls should not exceed forty percent (40%). The colors should emulate the dominant surrounding muted desert tones to ensure that the walls blend into the natural desert setting.
7. To protect wildlife habitat, breaks should be provided in walls and fences for washes and wildlife corridors.
8. Fencing should consist of high quality material with light reflective values below fifty-five percent (55%). The colors should emulate the surrounding muted desert tones to ensure that the fences blend into the natural desert setting.

### **SOLAR PANELS AND ASSOCIATED EQUIPMENT**

**The use of solar energy is encouraged from a sustainable energy perspective. However, it is important that the element associated with the solar equipment is designed into the residence to ensure a seamless and visually unobtrusive result and to protect the dominance of the Sonoran Desert setting.**

1. Pursuant to the Zoning Ordinance, [Article IX, Section 9.05](#), roof mounted solar panels shall be mounted at the same slope or parallel to the sloped roof. Solar panels mounted on a flat roof shall be screened from view by a roof parapet. All ground mounted equipment shall be screened from view by walls and landscaping and shall not exceed a height of six (6) feet above natural grade.
2. Swimming pool solar systems should meet the following design criteria:
  - a) Should be placed towards the rear of the house.

- b) All associated equipment should be painted to match the surface it lies against.
- c) Solar panels should be black in color to promote efficiency and prevent fading.

### **EXTERIOR LIGHTING**

**The dominance and enjoyment of the night time dark sky is a key element in maintaining the community's semi-rural character. The use of exterior lighting can have a cumulative impact that rapidly erodes stargazing. Exterior lighting should be low-keyed and emphasized only for safety and security purposes.**

1. Pursuant to the Zoning Ordinance, [Article IX, Section 9.12](#) all exterior lighting in excess of 25 watts shall be shielded.
2. To preserve the dark night skies, outdoor lighting should be focused downward on activity areas such as pedestrian courtyards and entrances into buildings.
3. General site lighting and architectural accent lighting that highlight the building façade are out of character with the community, disrupt the enjoyment of the dark night skies, and there, are highly discouraged.

### **LANDSCAPING**

**The dominance of the native upper Sonoran Desert plant species should be maintained throughout the site. These indigenous plants, regardless of their health and condition, are vital in maintaining the natural ecosystem functions such as seedling establishment, nutrient availability and decomposition. Small native shrubs such as Burr Sage, Desert Broom and Turpentine Bush are important in protecting the soil surface from the torrential monsoon rains, promoting water retention and infiltration and reducing erosion. Grooming, grubbing, raking and the application of pre-emergent materials are detrimental to maintaining the fragile upper Sonoran Desert ecosystem.**

1. Pursuant to the Zoning Ordinance, [Article IX, Section 9.13 \(1\) \(B\)](#), the grooming of native desert areas is prohibited except within thirty (30) feet of the residence.
2. To maintain the dominance of the native Sonoran Desert vegetation, native species should be preserved in situ in all areas not included within the designated building envelope.
3. The planting of mature trees (10 to 15 feet in height) is encouraged to provide an immediate impact, especially when used to buffer adjacent uses.
4. In order to further blend the building into the surrounding environment and soften the visual impact of the structure, low water use landscaping should be provided around the base of the building.
5. To maintain the community's vision of preserving the Sonoran Desert environment, the use of native plants is highly encouraged throughout all areas of the site. Drought tolerant varieties that adapt to the area's soils and climate and blend well with the native varieties may be used as a supplement around the residence. When used prudently, non-native species may be used in courtyards or confined areas not visible to the public.

6. The following species\* are protected plants and should be used as the primary plant palette for the site:

<u>Botanical Name</u>	<u>Common Name</u>
Acacia Consticta	Whitethorn Acacia
Acacia Greggii	Catclaw Acacia
Canotia Holocantha	Crucifixion Thorn
Celtis Pallida	Desert Hackberry
Celtis Reticulate	Hackberry
Cercidium Mycophyllum	Foothills Palo Verde
Chilopsis Linearis	Desert Willow
Fouquieria Splendens	Ocotillo
Olney Tesota	Ironwood
Prosopis Species	Mesquite
Quercus	Scrub Oak
Rhus Ovata	Sugar Sumac
Vauquelinea Californica	Arizona Rosewood

**\*All native Sonoran Desert cacti and yuccas are included within this list. Cholla and prickly pear species are not included as protected native plants.**

7. The following species are not appropriate in preserving the character of the upper Sonoran Desert:

Conifers  
Cypress  
Eucalyptus Species  
Ficus Species  
Olive  
Palms  
Juniper Species  
Tamarisk