



So You Want to Install a Solar Power System

A helpful guide for the High Desert homeowner

www.highdesertliving.net

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Introduction and Purpose

This pamphlet provides a guide for the homeowner to help them obtain approval to install a solar energy based power generating system in High Desert in a way that is in harmony with the rules and regulations of the community, our environment, and the expectations of residents.

Construction Guidelines for Solar Systems

The Guidelines for Sustainability provide detailed information on the limitations and requirements for constructing and installing a solar system. These guidelines are intended to minimize the visual impact of such systems, so careful attention should be paid to this during planning. The Guidelines that are relevant to solar systems are excerpted and included in this document in Appendix 1. Note that there are two sets of Guidelines, one for homes in Builder villages and another set for homes in Estate and Premier villages. Please refer to the Guidelines that apply to your village.

Submitting a Solar System Modification Request to the Modifications Committee

How to work with the Modifications Committee

Installing a solar energy system at your home is a modification to your property, which is governed by the Guidelines for Sustainability. All external changes need to comply with these requirements and must be approved in advance of construction by the Modifications Committee. The approval process begins with the owner completing a Request for Modifications that is submitted to the Committee. In most cases completion of the Modification Request with full information about the modification will be sufficient for the Committee to decide. If the information is incomplete or more is needed, the request will be denied and further information will be requested. The additional information submitted will be considered at the next regularly scheduled meeting. Attendance at the MC meeting is not necessary. The Guidelines for Sustainability, a description of the Modification Committee process, and other information relevant to this process may be obtained at the website for High Desert: www.highdesertliving.net

Modification Request Form

A Modification Request Form is available from either of two places:

- You may pick up the form at the HOAMCO office at 10555 Montgomery Boulevard NE, Building 1, Suite 100, Albuquerque, NM
- You can download the form from the High Desert website www.highdesertliving.net. On the home page, click on the "Modifications Committee" link on the left.

A reproduction of a Modification Request Form is in Appendix II of this brochure, but homeowners should obtain the current form from the sources above.

Modification Committee Procedures

Modification Requests and accompanying material are due by 4:00 PM on the second Friday of a calendar month. Any plans you submit to the committee will be kept by the committee, so be sure to make a copy for yourself. Modifications Committee meetings are normally held at 4:00 PM on the third Thursday of each month. All submissions received by the deadline will be considered at the meeting. If the submission is complete and self-explanatory, a decision will normally be made on it in that meeting and communicated to the homeowner via USPS letter. If the information is incomplete, the committee may deny the decision but ask for additional information in a resubmission. Within a few days of the date of the Modifications Committee meeting, you will receive a letter via USPS either informing you of the committee decision. No modification will be approved unless all pertinent information is submitted, so it is to your benefit to submit a complete package. When in doubt, include it in the request submission. The requirements are set out below.

What information should be included with the Modification Request?

At a minimum, the following items must be included with the request for a solar system installation.

1. Owner name, address, and contact information
2. Installation company name and representative contact information.
3. Rated kilowatt output of a proposed photo-voltaic system or rated BTU output of a proposed solar water heating system.
4. Manufacturer's specification sheets for the solar device and rack installation system, if any.
5. For the solar panels:
 - a. Number of panels
 - b. Dimensions of panels
 - c. Panel orientation – landscape or portrait, and general compass direction of the panels (N, E, S, W)
 - d. Pitch angle of the panels
6. Color of panels, frames, tubing, conduits and all associated equipment
7. Distances of the bottom and the top of the rack-mounted solar panel from the underlying surface (roof or ground)
8. Distance from the ground to the highest point of the proposed solar installation
9. Mitigation measures, if any, to shield the solar installation from view. Include analysis of alternative locations considered, if the submittal's location does not fully shield the

solar installation.

10. Technical drawings to scale of the installation with plan view of the roof (or ground, if installed on the ground) showing the location of the panels and related equipment
11. Elevation drawings showing the installation from the ground using the vantage points specified in the applicable section of the Guidelines
12. Visual renderings of any associated equipment installed on the sides of the home
13. All required items listed in the section of the Guidelines applicable to your village

Appendix I

Guidelines for Sustainability – sections relevant to Solar Systems

Solar Installations and Mechanical Equipment

The following paragraphs show those sections of the HDROA Guidelines for Sustainability that are relevant to Solar power and/or water systems. Please note that these sections are excerpts from the Guidelines, and in the case of any questions, interpretation or discrepancies, the Guidelines for Sustainability document shall prevail. The full text of the Guidelines for Sustainability documents is available on the High Desert website at:

http://www.highdesertliving.net/highdesertliving/page.html?page_id=34.

Note that there are separate Guidelines for Builder communities and for the Estate and Premier custom home communities. Each Guideline is a separate document and excerpts are shown in respective separate sections below. Additionally, the Wilderness Village and Wilderness Compound have a Supplement to the Builder Guidelines that is in a separate section below.

HIGH DESERT GUIDELINES FOR SUSTAINABILITY FOR **BUILDER HOMES**

Utility Meters and Mechanical/Electrical Equipment

- All utility meters and exterior equipment must be painted to match the building color and/or be screened with a wall or landscaping material unless doing so would be in violation of building, fire, or safety codes or the manufacturer's requirements. .
- All exterior mechanical equipment except for chimneys and structural elements of the building (roof or ground mounted) must be fully screened from view as viewed (1) from any point along the property line at a height of 63.5" and (2) from the street centerlines of streets directly adjacent to the property lines at a height of 42". Parapets may be used to screen roof mounted equipment.
- All exterior ground mounted mechanical equipment must be contained within the Private Area of the Building Envelope
- The location of all exterior mechanical equipment and the screening must be approved by either the New Construction or Modifications committee prior to installation. Every effort should be made to show, on all plans the location and screening, when submitted to the committee. Submittal of perspective views from the property corner-points, and other points as appropriate, at the heights noted above are required to verify adequate screening.
- Any changes in location or screening of mechanical equipment, after the original approval by the committee, must be approved by the committee.

Solar Specific Guidelines

- Every attempt should be made to minimize the visual impact of solar equipment.
- For pitched roofs, the equipment should be mounted in the same plane as the roof and as close as possible to the roof.
- For flat roofs, the bottom of the equipment will be mounted as close as possible to the roof (a distance of 6 inches or less from the bottom of the equipment to the roof is desired) and at the minimum angle possible for reasonable energy production and access to the sun.

- No solar energy devices shall encroach upon the Common Area of the property or the property of another owner or be located outside of the Building Envelope of the owner's lot.
- The design and color of framing or trim on any solar energy device shall be of a non-reflective surface to minimize the visual impact. All paintable surfaces such as pipes, tubes, cables, conduits and wires, shall be screened or painted to match the colors of the underlying surfaces at the time of installation, unless doing so would be in violation of building, fire, or safety codes or the manufacturer's requirements.
- Additional shielding or painting may be required to minimize reflections from any solar energy device.
- The total installed height of the solar equipment shall conform to the building height restrictions in the applicable Guidelines.
- Plan submissions
 - Plans shall be submitted that are to scale, although dimension labeling is not required. Required views are a plan view, and views from corners and mid-points, including expected worst case views for (1) along the property line at a height of 63.5" and (2) from adjacent street centerlines from the extension of any property line in a perpendicular direction to the adjacent street at a height of 42".
 - Pitch angles relative to the flat roof or ground.
 - Distance from the lowest natural grade to the top of the solar equipment shall be specified.
 - Any shielding proposed to meet the shielding requirements shall be shown on the proposed plans.
 - A visual rendering of any associated equipment (controls, conduits, piping, etc) installed on the sides of the home shall be provided.
 - Specification sheets and dimensions for the solar equipment mounted exterior to the home shall be submitted along with the installation company.

Additional information/discussion required for Non-Conforming Plans

- If the above conditions cannot be met for the proposed mechanical/electrical equipment or solar installation, the homeowner should be prepared to discuss the following with the committee before approval can be granted. In addition, if it becomes apparent a variance to the Guidelines is necessary, the proposal will be forwarded from the MC to the NCC for resolution.
 - Possible reduction in physical size
 - Performance reduction due to lower mounting angles or location change
 - Additional shielding
 - Different equipment that could meet the same energy generation request
 - Why the locations required by the Guidelines for installation are unsuitable for providing solar energy.

HIGH DESERT GUIDELINES FOR SUSTAINABILITY FOR ESTATE AND PREMIER HOMES

Utility Meters and Mechanical/Electrical Equipment

- All utility meters and exterior equipment must be painted to match the building color and/or be screened with a wall or landscaping material unless doing so would be in violation of building, fire, or safety codes or the manufacturer's requirements. .

- All exterior mechanical equipment except for chimneys and structural elements of the building (roof or ground mounted) must be fully screened from view as viewed (1) from any point along the property line at a height of 63.5" and (2) from the street centerlines of streets directly adjacent to the property lines at a height of 42". Parapets may be used to screen roof mounted equipment.
- All exterior ground mounted mechanical equipment must be contained within the Private Area of the Building Envelope.
- The location of all exterior mechanical equipment and the screening must be approved by either the New Construction or Modifications committee prior to installation. Every effort should be made to show, on all plans the location and screening, when submitted to the committee. Submittal of perspective views from the property corner-points, and other points as appropriate, at the heights noted above are required to verify adequate screening.
- Any changes in location or screening of mechanical equipment, after the original approval by the committee, must be approved by the committee.
- Satellite dishes should be installed in the best possible location to maximize shielding the dish from view as viewed (1) from any point along the property line at a height of 63.5" and (2) from the street centerlines of streets directly adjacent to the property lines at a height of 42".

Solar Specific Guidelines

- Every attempt should be made to minimize the visual impact of solar equipment.
- For pitched roofs, the equipment should be mounted in the same plane as the roof and as close as possible to the roof.
- For flat roofs, the bottom of the equipment will be mounted as close as possible to the roof (a distance of 6 inches or less from the bottom of the equipment to the roof is desired) and at the minimum angle possible for reasonable energy production and access to the sun.
- No solar energy devices shall encroach upon the Common Area of the property or the property of another owner or be located outside of the Building Envelope of the owner's lot.
- The design and color of framing or trim on any solar energy device shall be of a non-reflective surface to minimize the visual impact. All paintable surfaces such as pipes, tubes, cables, conduits and wires, shall be screened or painted to match the colors of the underlying surfaces at the time of installation, unless doing so would be in violation of building, fire, or safety codes or the manufacturer's requirements.
- Additional shielding or painting may be required to minimize reflections from any solar energy device.
- The total installed height of the solar equipment shall conform to the building height restrictions in the applicable Guidelines.
- Plan submissions
 - Plans shall be submitted that are to scale, although dimension labeling is not required. Required views are a plan view, and views from corners and mid-points, including expected worst case views for (1) along the property line at a height of 63.5" and (2) from adjacent street centerlines from the extension of any property line in a perpendicular direction to the adjacent street at a height of 42".
 - Pitch angles relative to the flat roof or ground.
 - Distance from the lowest natural grade to the top of the solar equipment shall be specified.
 - Any shielding proposed to meet the shielding requirements shall be shown on the proposed plans.
 - A visual rendering of any associated equipment (controls, conduits, piping, etc) installed on the sides of the home shall be provided.

- Specification sheets and dimensions for the solar equipment mounted exterior to the home shall be submitted along with the installation company.
- If the above conditions cannot be met for the proposed mechanical/electrical equipment or solar installation, the homeowner should be prepared to discuss the following with the committee before approval can be granted. In addition, if it becomes apparent a variance to the Guidelines is necessary, the proposal will be forwarded from the MC to the NCC for resolution.
 - Possible reduction in physical size
 - Performance reduction due to lower mounting angles or location change
 - Additional shielding
 - Different equipment that could meet the same energy generation request
 - Why the locations required by the Guidelines for installation are unsuitable for providing solar energy

Roofs - Highlands Design Overlay Zone

- No mechanical equipment or skylights may be located on pitched roofs.

SUPPLEMENTAL GUIDELINES FOR WILDERNESS VILLAGE AND WILDERNESS COMPOUND

Mechanical Equipment and Appurtenances

- Mechanical equipment and all appurtenances, whether ground or roof mounted, must be screened per the Guidelines for Sustainability—Builder Homes. The plans must include an elevation view of the equipment and walls, both dimensioned, as they relate to the building elevations. The screen wall must be higher than the top of the unit to adequately screen. Note that the height of the screen wall on the roof is included in the maximum building height calculations. The WV/CAAC and the New Construction Committee or Modifications Committee, as appropriate, may require additional screening measures. Skylights must be frosted and every reasonable effort is to be made to screen from perimeter of property with exterior wall parapet and to minimize light pollution.

Appendix II
Specimen Modification Request Form
 (obtain the latest form at www.highdesertliving.net)

HIGH DESERT RESIDENTIAL OWNERS ASSOCIATION
APPROVAL REQUEST FOR ADDITIONS AND MODIFICATIONS
(Applications are due no later than the first Friday of the month for that month's MC meeting)

Property Description:	
Date _____	Certification: <i>This home has previously been certified as complete by the New Construction Committee. Initial _____</i>
Village _____	Lot No. (if known) _____
Street Address _____	

Requested By:	
Owner Name _____	
Mailing Address _____ <i>(if different from street address)</i>	
Agent Name (if applicable) _____	
Contact Phone No. _____	E-Mail Address _____

Description of Proposed Modification:

Required Documents & Checklist: <i>To expedite the review and approval process, proper documentation is required. Additional drawings, photos, or clarifications may be requested by the MC.</i>

- Location Plan or Site Plan clearly showing the whole property, the general location of modification, and outline of required setbacks and easements. Photos may be submitted in addition, but they will NOT substitute for required Location and Site plans.
- Drafted floor plan, elevations, sections with requisite notes addressing color, materials, dimensions (heights, depths, etc.) showing relative location to existing.
- Each Village/development has its own Supplemental Guidelines for Sustainability and prescribed architectural guidelines; before submitting any request to the Modifications Committee, owners and/or agents should review them.
- Certain requests may require that the Committee employ the services of external engineering or other professional consultants for proper evaluation. In those cases, the requester will be provided with an estimate of the charges for such services and must agree to pay those charges before the evaluation of the request can proceed.

** Submitted plans become the property of the High Desert Residential Owners Association.*

COMMITTEE ACTION:

Date received complete application _____

Entered: TOPS Letter to homeowner TOPS

- Approved without exception.
- Construction deposit of \$ _____ is required prior to start of construction.
- Request denied.
- Approved with conditions: _____
- More information needed for complete evaluation: _____

By: _____ Date _____
 Chair or Authorized Agent, High Desert Modifications Committee

Mail, drop off or e-mail:
 HDROA Modifications Committee
 High Desert Residential Owners Association
 10555 Montgomery NE ~ Bldg 1 ~ Suite 100
 Albuquerque, NM 87111
 Phone (505) 314-5862 • Fax (505) 293-0217 • highdesertmanager@hoamco.com

Appendix III How to Contact Us

1. Via U.S. Mail:

High Desert Residential Owners Association
10555 Montgomery Boulevard NE, Building 1, Suite 100
Albuquerque, NM 87111

2. Via Telephone

505 314 5862
Office Hours are Mon – Fri 9:00 AM to 4:00 PM

3. Via Fax

505 293 0217

4. Via Email

highdesertmanager@hoamco.com

5. Via the High Desert website

www.highdesertliving.net