



**Planning Staff Report to
Greenville Planning Commission
February 11, 2022**
for the February 17, 2022 Public Hearing

Agenda Item: SolSmart Zoning Review Memorandum
Applicant: City of Greenville / Michael Frixen, Sustainability Coordinator
Staff Recommendation: N/A

Applicable Sections of the City of Greenville Code of Ordinances:

Sec. 2-372 Function, Powers, and Duties of the Planning Commission

Overview:

In the fall of 2021, the City of Greenville was contacted by staff at the N.C. Clean Energy Technology Center at North Carolina State University with an offer for technical assistance on the SolSmart program. [SolSmart](#) is a national designation program that recognizes local governments that have taken steps to foster the development of local solar markets. Communities may earn points in five categories: Permitting and Inspection, Planning and Zoning, Government Operations, Community Engagement, and Market Development. To obtain a requisite number of points in graduated intervals across these categories allows a government to achieve bronze, silver, or gold SolSmart certification. According to the program website, since the program launched in 2016, more than 400 cities, counties, and regional organizations in 41 states have achieved SolSmart designation.

Increased access to renewable energy sources has emerged as a key focus area of the city's draft sustainability plan, currently under development, and is a priority for energy and environmental advocacy organizations in the Greenville area. The SolSmart certification program aligns with these goals around renewable energy.

One of the prerequisites for any level of certification is to prepare a memorandum, that outlines potential barriers to the permit process and approval of ground and roof-mounted panels under the local zoning ordinance, and then present this memorandum to the Planning Commission. The Clean Tech Center, at NC State University, took the lead to prepare the enclosed memo for the City of Greenville. Therefore, staff presents the memorandum to the Planning Commission to fulfill this prerequisite requirement.

Procedural Requirements:

From the SolSmart [Program Guide](#):

PZ-1. Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit solar PV development. Compile findings in a memo. (Required for Bronze.) Examples include: height restrictions, set-back requirements, screening requirements, visibility restrictions, etc.

PZ-2. Present PZ-1 memo findings to planning commission or relevant body.

Staff note: No action by the Planning Commission is required. The memorandum is presented for informational purposes only.

Staff Analysis:

Staff generally concurs with the findings and analysis of the memorandum. Many of the issues raised appear to be due to the absence of specific language and information about solar panels in the zoning ordinance. The report outlines potential areas where the city may address solar panels in the future. Any potential changes may be considered as part of the update of the Greenville Development Code. Appropriate planning and design principles applicable to solar panels should be integrated into the ordinance to provide a consistent and functional regulatory framework throughout the city, with due accommodation to preserve the fabric and character of existing neighborhoods.

Additional staff comments are provided below.

STAFF RECOMMENDATION:

APPROVE. No formal action is required by the Planning Commission. The memo is presented for informational purposes only and to fulfill prerequisite requirements of SolSmart program criteria.

Staff Comments

Planning Comments

1. Staff recommends that the Priority for Historic Districts should be High.
2. In historic districts, the Secretary of Interior Standards should be considered an appropriate treatment: <https://www.nps.gov/tps/standards/rehabilitation/guidelines/solar-technology.htm>
3. Please note the city's current historic district guidelines:
 - a. HR.17 "Locating a skylight or a solar panel on a front roof plane should be avoided."
 - b. HR.17 (D) "The addition of features such as skylights or solar panels should not be installed in a manner such that they will interrupt the plane of the historic roof."These guidelines may create barriers given the typical solar panel installation goal to orient panels in a southerly direction. Some houses have southward oriented roofs that face the backyard, while other houses have southward oriented roofs that face the front yard. Staff anticipates that these limitations will affect a small minority of properties within the city. The historic preservation and solar use priorities, to date, have equally compromised within the context of the minority locations deemed "historic."
4. Any potential amendments to the Zoning Ordinance should be considered as part of the update of the Greenville Development Code.

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

To assist your community, the national solar experts at SolSmart have conducted a review of your community’s zoning code 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 their 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 PZD-1a and be one step closer to achieving SolSmart designation.

Potential barriers in current code language

Section(s)	Element	Reviewer Comments	Example(s) from other codes	Priority level
Article 19-4.4 (Accessory Uses and Structures)	Uses	Solar is not specified as an accessory use. The language on unlisted accessory uses indicates that unlisted uses may still be permitted according to general development and operational standards. This is probably not sufficient to satisfy requirements PZ-4 or PZ-5.	Chisago County, MN 's zoning ordinance specifies solar as an accessory use when it supplies energy for the principal use.	High
Article 19-4.4.2 -	Height Requirement	The zoning ordinance does not permit solar to exceed the maximum height in the zoning district. It is a best practice to either permit a solar energy system to exceed or be exempted from the maximum height in the zoning ordinance	<p>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) (p. 16)</p> <p>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) (pg. 16)</p>	High (Allowing the solar energy system to exceed the zoning 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.)
Article 19-4.4.2	Setback Requirement	Greenville does not include any allowance against general setback requirements for	Option A: “Small- and medium-scale ground-mounted solar energy systems accessory to principal use may	Medium (Municipalities can use the zoning code as a

		ground-mounted solar.	<p>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 extent practicable.” Massachusetts Executive Office of Energy and Environmental Affairs – Model Zoning for the Regulation of Solar Energy Systems (pg. 9)</p> <p>Option B: “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.” Massachusetts Executive Office of Energy and Environmental Affairs – Model Zoning for the Regulation of Solar Energy Systems (pg. 9)</p>	way to regulate for these setbacks.)
Article 19-4.4.2	Floor Area Requirements	The restrictions on maximum floor area for accessory structures could limit ground-mounted solar (particularly the nonresidential limitation).		Low

Potential gaps in current code language

Element	Reviewer Comments	Example(s) from other codes	Priority level
Definition	<p>The zoning code provides no definition for solar energy systems. Some municipalities define different types of solar energy, so they can be treated differently, and so that requirements and applicability are clear. These include:</p> <ul style="list-style-type: none"> • Rooftop solar and ground mounted solar • Large, medium and small-scale systems • Solar photovoltaic and solar hot water 	<p>More permissive: “Solar Energy System: An energy system that consists of one or more solar collection devices, solar energy related ‘balance of system’ equipment, and other associated infrastructure with the primary intention of generating electricity, storing electricity, or otherwise converting solar energy to a different form of energy. Solar energy systems may generate energy in excess of the energy requirements of a property</p>	High (The definition forms the basis of understanding the solar ordinance.)

		<p>if it is to be sold back to a public utility in accordance with the law.” Renewable Energy Ordinance Framework DVRPC) (Section 2, p.9)</p> <p>Less permissive: “Solar Energy System: An energy system which converts solar energy to usable thermal, mechanical, chemical, or electrical energy to meet all or a significant part of a structure’s energy requirements.” (Renewable Energy Ordinance Framework, DVRPC) (Section 2, p.9)</p>	
Large-scale solar guidelines	There is no information that differentiates on-site solar from larger-scale solar.	Chisago County, MN ’s zoning ordinance contains definitions that differentiate small-scale from large-scale ground-mounted solar, and establish separate requirements for each category.	Medium
Lot coverage/impervious surface rules	Solar is not mentioned in rules about impervious surface coverage limitations. Ground-mounted solar could be exempted from impervious surface limitations, as solar panels are not placed directly on the ground and are generally mounted over grass.	New Jersey state law specifies that solar panels are not included in calculation of impervious surfaces.	Low
Historic Districts	Greenville’s zoning code does not provide guidance on how solar is handled in historic overlay districts.	Breckenridge, Colorado adopted a code section specifically discussing solar placement in historic districts.	Low
Vegetation Requirements	Vegetation requirements for ground-mounted solar are not mentioned	St. Joseph, County, Indiana requires pollinator-friendly seed mixes and local plants around ground-mounted solar installations	Low

Additional notes

Greenville’s zoning code does not appear to place specific burdens on solar projects, but the lack of information on and rules for solar in general may result in uncertainty for residents and developers that wish to install solar. The general rules for accessory uses appear that they would encompass solar (at least small-scale and rooftop solar), but without more specific guidance this is uncertain. In order to achieve the PZ-4 prerequisite for Silver designation, a clarification document from the planning and zoning department stating that small scale solar is a permitted accessory use in all major zones could be provided.

I, _____, as _____ of _____, _____, have received the zoning review and read its findings.

[Name] [Title] [Community] [State]