Verrado Residential Design Guidelines

July 27, 2010

Amendment to Section 4 - Architectural Standards

DESIGN GUIDELINES FOR SOLAR ENERGY DEVICES

Solar Energy Devices, including photovoltaic and solar hot water systems, are excellent ways of providing renewable and non-polluting energy sources for residential use. Such systems are encouraged, provided they follow the same thoughtful principles of design that have been used throughout Verrado. Although an Owner may have certain legal rights to install Solar Energy Devices per the law, these ***Design Guidelines for Solar Energy Devices*** hope to encourage quality design and integration of these Solar Energy Devices into the architecture, landscape and site design for a Lot. The greatest success will come not only by providing earth-friendly and environmentally-responsible Solar Energy Devices, but also by designing them in such a way that they are integrally-designed and aesthetically-pleasing to the entire community.

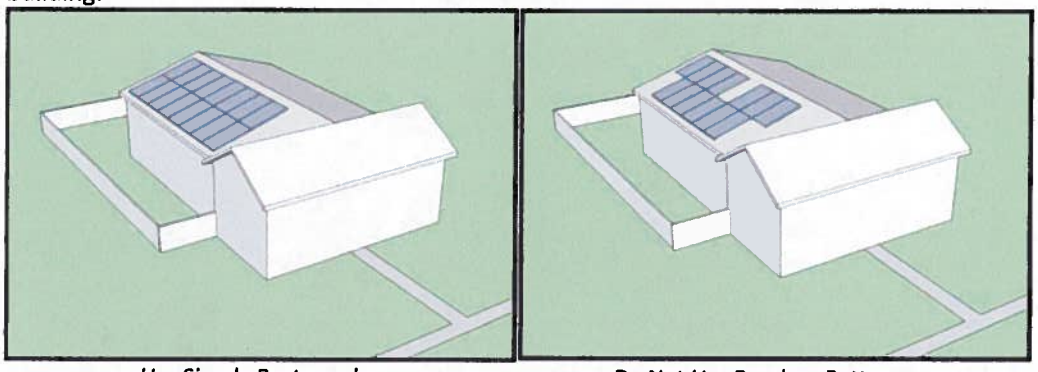
(a) Definition of a Solar Energy Device per A.R.S. §44-1761

1) A system or series of mechanisms designed primarily to provide heating; to provide cooling; to produce electrical power; to produce mechanical power; to provide solar daylighting; or to provide any combination of the foregoing means of collected and transferring solar generated energy into such uses either by active or passive means. Such systems may also have the capability to store such energy for future utilization. Passive systems shall clearly be designed as a Solar Energy Device such as a Trombe wall and not merely a part of a normal structure, such as a window.
2) If A.R.S. §44-1761 is expanded in the future to include other types of Solar Energy Devices, this section shall encompass those Solar Energy Devices as well.

(b) Placement

1) If the Solar Energy Device is one of the devices listed in A.R.S. §44-1761, the placement of the Solar Energy Device must be approved in advance by the Committee in writing prior to installation. Such Solar Energy Device must comply with the following regulations, to the extent that they do not impair the functioning of the device, restrict its use, or adversely affect the cost or efficiency of the device.
2) A Solar Energy Device must be placed entirely within the property or Lot of the Owner. No Solar Energy Device may encroach upon a Common Area, right-of-way, street, or property of another owner.
3) The location of a Solar Energy Device must comply with all applicable Town, county and state laws, regulations and codes including applicable setbacks and height limits.
4) Roof-mounted Solar Energy Devices are strongly discouraged on roof planes that face streets, including side streets, if other alternatives for effective use are available. A Solar Energy Device should be placed in the back yard or on a portion of the roof that does not face a street, to the maximum extent possible. Ground-mounted Solar Energy Devices located in enclosed rear yards are encouraged.
5) The Solar Energy Device should be shielded from view from any other Lot, street or Common area, to the maximum extent possible.

6) Solar Energy Devices that are located on a sloped roof plane are required to be arranged in a simple rectangular shape. Random and arbitrary layouts are not allowed, since they do not relate to the building forms. Solar Energy Devices that are arranged in staggered, stair-stepped and checkerboard shapes are not allowed provided that alternatives for effective use are available. The simple rectangular shape of solar panels will provide a thoughtful form on the roof of the building and will integrate with the architectural forms of the building.



Use Simple Rectangular Shapes for Solar Panels

Do Not Use Random Patterns

7) Roof mounted Solar Energy Devices that utilize panels must place the panels in the same plane and slope as the roof plane on which they are located. Panels may not be placed at a slope or angle that is different than the roof plane on which they are located, provided that alternatives for effective use are available.
8) The highest point of a Solar Energy Device may not be higher than the base of the ridge tile on the ridge of the roof plane on which the device is located, unless necessary for the proper functioning and use of the Solar Energy Device.
9) A Solar Energy Device must be located a minimum of 8" from the rake end of any roof.
10) A Solar Energy Device may not extend or overhang an existing roof form, unless such layout is to achieve a better or acceptable aesthetic architectural detail, unless necessary for the proper functioning and use of the Solar Energy Device.
11) At times, if may be necessary to relocate existing rooftop vents in order to achieve a layout and arrangement of panels that complies with these Guidelines.
12) Any Owner who installs a Solar Energy Device on their property hereby acknowledges that trees along the streets, parks, open spaces, common areas and on adjacent properties will continue to grow and may impact the solar shading of an Owner's Solar Energy Device. The Owner further acknowledges that the Verrado Community Association and the owners of adjacent properties have no obligation whatsoever to trim, prune or otherwise alter such trees now or at any time in the future.
13) Any Owner who installs a Solar Energy Device hereby acknowledges that any front yard trees (or side yard trees in the case of a Corner Lot) that are required by the Verrado Residential Design Guidelines that are located on the Owner's property are required to remain and may not be trimmed or pruned in a manner inconsistent with the overall community standards for similar species of trees, if such trees grow and eventually impact the solar shading of the Owner's Solar Energy Device.

(c) Installation Details

1) Solar Energy Devices that are mounted on a roof must have a black or anodized bronze frame. No unfinished metal frames that are grey, silver, chrome or shiny are allowed. Any application to the Design Review Committee must include a specification for the frame color.
2) All EXPOSED brackets, fasteners, pipes, conduits, clips, attachments, boxes and similar accessories must be in the colors of black, bronze or painted to match the surface to which they are attached. No shiny, silvery, grey, chrome or similar finishes may be exposed from view from an adjacent property. (this does not apply to concealed and hidden accessories)
3) A roof-mounted Solar Energy Device shall be placed as close as possible to the existing roof plane. In an effort to keep a roof-mounted photovoltaic Solar Energy Device as close to the roof plane as possible, while still providing the necessary air flow under the device, the "posts" that support the device above the roof substructure may not be taller than 6", unless necessary for the proper functioning and use of the Solar Energy Device.
4) In an effort to keep the profile of a roof-mounted Solar Energy Device as low and as unobtrusive as possible, it is recommended (although not required) that the roof tiles be removed in the area to receive the solar panels so that the panels can be installed as close to the roof substructure as possible, which provides for great integration with the roof plane. A roof membrane can be installed in the location in which the tiles were removed to ensure proper weather protection.
5) No exposed conduits, wiring, piping and similar elements are allowed on the roof unless such elements are painted to match the color of the adjacent surface. It is strongly encouraged that conduits, wiring and piping should be run through the attic space. Minor exposed connections are excepted, if painted to match the surface that they are adjacent to. In an effort to minimize the installation cost, the Design Review Committee may allow small sections of conduit or piping to be exposed on the side of the home provided that the location is generally inconspicuous and the conduit is painted to match the house color. Any exposed conduits on the side of a home must be screened from view to the extent feasible.
6) To the greatest extent possible, all accessory components of a Solar Energy Device, such as an inverter and DC disconnect, should be located behind the existing side yard fence. For photovoltaic systems, the meter box may be placed adjacent to the electrical service entrance section (SES) of the home.
7) The exposed disconnect switch box, disconnect box, meter box or any other appurtenances should be painted to match the adjacent wall or roof surface on which they are located. It is <u>not</u> necessary to paint over labels or placards on these boxes. It should be noted, that some installers recommends that these boxes not be painted until after interconnect approval by the local utility company.
8) Any water storage tank or water storage facility associated with a hot water Solar Energy Device may not be placed on the roof. Such storage facility must be concealed within the building structure or placed on the ground and screened according to the provisions of the Verrado Residential Design Guidelines.
9) Installation of Solar Energy Device must be pursuant to the manufacturer's instructions.
10) The Owner must obtain a building permit for this work and must provide the Verrado Design Review Committee with a copy of the building permit for our files.

(d) Maintenance

1) The Owner is responsible for all costs associated with the installation, operation and maintenance of the Solar Energy Device.
2) The Owner shall keep the Solar Energy Device in good repair.

3) If the Solar Energy Device becomes broken or non-functioning for a period of longer than twelve consecutive months while the home is occupied, the Design Review Committee or the Association may (but is not obligated to) require the Owner to remove the Solar Energy Device. This criteria is to ensure that obsolete, non-functioning Solar Energy Devices do not remain on a roof if they are no longer functioning.

(e) Enforcement

1) The Association and the Design Review Committee shall have the authority to enforce the provisions of this section of these Guidelines, as provided by the governing documents.
2) Notwithstanding any provision contained in this section of these Guidelines or any other document governing the Association, this section shall not be enforced in a way that (i) prevents the installation of a Solar Energy Device; (ii) impairs the functioning of the Solar Energy Device; (iii) restricts the use of a Solar Energy Device; (iv) adversely and significantly affects the cost or efficiency of a Solar Energy Device, therefore the Verrado Design Review Committee reserve all rights to approve or allow exceptions to these Guidelines on a case-by-case basis, as it deems appropriate.

(f) Severability

1) If any provision of this section of these Guidelines is ruled invalid, the remainder of these rules shall remain in full force and effect.
2) If the State of Arizona Legislature modifies A.R.S. §33-1816 and A.R.S. §44-1761, the modified laws shall be incorporated into this section, as if fully set forth herein.

(g) Design Review Application Submittal Requirements

1) Any application to the Verrado Design Review Committee for a Solar Energy Device shall include the following items as a minimum.
2) Application Form - available from the Design Review Committee or online at www.verrado.net.
3) A Site Plan, accurately drawn to scale, showing the location of property lines, setbacks and existing improvements.
4) Drawings and plans with sufficient information and accurately drawn to scale to show the location, placement, size, shape, configuration and dimensions necessary to accurately explain and illustrate the proposed Solar Energy Device.
5) Cut sheets from the manufacturer or vendor for any rooftop potions of the Solar Energy Device, showing dimensions and colors.
6) Photographs of the existing home showing:
   a. View of the entire front elevation of the home. (no partial views)
   b. View of the entire side or rear elevation of the home on which Solar Energy Device will be mounted. (no partial views)
   c. Each photograph to be 8" x 10" minimum in size. (8-1/2 " x 11" color prints are preferred)
7) A photo-simulation or other graphic representation that illustrates the general appearance of a roof-mounted Solar Energy Device on a photograph of the existing home.
8) The Owner must obtain a building permit for this work from the applicable governmental agencies and must provide the Verrado Design Review Committee with a copy of the permit for our files.
9) The schedule and timing for reviews by the Verrado Design Review Committee shall be as described in the Verrado Residential Design Guidelines.

(h) Design Guidelines Amendments

1) The Verrado Design Review Committee and the Verrado Community Association reserve all rights to modify, change, expand or amend these *Design Guidelines for Solar Energy Devices* at any time and without notice in order to adjust for changes in equipment or technology as well as to further the objectives and criteria for Solar Energy Devices within the community, subject to applicable laws.

THE PLANS FOR A SOLAR ENERGY DEVICE MUST BE SUBMITTED TO THE VERRADO DESIGN REVIEW COMMITTEE FOR REVIEW AND APPROVAL. CONSTRUCTION OR INSTALLATION MAY NOT COMMENCE UNTIL SUCH APPROVAL IS GRANTED IN WRITING.

THIS AMENDMENT TO THE VERRADO RESIDENTIAL DESIGN GUIDELINES IS HEREBY ADOPTED BY THE VERRADO DESIGN REVIEW COMMITTEE ON THIS 27th DAY OF JULY, 2010.

(signature of Design Review Committee Member)

(signature of Design Review Committee Member)

(signature of Design Review Committee Member)