

# Albuquerque Site & Building Design Considerations

***These Albuquerque Site and Building Design Considerations are recommended for all designers of site plans in Albuquerque. They were developed by a team of architects and planners convened to give advice to people designing projects for Albuquerque. These forms (fillable in Adobe Acrobat Reader) are encouraged for inclusion in a site plan application, but they are not required.***

The City of Albuquerque design philosophy promotes building performance: buildings that are sustainable and that promote the health and well-being of its citizens. This design philosophy will result in architecture that is unique to Albuquerque and fosters a sense of place and identity.

The most important aspect of a building is the building's ability to function well in response to its surroundings and the unique environmental constraints and opportunities of its specific location. They include bio-climate (winter and summer), solar access and impact, and views of Albuquerque's prominent geographic features. Albuquerque has compelling environmental forces--the daily and seasonal position of the sun, and a very unique force, the dramatic views to the Sandia mountains and other physical features. These are not subjective forces but rather tangible and timeless forces. They are physical properties that can be measured and documented. When architects and landscape architects acknowledge and respond to these forces, the resulting design is unique to Albuquerque in its aesthetic expression and its function.

***In Albuquerque, building and site design must consider summer and winter climate zones in combination due to our high desert location. Albuquerque also has dramatic views of the Sandia mountains and other physical features that can be captured in windows, patios, and balconies. Identify by checking the box that you have achieved, achieved in part, or evaluated only the following design principles in your site and building layout and building design.***

## **Section A.**

### **General Site Arrangement and Building Orientation:**

1. The building design should account for sun and shadow in a sun and shade analysis. The design should allow for heat loss during the summer months and heat gain during the winter months. Specific submittal requirements for the sun and shade analysis are in *Section B*.  
Achieved ☐      Achieved in Part ☐      Evaluated Only ☐
2. The building shapes should account for strong solar radiation effects on the east and west sides of the building and may encourage consideration of a slender elongation. Building wings extending on the east-west axis are preferable.  
Achieved ☐      Achieved in Part ☐      Evaluated Only ☐
3. Buildings oriented slightly east of south are preferable to secure balanced heat distribution.  
Achieved ☐      Achieved in Part ☐      Evaluated Only ☐

4. Design should allow for winter sun penetration and may inform depths of interiors so as not be excessive.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

5. Design should allow for natural ventilation as much as possible.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

#### **Building Entries and Windows:**

6. Building windows to the south and southeastern sides are preferable. South facing windows are easy to shade from the summer sun with simple horizontal overhangs, projections, or plantings.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

7. North facing entries should be carefully considered because they receive no direct sunlight during much of the winter and increase the need for snow and ice removal.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

8. North facing windows are encouraged as they require little to no shading.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

9. Any west facing building entries and windows should mitigate solar effects.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

#### **Outdoor Elements (Integration):**

10. Site plan design should spatially connect outdoor and indoor areas.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

11. Buildings arranged around landscape vegetated areas are preferred to use evaporative cooling effects and heat radiation losses at night.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

12. Buildings should be shaded by trees on all sun-exposed sides, especially the east and west exposures.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

13. Trees placement should be in combinations of two-thirds deciduous to one-third evergreen. Trees selection should have three or more tree types to avoid loss of species due to disease.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

14. Preservation or restoration of vegetation that is indigenous to Albuquerque is preferred.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

15. Glare from direct sunlight through windows can be effectively diffused by tree canopies. Deciduous trees planted in small or large groups are preferred.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

16. Outdoor residential living areas should be designed to take advantage of sun in winter months and shading in summer months. Patios and balconies should have a thoughtful solar orientation and a close relationship to nature.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

17. Paving should be used discriminately and, where used, efforts should be made to shade the paving.

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

Views:

18. Where the site has view potential, capture views of prominent visual forms--the Sandia mountains and foothills, the Bosque Rio Grande, Volcanos and escarpment--in windows, balconies, and patios. (Please note on the site layout and/or elevations where views are captured.)

Achieved ☐

Achieved in Part ☐

Evaluated Only ☐

By checking the boxes, I demonstrate that I have evaluated the Albuquerque Design Considerations in the design of Project \_\_\_\_\_ and Application No \_\_\_\_\_.

\_\_\_\_\_  
Signature of Project Architect/License No.

\_\_\_\_\_  
Signature of Project Landscape Architect/License No.

## **Section B.**

### **Sun and Shade Analysis requirements in compliance with 5-2(D)(1):**

A solar shading analysis will provide the designer with important information about building performance. The following steps are recommended for all commercial and residential projects in Albuquerque.

The desired outcome is that **summer sun** be shaded at least 50% or more on transparent windows and doors at three peak times on each facade.

The desired outcome is that 75% of **winter sun** should reach transparent windows and doors at noon on each facade.

It is recommended that the sun and shade analysis include elevations of all primary facades.

### **Summer Sun Analysis**

1. Show the effects of summer sun on windows on the following date and times:
  - a. May 21<sup>st</sup> analysis:
    - 9:00 AM
    - Noon
    - 4:00 PM
  - b. The shading study for May should show the percentage of the area of transparent windows and doors that are shaded at 9 am and 4 pm. **The desired outcome is that 50% or more of the area of the transparent windows and doors be shaded at 9 am and 4 pm on each façade.**
  - c. The shading study for May should show the percentage of the area of the transparent windows and doors that are shaded at noon. **The desired outcome is for 90% or more of the area of the transparent windows and doors be shaded at noon on each façade.**
  - d. Plantings may be modeled and included in the shading analysis. Use the mature size of trees and large shrubs according to the Albuquerque Plant List.
  - e. If no sun is influencing a façade at any of the above times, the graphic should simple state “no solar effect.”

### **Winter Sun Analysis**

1. Show the effects of winter sun on windows on the following date and time:
  - a. November 21<sup>st</sup> analysis:
    - Noon
  - b. The shading study for November should show the amount of sun reaching the transparent windows or doors and not shaded. **The desired outcome is for available sun to reach 75% of the area of the windows or transparent doors on each facade.**