

Introduced by: Ms. Durham, Mr. Carter
Mr. Cartier, Mr. Tackett

Date of introduction: June 28, 2022

SUBSTITUTE NO. 1 TO ORDINANCE NO. 22-091

**TO AMEND *NEW CASTLE COUNTY CODE* CHAPTER 6 (“BUILDING CODE”),
ARTICLE 10 (“ENERGY CONSERVATION CODE”) RELATING TO NEW
COMMERCIAL CONSTRUCTION AND THE FUTURE INSTALLATION
OF ROOFTOP SOLAR POWER**

WHEREAS, New Castle County recognizes the importance of the natural environment and ecological protection in creating a high quality of life, and for building and maintaining great neighborhoods; and

WHEREAS, the County, the State of Delaware, and the planet, generally face a growing climate crisis brought about, in large part, from the continued burning of carbon-intensive, fossil fuels for energy; and

WHEREAS, photovoltaic panels are a cost effective and efficient means for the production of on-site electrical renewable, clean, and “green” energy; and

WHEREAS, the County is experiencing rapid growth of “big box” retail buildings and large scale logistical and warehouse structures that are generally suitable for the installation of rooftop solar energy production; and

WHEREAS, in 2021 jobs in the United States solar industry increased 9%; and

WHEREAS, the *Infrastructure Investment and Jobs Act* recently passed by the Biden Administration includes federal funds for the emplacement of “smart grid” electrical equipment to enable electrical transmission networks to absorb greater amounts of on-site renewable energy production; and

WHEREAS, the County, Delmarva Power, and the State of Delaware are collaborating on a grant application to deploy federal infrastructure funds to install “smart grid” technology in areas where new commercial construction is planned; and

WHEREAS, according to a 2022 report by Environment America in “*Solar on Superstores: Big Roofs, Big Potential for Renewable Energy*,” big box stores could replace half of their annual electricity demand by utilizing their solar rooftop potential, reduce global warming pollution, make the grid more resilient to outages and disruptions, and, by producing electricity on rooftops in direct proximity to where the electricity will be used, reduce the significant energy losses that happen during electricity transmission; and

WHEREAS, two of America’s largest retailers (WalMart and Target) have already undertaken massive projects to add rooftop solar installations on their buildings - - Walmart has installed 194 megawatts of solar, while Target has placed solar on one quarter of its store roofs; and

WHEREAS, expansive flat roofs are ideal places to install solar panels and are less ecologically harmful than using agricultural land for utility-scale solar farms; and

WHEREAS, retrofitting rooftop and electrical systems to add solar energy systems post-construction is both time consuming and expensive; and

WHEREAS, providing the basic infrastructure for solar energy systems at the time of construction causes a nominal increase in the design and construction cost of new construction; and

WHEREAS, several States, including New Jersey, Massachusetts, and California, have recently passed laws requiring all new construction be “solar-ready” or actually require installation of rooftop solar arrays, especially on large commercial buildings; and

WHEREAS, it is important to New Castle County and its residents to make the future installation of rooftop solar energy systems as inexpensive and simple as possible; and

WHEREAS, the New Castle County Land Use Department in limited and specific circumstances and subject to the limitations set forth in *New Castle County Code* may utilize its Code modification authority where compliance with a particular Code requirement creates a “practical difficulty;” and

WHEREAS, this Ordinance substantially mirrors Appendix CA, the solar provisions, of the 2018 International Energy Conservation Code, which was written by the globally recognized subject matter experts from the International Code Council; and

WHEREAS, New Castle County Council finds that the provisions of this Ordinance are rationally and reasonably related to and substantially advance its goal of protecting and preserving legitimate government interests, including the protection and preservation of the public health, safety, prosperity, general welfare, and quality of life of New Castle County and its residents.

NOW, THEREFORE, THE COUNTY OF NEW CASTLE HEREBY ORDAINS:

Section 1. *New Castle County Code* Chapter 6 (“Building Code”), Article 10 (“Energy Conservation Code”), Section 6.10.002 (“Amendments to the Statewide Energy Conservation Code”) is hereby amended by adding the material that is underscored and deleting the material that is stricken, as set forth below.

ARTICLE 10. ENERGY CONSERVATION CODE

Sec. 6.10.002. Amendments to the Statewide Energy Conservation Code.

The following sections of the International Energy Conservation Code, 2018 Edition, (IECC) are revised as follows...

CHAPTER 4 [CE] COMMERCIAL ENERGY EFFICIENCY...

SECTION C401 GENERAL is amended to reflect the following underlined language:

C401.1 Scope.

The provisions in this chapter are applicable to commercial *buildings* and their *building sites*.

C401.2 Application.

Commercial buildings shall comply with the requirements of APPENDIX CA – SOLAR-READY ZONE – COMMERCIAL and one of the following:

1. The requirements of ANSI/ASHRAE/IESNA 90.1.
2. The requirements of Sections C402 through C405 and C408. In addition, commercial buildings shall comply with Section C406 and tenant spaces shall comply with Section C406.1.1.
3. The requirements of Sections C402.5, C403.2, C403.3 through C403.3.2, C403.4 through C403.4.2.3, C403.5.5, C403.7, C403.8.1 through C403.8.4, C403.10.1 through C403.10.3, C403.11, C403.12, C404, C405, C407 and C408. The building energy cost shall be equal to or less than 85 percent of the standard reference design building.

...

APPENDIX CA SOLAR-READY ZONE – COMMERCIAL

APPENDIX CA SOLAR-READY ZONE – COMMERCIAL is hereby adopted with certain modifications, where applicable, as reflected in the form below:

SECTION CA101 SCOPE

CA101.1 General.

These provisions shall be applicable for new construction of commercial buildings in New Castle County for which a building permit request has been submitted to the Department of Land Use on or after January 1, 2023 and which have a foundation footprint of 50,000 square feet or more.

SECTION CA102 GENERAL DEFINITION

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION CA103 SOLAR-READY ZONE

CA103.1 General.

A solar-ready zone shall be located on the roof of buildings that have low-sloped roofs. Solar-ready zones shall comply with Sections CA103.2 through CA103.8.

Exceptions:

1. A building with a permanently installed, on-site renewable energy system or where a vegetative “green” roof is proposed, installed and maintained for 60 percent or more of total rooftop area.
2. A building where the licensed design professional certifies that the incident solar radiation available to the building is not suitable for a solar-ready zone due to significant shade (shaded more than 70 percent of daylight hours).
3. A building where the licensed design professional certifies that the solar zone area required by Section CA103.3 cannot be met because of extensive rooftop equipment, skylights, vegetative roof areas or other obstructions.

CA103.2 Construction document requirements for a solar-ready zone.

Construction documents shall indicate the solar-ready zone. The presence of a solar-ready zone does not relieve the requirement for a roof structural evaluation before a future installation of a solar photovoltaic or solar thermal system.

CA103.3 Solar-ready zone area.

The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas, and mandatory access or set back areas. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

CA103.4 Obstructions.

Solar-ready zones shall be free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights, and roof-mounted equipment. Solar-ready zones may be relocated to allow future installation of roof equipment as long as the 40 percent minimum allocation is maintained.

CA103.5 Roof loads and documentation.

A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the construction documents.

CA103.6 Interconnection pathway.

Construction documents shall indicate pathways for future routing of conduit, raceway or piping from the solar-ready zone to the reserved space for electrical service panel or service hot water system.

CA103.7 Electrical service reserved space.

The main electrical service panel shall have a reserved space labeled "For Future Solar Electric," or, if a licensed design professional certifies that additional or alternate space is needed for the placement of equipment necessary for the installation of a solar electric system, space shall be reserved either on the interior or exterior wall proximate to the main electrical service panel or on a prepared exterior pad site in close proximity to the electrical service panel. Any such space shall be labeled "For Future Solar Electric" in a conspicuous manner.

CA103.8 Construction documentation certificate.

A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater, or other conspicuous location by the builder or registered design professional.

Section 2. This Ordinance shall become effective on January 1, 2023, after its adoption by County Council and approval by the County Executive, or as otherwise provided in 9 Del. C. § 1156.

Adopted by County Council of
New Castle County on: 8/30/2022


President of County Council
of New Castle County

Approved on: *Sept. 6, 2022*



County Executive
of New Castle County

SYNOPSIS: This Ordinance, if enacted, would require that new commercial buildings with a foundation footprint of 50,000 square feet or more be built with basic infrastructure to allow a rooftop solar photovoltaic system to be easily and cost-effectively installed at a future date (*i.e.*, that the rooftop be "solar-*ready*"). This Ordinance will apply to commercial buildings as identified above and for which a permit request has been submitted *on or after January 1, 2023*.

Substitute No. 1 to Ordinance No. 22-091 makes the following revisions to Ordinance No. 22-091:

1. Clarifies that a building with a permanently installed, on-site renewable energy system or where a vegetative “green” roof is proposed, installed and maintained for 60% or more of the total rooftop area is an exception to the requirement that solar-ready zones shall comply with Sections CA103.2 through CA103.8.
2. Clarifies that the presence of a solar ready zone does not relieve the requirement for a roof structural evaluation before a future installation of a solar photovoltaic or solar thermal system.
3. Establishes that solar ready zones may be relocated to allow future installation of roof equipment as long as a 40 percent minimum allocation is maintained.
4. Requires that construction documents shall indicate pathways for *future* routing of conduit, *raceway*, or piping from the solar-ready zone to the reserved space for electrical service panel or service hot water system.
5. Requires that the main electrical service panel have a reserved space labeled “For Future Solar Electric,” or, if a licensed design professional certifies that additional or alternate space is needed for the placement of equipment necessary for the installation of a solar electric system, space shall be reserved either on the wall proximate to the service panel or on a prepared exterior pad site in close proximity to the panel. This space must be labeled “For Future Solar Electric” in a conspicuous manner.

FISCAL NOTE: There is no discernible fiscal impact.