ZONING REVIEW - Darien

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
5A-5-9-4: Accessory Buildings, Structures, And Uses (B)	Accessory Buildings, Structures, And Uses Not Specifically Listed Or Normally Allowed	Including "large ground arrays of solar energy collectors" on this list may dissuade development and limit the opportunities for community solar. Although Darien may want to set strict guidance and requirements for these arrays, would it be more appropriate to do so through the "Special Use" sections for each zone and Darien's permitting process?	**Massachusetts Executive Office of Energy and Environmental Affairs –** Model Zoning for the Regulation of Solar Energy (p. 6)	**Medium**
5A-5-9-2: Location And Yard Regulations Of Accessory Buildings, Structures, And Uses Of Land (A) 2. (b) (1)	Setbacks	This section outlines the permitted encroachments into the required yards. Solar could be allowed a minimal encroachment into the setback, while still preserving the purpose of requiring accessory uses to be set back from the lot line. This is for consideration if the Darien permits ground-mounted systems. If Darien does want to permit ground-mounted systems, it may want to consider reducing the setback requirements	**More permissive option:** (1) 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 (**Massachusetts Executive Office of Energy and Environmental Affairs** – Model Zoning for the Regulation of Solar Energy Systems) **Less permissive option:** (2) Small- and medium-scale	**Low**

		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.	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) **Delaware Valley Regional Planning Commission** – Renewable Energy Ordinance Framework (Section 4)	
5A-5-9-5: Permitted Percentage Of Rear Yard Occupied By Accessory Structures	Impervious Coverage	Counting solar systems as impervious coverage could limit a resident's ability to place solar on their property because a parcel that already has a house, driveway, patio, etc. could be close to, or at, a zoning district's impervious coverage limit. Many municipalities explicitly exclude solar from this calculation so long as the ground beneath the panel is pervious.	**More 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	**Low**

			horizontal projection area shall be calculated at a 33 degree tilt angle. (Renewable Energy Ordinance Framework, DVRPC)	
5A-5-12: Height Limitations (B)	Maximum Height Exemptions	It is recommended that solar energy systems should be allowed 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. Energy systems on flat roofs may be more than six (6) feet tall.	**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**) **Additional language** **Solar Simplified –** Model Solar Zoning Ordinance (p. 7) **Massachusetts Executive Office of Energy and Environmental Affairs –** Model Zoning for the Regulation of Solar Energy (p. 7)	**Medium**

Potential gaps in current code language

Element	Reviewer Comments	Example(s) from Other Codes	Priority Level
5A-13-1: Definitions	The zoning code provides no definition for solar energy systems. It may be prudent to provide a definition of solar energy systems – either broadly or broken out into the various types – so that Darien can define how solar energy systems are zoned and how/where solar development can occur.	**Delaware Valley Regional Planning Commission** – Renewable Energy Ordinance Framework (Section 2, p. 8-9) **Massachusetts Executive Office of Energy and Environmental Affairs** – Model Zoning for the Regulation of Solar Energy Systems (p. 2-3)	**High**
5A-13-1: Definitions: Accessory Building, Structure Or Use: (B)	Allow small rooftop solar energy systems as accessory uses or as a use-by-right (allowed without special review) in all major zoning districts. Including solar energy	**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."	**High**

	systems in the list of permitted accessory uses and structures in residential districts may reduce system costs, expedite installations, and increase development locally.	(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**)	

Additional notes

- Does Darien allow for small, ground-mounted systems?

I, _____ [Name] , as _____ [Title] of _____ [Community] , _____ [State] , have received the zoning review and read its findings.

Signature _____ Date _____