

Albuquerque Site & Building Design Considerations

This form should be submitted with all commercial and multifamily site plans, except if the development is industrial or the multifamily is less than 25 units. *The project architect and landscape architect must complete the evaluation and sign the end of this form (fillable in Adobe Acrobat Reader).*

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.

Design Considerations for Compliance with IDO Section 5-2 (D)

*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 of the Design Considerations and signing, I verify that the items have been thoroughly evaluated in the design of Project _____ and Application No _____.

/ 5865

Signature of Project Architect/License No.

/ 337

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 shall be submitted with all site plan submittals, except for industrial development and multi-family residential development containing less than 25 units.

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.

The submittal shall include sun and shade analysis on elevations of all primary facades with a minimum of four elevations. Screen shots from a program like SketchUp are acceptable.

Summer Sun Analysis

1. Show the effects of summer sun on windows on the following date and times:
 - a. May 21st analysis:
 - 9:00 AM
 - Noon
 - 4:00 PM
 - b. The shading study for May should show the percentage of shading of transparent windows and doors at 9 am and 4 pm. **The desired outcome is that 50% or more 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 shading of transparent windows and doors at noon. **The desired outcome is for 90% or more of 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

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