PZ-1 Zoning Review

Community: Meridian, ID

PZ-1: Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit solar PV development. Compile findings in a memo. (Required for Bronze)

To assist your local government, the national solar experts at SolSmart have conducted a review of your community's zoning and land use regulations to assess possible barriers (i.e. height restrictions, set-back requirements, etc.) and gaps related to solar PV development. Below, please find the outcome of the review. By reading the narrative, reviewing the example code language provided, and signing the statement at the bottom of the page, your community will satisfy the PZ-1 pre-requisite and be one step closer to achieving SolSmart designation.

Overview

The City of Meridian Unified Development Code (UDC) was accessed and reviewed during November 2021. The code was accessed via the community's website (with a redirect to the Municode website).

- The UDC contains no references to photovoltaic or solar energy.

In the Code of Ordinances the following terms appear in Title 10 Building Regulations.

- A search for "photovoltaic" yielded 1 result in reference to fire access road modification for solar photovoltaic power generation facilities.
- A search for "solar" yielded 1 result in reference to fire access road modification for solar photovoltaic power generation facilities.

The Meridian zoning code is silent on the development and use of solar energy systems. It is difficult to interpret if any of the current language in the zoning code is a barrier to solar energy systems without specific references. Therefore, the following gaps have been identified to indicate how the zoning code could be updated to provide clear and transparent regulations on the development and use of solar energy within Meridian.

Potential Gaps in Current Code

Element	Priority
Definition	High. The definition forms the basis of understanding for any forthcoming solar ordinance.
Review Comment	
Solar energy systems are not defined. Definitions form the basis of understanding for the terms used throughout the solar energy section of the ordinance. At a minimum, a local government should include definitions that distinguish between solar energy system type (roof-mounted vs ground-mounted) and size (small, medium, and large) to provide clarity and a foundation on which to provide use regulations and design/development standards. System sizes are defined by area because technology and the efficiencies of those technologies improve over time.	
Examples	
1) *Solar energy system:* A device, array of devices, or structural design feature, the purpose of which is to provide for generation or storage of electricity from sunlight, or the collection, storage, and distribution of solar energy for space heating or cooling, daylight for interior lighting, or water heating.	

2) *Solar photovoltaic system:* A solar energy system that converts solar energy directly into electricity, the primary components of which are solar panels, mounting devices, inverters, and wiring.
3) *Grid*-connected system: A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.
4) *Roof-mounted solar energy system*: A solar energy system mounted on a rack that is ballasted on, or is attached to, the roof of a building or structure. Roof-mount systems are accessory to the principal use.
5) *Ground-mounted solar energy system*: A solar energy system mounted on a rack or pole that is ballasted on, or is attached to, the ground. Ground-mount systems can be either accessory or principal uses.
6) *Small-Scale solar energy system*: A Solar Energy System that occupies 1,750 square feet of surface area or less.
7) *Medium-scale solar energy system*: A Solar Energy System that occupies more than 1,750 but less than 40,000 square feet of surface area.
8) *Large-scale solar energy system*: A Solar Energy System that occupies more than 40,000 square feet of surface area and is the principal land use for the parcel(s) on which it is located. Large-scale systems are permitted through the discretionary approval process.

Element	**Priority**
Accessory Use Solar	High. Allowing solar as by-right accessory use will significantly reduce installation times and costs, which should encourage further development of solar energy.

Review Comment

The zoning ordinance does not clearly state that certain types/sizes of solar energy systems are considered accessory uses.

Zoning often provides additional processes, which can be long and costly, to consider special exceptions when a proposal is inconsistent with current land use regulations. Codifying solar as an accessory use and as an allowed or by-right use in all major zoning categories provides policy certainty and clarity which can promote easier and more equitable solar deployment. It can increase solar development and save property owners time and money because they avoid going through a more extensive discretionary process to have their solar system considered. For example, removing the need for a planning commission or equivalent entity to make a judgement prior to approving the project (this can also save local government staff capacity to focus on other priorities and projects).

Often accessory use solar is not listed as a permitted use in a zoning ordinance, even though it may be treated as such in practice (though in other instances, if it is not listed it may be considered prohibited). This lack of clarity on language could cause confusion and open the door to various interpretations/determinations of use. **This is the primary reason the SolSmart Gold pre-requisite for Planning and Zoning requires clear and transparent language that states accessory use solar is a permitted or allowed use.**

Examples

More permissive:
“Solar Energy Systems as described in this Article are permitted in all zoning districts as an accessory use to a permitted principal use subject to the standards for accessory uses in the applicable zoning

district and the specific criteria set forth in this article." (Renewable Energy Ordinance Framework, DVRPC)

Less permissive:
"Solar Energy Systems shall be considered an accessory use and permitted by right if mounted to an existing structure and if any percentage of the energy is used for one or more of the principal uses on the same lot." (Renewable Energy Ordinance Framework, DVRPC)

Element	Priority
Height	Medium. Allowing the solar energy system to exceed the district's maximum height limit is critical, especially to allow for solar energy systems to be installed where buildings may have already met the maximum building height. It is also important for system efficiency.
Review Comment	
It is a best practice to either exempt solar energy systems from height limits or permit solar energy systems to exceed the maximum building height in all applicable districts. For buildings that are already built to the maximum height limit – especially buildings with flat roofs - this may limit their ability to install solar. This is particularly critical on flat buildings, because solar installations on these structures are typically done at an angle to maximize system efficiency (generally at the same angle as the latitude at which the system is installed). Therefore, additional height is often necessary.	
Examples	
Most permissive option: "For a roof-mounted system installed on a flat roof, the highest point of the system shall be permitted to exceed the district's height limit of up to fifteen (15) feet above the rooftop to which it is attached." (Renewable Energy Ordinance Framework, DVRPC) Less permissive option: Municipalities can be more restrictive than this, though it is not recommended that they limit to less than six (6) feet above the rooftop surface." (Renewable Energy Ordinance Framework, DVRPC)	

Element	Priority
Screening/Aesthetic Requirements	Medium. Screening requirements may increase installation costs and/or decrease system efficiency.
Review Comment	
It is a best practice to exempt solar energy systems from screening requirements and allow solar energy systems to be seen from public rights of way. Solar PV performance depends on optimal siting of the system and clear access to solar radiation. Screening requirements could negatively impact system performance if the screening results in shading and decreases system efficiency. Screening requirements could also hide the location of important system components that are necessary to shut off a system in case of a fire or other type of emergency.	
Examples	

Screening of Mechanical and Electrical Equipment: All exterior mechanical and electrical equipment shall be screened on all vertical sides at least to the height of the equipment it is screening and incorporated into the design of buildings to the maximum extent feasible. Equipment to be screened includes, but is not limited to, all roof-mounted equipment, air conditioners, heaters, utility meters, cable equipment, telephone entry boxes, backflow preventions, irrigation control valves, electrical transformers, pull boxes, and all ducting for air conditioning, heating, and blower systems. Screening materials may include landscaping or other materials that shall be consistent with the exterior colors and materials of the building. **Solar energy systems are exempt from this screening requirement. (emphasis added)** The Architectural Review Board or Landmarks Commission may reduce the height of the required screening based on the placement of the equipment on the roof, the existing height of the subject building and surrounding buildings, and the overall visibility of the equipment. (9.21.140 Screening, Santa Monica Zoning Code)

Element	**Priority**
Setbacks	Low. The community may want to consider reducing the setback requirements for solar energy systems and/or allow them to encroach reasonably into the setback so that they can receive adequate sunlight to make them efficient.
Review Comment	
It is a best practice to allow ground-mounted solar energy systems a modest encroachment into the setback to ensure systems can receive adequate sunlight and be sized appropriately.	
Examples	
More permissive option: Small- and medium-scale ground-mounted solar energy systems accessory to principal use may be located no closer than [1/2 of the setback that would otherwise apply] from the front, side or rear lot line. All ground-mounted solar energy systems in residential districts shall be installed either in the side yard or rear yard to the extent practicable (Model Zoning for the Regulation of Solar Energy Systems, MA DOER) Less permissive option: Small- and medium-scale ground-mounted solar energy systems accessory to a principal use may be located no closer than [twenty (20) feet] from the front, side or rear lot line. All ground-mounted solar energy systems in residential districts shall be installed either in the side yard or rear yard to the extent practicable. (Model Zoning for the Regulation of Solar Energy Systems, MA DOER)	

Element	**Priority**
Lot Coverage (Impervious Surface)	Medium. Counting solar energy systems as lot coverage could limit the implementation of solar systems, especially if many of the current lots at or are near the maximum lot coverage allowed under the code.
Review Comment	
It is a best practice to exempt ground-mounted solar energy systems from lot coverage calculations as long as the area beneath the system is pervious (e.g. grass). As long as the area beneath a ground-mounted solar PV system is pervious (e.g. grass, native vegetation, etc.) the system should be exempt from lot coverage and impervious surface requirements. The tilt and spacing of panels allow for precipitation to drain into the pervious ground	

cover. Ground-mounted PV systems are not analogous to paved driveways or accessory structures like sheds, garages, or accessory dwelling units and therefore do not need to be included in lot coverage or impervious surface calculations.
Examples
Most Permissive: “For purposes of determining compliance with building coverage standards of the applicable zoning district, the total horizontal projection area of all ground-mounted and free-standing solar collectors, including solar photovoltaic cells, panels, arrays, inverters, shall be considered pervious coverage so long as pervious conditions are maintained underneath the solar photovoltaic cells, panels, and arrays.” (Renewable Energy Ordinance Framework, DVRPC) Less Permissive: “For purposes of determining compliance with building coverage standards of the applicable zoning district, the total horizontal projection area of all ground-mounted and free-standing solar collectors, including solar photovoltaic cells, panels, arrays, inverters and solar hot air or water collector devices, shall be considered ___% impervious coverage. For example, if the total horizontal projection of a solar energy system is 100 square feet, XX square feet shall count towards the impervious coverage standard. For a tracking array or other moveable system, the horizontal projection area shall be calculated at a 33-degree tilt angle.” (Renewable Energy Ordinance Framework, DVRPC)

Element	**Priority**
Large-scale Solar/Principal Use	Low.
Review Comment	
If the Meridian has enough usable land that could be developed for a principal use solar system, it might consider adding some zoning considerations and development requirements into the zoning ordinance. This could be of particular interest if there is a brownfield site such as a landfill available for development.	
Examples	
See Example #2 (Site Plan Review provisions for large-scale ground-mounted solar energy systems) in the Model Zoning for the Regulation of Solar Energy Systems, MA DOER.	

Additional Notes

The Meridian zoning code is silent regarding the use of solar energy. It does not provide basic information about the use of solar energy – including a purpose, definitions, general regulations including clarification on accessory use and primary use solar. Including basic information about solar energy improves transparency of processes and clarity of development requirements and can enhance the growth of the local solar market in an organized and efficient manner. If this information is codified in the zoning ordinance, the Meridian can achieve Gold designation.

If Meridian does not want to update the zoning code to clearly address solar energy, the community can achieve Silver designation by writing and posting an advisory determination/zoning determination that explains how solar energy is addressed by the current zoning ordinance and processes. Here’s an advisory determination that helped South Miami achieve Silver designation.

Please see the document SolSmart Zoning Code Considerations for additional information about what can be included in a solar ordinance.

I, [full name] as [title] of [community], [state] have received the zoning review and read its findings.

Signature: Date: 21 Dec 2021

Please note that this review is not an endorsement or recommendation for changing and/or updating the zoning code/ordinance. This is an informational review only.