


Action

MEMORANDUM

May 11, 2018

TO: County Council

FROM: Jeffrey L. Zyontz, Senior Legislative Analyst 

SUBJECT: Zoning Text Amendment 18-01, Solar Collection System – Standards

PURPOSE: Action – approve, disapprove, or revise ZTA 18-01

PHED Recommendation: On April 30, 2018, the Committee (3-0) recommended approval of ZTA 18-01 as introduced. The Committee considered and rejected the idea of either expanding or contracting the zones affected by the ZTA. In the opinion of the Committee, compatibility issues raised in testimony would be best addressed in the site plan approval process required by the ZTA, and not requiring additional buffering, setbacks, fencing, or lot coverage provisions. The Committee did not foresee problems with noise, ground water pollution, tree protection, or stormwater management.

Expected participants:

Casey Anderson, Chair, Montgomery County Planning Board
Pam Dunn, Chief, Functional Planning and Policy, M-NCPPC
Greg Russ, Planner Coordinator, M-NCPPC
Mark Pfefferle, Chief, DARC-Regulatory Coordination, M-NCPPC
Stan Edwards, Chief, Division of Environmental Policy and Compliance, DEP
Diane Schwartz-Jones, Director, Department of Permitting Services (DPS)
Ehsan Motazed, Chief, Zoning and Site Plan Enforcement Division, DPS
Mark Nauman, Plan Review, DPS

Zoning Text Amendment (ZTA) 18-01, lead sponsors Councilmembers Hucker and Leventhal, co-sponsors Councilmembers Elrich, Berliner, Katz, Navarro, and Council President Riemer, was introduced on February 13, 2018. ZTA 18-01 would revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones.

Maryland has a statewide goal to reach 25 percent renewable energy sources by 2020; at least 2.5 percent of that must be solar energy. Maryland gets an abundance of solar exposure year-round. The state gets an average of over 213 days of sunshine and a good average temperature.

The sponsors of ZTA 18-01 believe it is in the public interest to expand the opportunities for solar production in areas where development is anticipated; it would retain the current limits on solar collection systems in the Agricultural Reserve (AR) zone. The ZTA includes standards to prevent glare and to buffer the facility from surrounding land uses.

The ZTA would provide more opportunities for “community solar” facilities. Community solar offers the benefit of solar to those who can’t, or prefer not to, install solar panels on their homes. These projects enable individuals, businesses, or organizations to purchase or lease a “share” in a community solar project.

The Maryland Public Service Commission has the authority to issue a Certificate of Public Convenience and Necessity (CPCN), which provides authority for a person to construct or modify a new generating station or high-voltage transmission lines; however, power generation of 2 megawatts or less does not require a CPCN. The ZTA only allows solar “farms” of 2 megawatts or less. Such a facility could require 8 to 12 acres of land.

ZTA 18-01 is permissive of expanded solar opportunities for sites 3 acres or larger that are not zoned AR. Planning staff has mapped the sites that would be potentially affected; that map was presented to the PHED Committee. Of the potential sites, 129 are vacant and privately owned, 192 sites are privately owned with a residential use on the site, and another 192 sites are privately owned with a non-residential use on the site.

The Planning Board recommended approval of the substance of ZTA 18-01, but had suggestions for editorial changes. The Board’s recommendation endorsed the opinion of Planning staff.

The Council’s public hearing was conducted on April 3, 2018. There were 10 speakers who were evenly split between support and opposition. Those who supported ZTA 18-01 also supported solar farms in the AR zone. Those who opposed the expansion of large solar arrays cited it as an industrial use that should not intrude into residentially-zoned areas.

Issues

1) Does the Council wish to expand the opportunities for significantly-sized solar energy production?

Under the current code, solar panels are generally allowed as an accessory use (to provide up to 120 percent of the energy needs of the primary use) in all zones. Although solar panels are essentially allowed in proportion to the principal use of the property, they are also allowed as a primary use under certain circumstances. The current code allows Public Utility Structure¹ as a conditional use in most zones

¹ Public Utility Structure means a utility structure other than transmission lines or pipelines. Public Utility Structure includes structures for the occupancy, use, support, or housing of switching equipment, regulators, stationary transformers, and other such devices for supplying electric service or other public utilities.

with very restrictive conditions.² It is a permitted use only in the LSC zone and is a limited use in the CRT and CR zone.³

Using renewable energy reduces greenhouse gas emissions and air ~~pollution~~ associated with energy production and helps diversify sources for energy supply. Solar power is considered eco-friendly because it emits zero toxic gases to the environment. The use of renewable energy dramatically reduces the dependence on fossil fuel as a source of energy. When producing energy, it does not create any air pollution.

Green power is a subset of renewable energy and represents those renewable energy resources and technologies that provide the highest environmental benefit. Green power, as defined by the Environmental Protection Agency, includes electricity produced from solar sources.

Solar panels can be placed on roofs and over surfaces such as parking lots, making productive use of these underutilized spaces. This is currently allowed by zoning. Comparatively, installing solar panels on a home rooftop is more expensive on a per kilowatt hour basis due to the added costs of a solar company's consumer marketing and sales—as well as labor, permits, and roof gear.⁴ Solar in the U.S. is growing rapidly on both rooftops and on the ground. At this point in this stage of the solar industry, it's the big solar farms that are dominating.⁵ The solar industry has requested and the Public Utility Commission has approved large scale land-based solar energy production facilities.

(a) Process

The zoning code offers 3 levels of scrutiny for any land use: 1) floating zone approval; 2) conditional use approval; and 3) limited use, which may include site plan approval.

As introduced, a zoning change or conditional use approval would not be required under ZTA 18-01. Allowing the use only after the Council approval of a floating zone change would place a substantial burden on the applicant. Conditional use approval would allow for a quasi-judiciary hearing before the Hearing Examiner with the potential for a denial of the use. It adds time and expense to projects when the Council believes that some sites may not be appropriate for the particular use allowed as a conditional use. Conditional use approval excludes the Council from the approval process.

² Where a Public Utility Structure is allowed as a conditional use, it may be permitted by the Hearing Examiner under Section 7.3.1, Conditional Use, and the following standards:

- i. The proposed structure at the location selected is necessary for public convenience and service.
- ii. The proposed structure at the location selected will not endanger the health and safety of workers and residents in the community and will not substantially impair or prove detrimental to neighboring properties.
- iii. A Public Utility Structure allowed in any Rural Residential or Residential zone, must, whenever practicable, have the exterior appearance of a residential building and must have suitable landscaping, screen planting and fencing, wherever deemed necessary by the Hearing Examiner.
- iv. The Hearing Examiner may waive the height limits of the applicable zone where, in the opinion of the Hearing Examiner, adjacent residential uses will not be adversely affected by the increased height.
- v. An applicant for a Public Utility Structure may file a conditional use application if the applicant states in writing under oath that a bona fide effort has been made to obtain a contractual interest in the subject property for a valid consideration without success, and that there is an intent to continue negotiations to obtain the required interest or in the alternative to file condemnation proceedings should the conditional use be approved.

³ Where a Public Utility Structure is allowed as a limited use and the subject lot abuts or confronts a property zoned Agricultural, Rural Residential, or Residential Detached that is vacant or improved with an agricultural or residential use, site plan approval is required under Section 7.3.4.

⁴ <http://fortune.com/2016/09/12/solar-panel-farms-boom>.

⁵ Ibid.

As introduced, ZTA 18-01 would require site plan approval for all solar facilities that are not an accessory use. Site plan approval can condition the use to make it more compatible with its neighbors. It does require substantial conformance to the applicable master plan and a finding of compatibility with existing, approved, and pending adjacent development.

If the Council believes that the highest level of scrutiny should be given to large solar facilities, the use could be restructured to make it a floating zone, thereby allowing the Council to make the determination of appropriate locations. Conditional use approval would not involve a Council decision, but allows for a high level of scrutiny. Public comment asked to only allow these large projects by conditional use approval.

The Committee recommended allowing the use as a limited use with as many standards as the Council wants to include.

(b) Limitations

As introduced, ZTA 18-01 does not limit the number of possible large solar facilities. Testimony suggested allowing the use only to accommodate the State's 3-year pilot test program for Community Solar Facilities.⁶ Testimony suggested that about 15 sites will fulfill the maximum allowed by the program in Montgomery and Prince Georges Counties; 6 of those sites would be in the open category.

If the Council wants to be more permissive, it should not artificially restrict the possible number of sites. The PHED Committee and the Planning Board did NOT recommend any such restrictions. This is a policy issue for the Council. In reaching its policy decision, the Council may wish to consider the possible negative attributes of solar facilities raised in testimony.

Testimony has pointed out environmental negatives concerning large solar arrays.

(c) Potential adverse impact on trees

Except for solar arrays approved by the Public Utility Commission by its issuance of a CPCN⁷, all projects that disturb more than 5,000 square feet of ground will be subject to the County's forest conservation requirements. (All projects covered by ZTA 18-01 will produce 2 MW of electricity or less. Such projects do not require a CPCN from the Commission.) Any trees removed would have to be replaced at least on a one-to-one basis. Some trees removed might have to be replaced by treed acreage on more than a one-

⁶ There are 3 categories in this program: brownfields, low and moderate income, and open. The Maryland Community Solar program allows Marylanders to purchase subscriptions for energy from community solar arrays, gaining the same economic advantages as having solar modules directly on their roofs. Large generating stations routinely require a CPCN under PUC Article §§7-207 and 7-208. However, PUC Article §7-207.1 provides that certain power generation projects may be exempted from the CPCN process.

⁷ Section 22A-5. Exemptions.

The requirements of Article II do not apply to: ...

(o) The cutting or clearing of public utility rights-of-way or land for electric generating stations licensed under Section 54A and 54B or Section 54I of Article 78 of the Maryland Code, if:

(1) any required certificates of public convenience and necessity have been issued in accordance with Section 5-1604(f) of the Natural Resources Article of the Maryland Code; and

(2) the cutting or clearing of the forest is conducted so as to minimize the loss of forest.

This provision of the County Code mirrors state code. The County would arguably be preempted from tree regulation for such sites.

to-one basis.⁸ On sites without any trees, reforestation would be required.⁹ **The Committee did not recommend additional tree protection beyond the current forest conservation requirements.**

(d) Stormwater

Solar panels are most efficient when angled toward the sun. Panels generally are not installed flat on the ground. To that end, the panels are mounted on a stand to permit a sun orientation. There is pervious soil under and around the panel. Generally, vegetation grows around the panels. Every few months, that vegetation may require maintenance (cutting). Rainwater falls off those panels into the ground.

Maryland Code states the following concerning the treatment of solar panels:

For the purpose of issuing a permit, or variance relating to zoning, construction, or stormwater for a project to install a solar panel, any calculation relating to the impervious surface of the project required by State or local governing authority issuing the permit may include only the foundation or base supporting the solar panel.¹⁰

Montgomery is a "Charter" County. Not all provisions of the Land Use Article apply to Charter Counties. This provision does apply to Charter Counties.¹¹

Topography, existing site conditions, and constraints such as nearby watercourses and soil types influence the volume and flow rate of runoff of stormwater, particularly during construction. The County's sediment control provisions would still apply.¹² **In Staff's opinion, State law has preempted the County from regulating solar based on the impervious nature of solar panels.**

⁸ Section 22A-12. Retention, afforestation, and reforestation requirements.

(c) Reforestation. The forest conservation plan must provide for reforestation as follows:

- (1) For all existing forest cover measured to the nearest 1/10 acre cleared on the net tract area below the applicable forest conservation threshold, the area of forest removed must be reforested at a ratio of 2 acres planted for every one acre removed.
- (2) For all existing forest cover measured to the nearest 1/10 acre cleared on the net tract area above the applicable forest conservation threshold, the area of forest removed must be reforested at a ratio of ¼ acre planted for every one acre removed.
- (3) Each acre of forest retained on the net tract area above the applicable forest conservation threshold must be credited against the total number of acres required to be reforested.

⁹ Section 22A-12. Retention, afforestation, and reforestation requirements.

(d) Afforestation.

- (1) A site with less than 20 percent of the net tract area in forest cover must be afforested in accordance with the required afforestation percentages shown on the table in subsection (a) of this Section....

¹⁰ Land Use Article, Section 4-210.

¹¹ Land Use Article, Section 1-401.

¹² Sediment control provisions for projects over 5,000 square feet would always apply during construction. Just as the State legislature cannot effectively repeal the law of gravity, Section 4-210 of the Land Use Article does not impede stormwater. Having said that, reason to believe that excluding solar panels from the calculation of impervious surface makes sense. At the two large County solar installations (Clarksburg Detention Center and South Germantown Park), stormwater runoff has not been a problem, according to Planning Department staff.

(e) The risk of cadmium, cadmium telluride, and other rare earth elements

There are 2 types of photovoltaic (PV) cells on the market: silicone-based cells and thin-film based technology. Silicone-based cells are predominantly used. The technology produces efficient panels that are widely available. All solar facilities established by the County are silicone-based.

The active semiconductor materials in thin-film technology contain cadmium, cadmium telluride, and selenium. Multi-junction panels contain arsenic compounds. Circuit boards, inverters, and hardware, which are components of solar electricity generation, also contain hexavalent chromium, lead, copper, nickel, silver, aluminum, zinc, molybdenum, antimony, brominated flame retardants, polybrominated biphenyls (pbb), and polybrominated diphenyl ethers (pbde).¹³

A comment in the Golden Gate University Environmental Law Journal, 2011, entitled “The Not-So-Green Renewable Energy: Preventing Waste Disposal of Solar Photovoltaic (PV) Panels” by Genevieve Coyle concluded the following:

Exposure by humans and other species to the toxic substances in intact panels is minimal, because the chemicals are encapsulated by other inert materials. However, if PV products are disposed of on or in land, they can break and release toxic chemicals into soil and groundwater, potentially contaminating water supplies. For example, heavy metals, such as cadmium in CdTe cells and lead in crystalline silicone panels, can filter out of the waste. Studies have demonstrated that when thin-film cells containing CdTe are exposed to water, the CdTe dissolves, increasing the risk of leaching cadmium. Tests have also shown lead to leach from crystalline silicone panels. Once in soil and water, cadmium and lead can mobilize and spread beyond the dumping area. The contaminants can then accumulate in plants and animals, the food supply. Preventative measures taken at modern landfills, such as bottom/side sealing and containment of leachate, help to reduce this hazard. But these measures can fail and with high loadings of materials in landfills, the threat of leachate migration should be taken seriously.

Staff has no information to conclude that the on-site environmental risk of solar panels is anything other than minimal. For the foreseeable future, solar panels will likely be the silicone variety. Manufacturing and re-cycling aspects of solar panels, where there may be risks, are not zoning issues.

2) *Which zones are appropriate for any expansion?*

Functionally, solar facilities are electricity-generating plants. It is a “clean” industrial use but it is not a residential, retail, office or agricultural use. It is an industrial use. (One person’s testimony described solar facilities as an industry that required “vigilant oversight” for maintenance.) It does generate extremely little traffic, unlike some industrial uses. It does not produce the odor or noise associated with some industrial uses. Except for its visual impact, objectively it seems to be a benign neighbor.

ZTA 18-01 would expand the potential for solar facilities in all zones except the AR zone. Testimony went in two directions. Some testimony requested the potential for solar facilities in the AR zone. Other testimony requested a restriction on solar opportunities to non-residential zones (Commercial/Residential, Employment, and Industrial zones).

¹³The Agency for Toxic Substances and Disease Registry (ATSDR) ranks arsenic, lead, cadmium, and hexavalent chromium among the top 18 of 275 priority hazardous substances. Cadmium is a highly toxic material that causes kidney disease, lung damage, fragile bones, and cancer. Arsenic can cause death.

- (a) Expansion to include the AR zone

The intent of the AR zone is as follows:

1. The intent of the AR zone is to promote agriculture as the primary land use in areas of the County designated for agricultural preservation in the General Plan, the Functional Master Plan for Preservation of Agriculture and Rural Open Space, and other current or future master plans. The AR zone accomplishes this intent by providing large areas of generally contiguous properties suitable for agricultural and related uses and permitting the transfer of development rights from properties in this zone to properties in designated receiving areas.
2. Agriculture is the preferred use in the AR zone. All agricultural operations are permitted at any time, including the operation of farm machinery. An agricultural use cannot be restricted on the grounds that it interferes with other uses permitted in the zone, but uses that are not exclusively agricultural in nature must satisfy additional use standards or the conditional use approval process....¹⁴

AR zoned land is very low priced per acre compared to all other land in the County. Allowing solar “farms” in this area has the potential to economically push out crops and animals. Other counties are experiencing problems with the expansion of solar facilities in farming areas.¹⁵ The County has spent millions of dollars to preserve agriculture through the purchase of easements. It has created the TDR program to compensate for reducing housing density. In the opinion of Staff, including the AR zone for the potential of solar farms would be counter to the County’s established policy for this area. **The PHED Committee did not recommended expanding solar opportunities in the AR zone.**

- (b) Restriction to exclude all residential zones

ZTA 18-01 would allow solar facilities in the following zones: R, RC, RNC, RE-2, RE-2C, RE-1, R-200, R-90, R-60, R-40, TLD, TMD, THD, R-30, R-20, and R-10 and all retained zones.¹⁶ In the absence of appropriate protection (height limits, fencing, vegetative screening, and setbacks), this use in residential zones would be a visually intrusive and possibly noisy neighbor.

- 3) *Should the ZTA require increased glare prevention standards?*

As introduced, ZTA 18-01 does not allow solar energy production by mirrors and requires panels to be either textured glass or have an anti-reflective coating. These measures would reduce glare. Testimony suggested that these measures would still result in substantial glare. The U.S. Department of Energy has stated the following:

¹⁴ Chapter 59, Section 4.2.1.A.

¹⁵ On December 3, 2017, at the urging of environmental advocates and the Agriculture, Agritourism, and Farming Commission, the Anne Arundel County Executive and Office of Planning and Zoning announced an eight-month moratorium on the issuance of any approved dispersed energy operations in Anne Arundel. The Executive cited concerns regarding the impact of industrial “solar parks” in rural areas of the County. Before the implemented moratorium, activities like industrial solar energy parks were permitted in lands zoned RA (rural agricultural). The moratorium provides an opportunity for the Planning and Zoning Office to study existing regulations and recommend appropriate measures and processes for current and future proposed energy operations.

¹⁶ The non-residential zones where it would also be allowed are: CRN, CRT, CR, GR, NR, LSC, EOF, IL, IM, and IH.

A common misconception about solar photovoltaic (PV) panels is that they inherently cause or create “too much” glare, posing a nuisance to neighbors and a safety risk for pilots. While solar PV systems can produce glare, light absorption - rather than reflection - is central to the function of solar PV panels.¹⁷

FAA guidelines note that, depending on the angle of the sun, PV modules with anti-reflective coatings may reflect as little as 2 percent of the incoming sunlight. (The FAA has not restricted solar facilities in flight paths.) PV panels are designed to absorb light and not reflect it. Many panel options have a smooth surface. This means that incident light is re-radiated in a specific direction. The PV panels can therefore cause reflections; however, these are significantly less intense than direct sunlight.

Options:

- A) Require a glint and glare study for any installation within 100 feet of a dwelling. The result of that study must result in no significant impacts.

More conversation would be needed to determine what “no significant impact” means in terms of the amount and duration of light that reflects on any dwelling.

- B) The Council could require that panels have **both** a non-reflective coating AND textured (stippled) glass. There are manufacturers who include both features. The County has not found both measures to be necessary when it conducted glint and glare studies at its installations to date.

The PHED Committee did not recommend any provision to avoid glare other than that proposed in ZTA 18-01 as introduced.

- 4) *If residential zones are allowed this use, should there be increased screening and setbacks?*

ZTA 18-01 includes the following limitations on solar facilities. Comments in testimony are noted for each standard:

Maximum solar panel height of 20 feet: There was no comment on this limitation. Typically, the height of solar panels would not exceed 10 feet.

Minimum 6-foot fence surrounding the use: Testimony recommended an 8-foot “solid wooden” fence for safety purposes (trespasser electrocution risk). This proposed requirement seems excessive unless damage from deer is viewed as a problem.

50-foot setback from any property line: Testimony suggested 50 feet or the setback required for the principal structure in the zone. The largest required setback in any residential zone is 50 feet. A provision that required a 50-foot setback or the setback for a building required by the zone would result in lesser setback for every zone that allows greater density than two houses for every acre.

Planting, if visible to an abutting residential use or a road: Testimony suggested changing this from “visible to an abutting” to “abutting or confronting a” residential use or a road. **Staff agrees that the recommended text is far more objective.** The recommendation to include a landscape

¹⁷ <https://www.energy.gov/eere/solar/downloads/solar-pv-and-glare-factsheet>.

buffer along any road is another matter of policy. The Council may find it to be an excessive requirement.

Noise: A solar inverter converts the variable direct current (DC) output of a photovoltaic (PV) solar panel into a utility frequency alternating current (AC) that can be fed into a commercial electrical grid or used by a local, off-grid electrical network. Centralized inverters may make noise at the level of a residential air conditioning unit. The high-quality distributed inverters are usually very quiet and cannot be heard.¹⁸

Some testimony expressed concern that the ZTA did not address noise and recommended that inverters and transformers related to solar systems be housed in sound-proof buildings.

Given the County's experience with quiet distributed inverters, the PHED Committee did not recommend any changes from ZTA 18-01 as introduced.

Lot coverage: In many zones, the intensity of development is limited. There is often a limit on the percentage of any lot that may be covered by buildings. The coverage of buildings allowed in single-unit living zones is between 15 and 35 percent of the lot. In townhouse zones, something less than 35 and up to 50 percent of the lot may be covered by structures. In multi-unit zones, 50 to 90 percent of the lot may be covered by buildings.

The only limitations on lot coverage in ZTA 18-01 are the required setbacks from the property line.

Testimony recommended using the lot coverage limit as it exists for building in each zone. Lot coverage limitation could dramatically increase the land area required for a 2 MW solar facility.

If the Council wants to significantly expand solar opportunities, it should not have a lot coverage limit for solar power. **The PHED Committee did not recommend adding a limit on lot coverage for this use.**

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¹⁸ Older inverters with transformers were often characterized by a monotone hum and buzz, especially during periods of high output.

Zoning Text Amendment No.: 18-01
Concerning: Solar Collection System -
Standards
Draft No. & Date: 3 – 5/8/18
Introduced: February 13, 2018
Public Hearing: April 3, 2018
Adopted:
Effective:
Ordinance No.:

**COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND
SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION OF
THE MARYLAND-WASHINGTON REGIONAL DISTRICT WITHIN
MONTGOMERY COUNTY, MARYLAND**

Lead Sponsors: Councilmembers Hucker and Leventhal
Co-sponsors: Councilmembers Elrich, Berliner, Katz, Navarro, and Council President Riemer

AN AMENDMENT to the Montgomery County Zoning Ordinance to:

- revise the Solar Collection System use standards to allow larger facilities in certain zones; and
- generally amend the provisions for Solar Collection Systems

By amending the following sections of the Montgomery County Zoning Ordinance, Chapter 59 of the Montgomery County Code:

Division 3.7. “Miscellaneous Uses”
Section 3.7.2. “Solar Collection System”

EXPLANATION: ***Boldface** indicates a Heading or a defined term.*
Underlining indicates text that is added to existing law by the original text amendment.
[Single boldface brackets] indicate text that is deleted from existing law by original text amendment.
Double underlining indicates text that is added to the text amendment by amendment.
[[Double boldface brackets]] indicate text that is deleted from the text amendment by amendment.
** * * indicates existing law unaffected by the text amendment.*

OPINION

Zoning Text Amendment No. 18-01 was introduced on February 13, 2018. ZTA 18-01 would revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones.

In its report to the Council, the Montgomery County Planning Board recommended approval as introduced. The sponsors of ZTA 18-01 believed that the public interest would be served by expanding the opportunities for solar production in areas where development is anticipated. The ZTA as introduced would retain the current limits on solar collection systems in the Agricultural Reserve (AR) zone. The ZTA includes standards to prevent glare and to buffer the facility from surrounding land uses.

The Planning Board recommended approval of the substance of ZTA 18-01, but had suggestions for editorial changes. The Board's recommendation endorsed the opinion of Planning staff.

The Council's public hearing was conducted on April 3, 2018. There were 10 speakers who were evenly split between support and opposition. Those who supported ZTA 18-01 also supported solar farms in the AR zone. Those who opposed the expansion of large solar arrays cited it as an industrial use that should not intrude into residentially-zoned areas.

The Council referred the text amendment to the Planning, Housing, and Economic Development Committee for review and recommendation.

The Planning, Housing, and Economic Development Committee held a worksession on April 30, 2018. The Committee recommended approving ZTA 18-01 as introduced. The Committee considered and rejected the idea of either expanding or contracting the zones affected by the ZTA. In the opinion of the Committee, compatibility issues raised in testimony would be best addressed in the site plan approval process required by the ZTA, and not requiring additional buffering, setbacks, fencing, or lot coverage provisions. The Committee did not foresee problems with noise, ground water pollution, tree protection, or stormwater management.

The Council agreed with the recommendations of the Committee.

For these reasons, and because to approve this amendment will assist in the coordinated, comprehensive, adjusted, and systematic development of the Maryland-Washington Regional District located in Montgomery County, Zoning Text Amendment No. 18-01 will be approved as introduced.

ORDINANCE

The County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following ordinance:

Sec. 1. DIVISION 59-3.7 is amended as follows:

Division 3.7. Miscellaneous Uses

* * *

Section 3.7.2. Solar Collection System

A. Defined

Solar Collection System means an arrangement of panels or other solar energy devices that provide for the collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling, or water heating. A Solar Collection System includes freestanding or mounted devices.

B. Use Standards

Where a Solar Collection System is allowed as a limited use, it must satisfy the following standards:

- [1. In the Agricultural, Rural Residential, Residential, Commercial/Residential, and Employment zones a Solar Collection System must be an accessory use as defined in Section 3.1.3.
2. Written authorization from the local utility company must be provided for a Solar Collection System that will be connected to the utility grid.
3. Removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit for the installation or operation of a Solar Collection System is prohibited.
4. Solar panels may encroach into a setback as allowed under Section 4.1.7.B.5.c and may exceed the maximum height as allowed under Section 4.1.7.C.3.b.
5. The following standards apply to a freestanding Solar Collection System:

- a. In the Agricultural, Rural Residential, Residential, Commercial/Residential, and Employment zones, it is allowed only as an accessory use where the system produces a maximum of 120% of on-site energy consumption and must satisfy the same development standards as an accessory structure; however it may be located in the side yard of a property in a Rural Residential or Residential Detached zone if the main building is set back a minimum of 70 feet from the side lot line and the Solar Collection System is setback a minimum of 50 feet from a side lot line and the height of the Solar Collection System is a maximum of 20 feet.
- b. In the Residential Multi-Unit, Commercial/Residential, Employment, and Industrial zones, a Solar Collection System installed above a parking lot or other paved surface does not count towards the maximum coverage.
- c. Signs are prohibited, except for a flush-mounted sign identifying the manufacturer of the system.
- d. The Solar Collection System must be removed within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system. The Solar Collection System will be presumed to be discontinued or abandoned if no electricity is generated by the system for a period of 12 continuous months.]

1. In the Agricultural Reserve zone:

- a. A Solar Collection System must be an accessory use as defined in Section 3.1.3.

- b. Written authorization from the local utility company must be provided for a Solar Collection System that will be connected to the utility grid.
- c. Removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit for the installation or operation of a Solar Collection System is prohibited.
- d. Solar panels may encroach into a setback as allowed under Section 4.1.7.B.5.c and may exceed the maximum height as allowed under Section 4.1.7.C.3.b.
- e. A freestanding Solar Collection System is allowed only as an accessory use where the system produces a maximum of 120% of on-site energy consumption and must satisfy the same development standards as an accessory structure.

2. In Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones, where a Solar Collection System is allowed as a limited use, it must either satisfy Subsection 59.3.7.2.B.1.a through Subsection 59.3.7.2.B.1.e or it must satisfy the following standards:

- a. Site plan approval is required under Section 7.3.4.
- b. The site must be a minimum of 3 acres in size.
- c. The system may produce a maximum of 2 megawatts (AC).
- d. All structures must be:
 - i. 20 feet in height or less;
 - ii. located at least 50 feet from any property line; and
 - iii. surrounded by a minimum 6-foot-tall fence.

- e. If a structure for a Solar Collection System is located in an area visible to an abutting residential use or a road:
- i. only solar thermal or photovoltaic panels or shingles may be used;
- ii. the panels or shingles must use textured glass or an anti-reflective coating; and
- iii. screening that satisfies Section 59.6.5.3.C.8 (Option A) on the sides of the facility visible from the residential use or road is required.
- f. The Solar Collection System must be removed within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system. The Solar Collection System will be presumed to be discontinued or abandoned if no electricity is generated by the system for a period of 12 continuous months.
- g. A system designed to produce more than 2 megawatts (AC) may be allowed as a public utility use under Section 3.6.7.E.

* * *

Sec. 2. Effective date. This ordinance becomes effective 20 days after the date of Council adoption.

This is a correct copy of Council action.

Megan Davey Limarzi, Esq.
Clerk of the Council



MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

OFFICE OF THE CHAIR

March 19, 2018

TO: The County Council for Montgomery County, Maryland, sitting as the District
Council for the Maryland-Washington Regional District in
Montgomery County, Maryland

FROM: Montgomery County Planning Board

SUBJECT: Zoning Text Amendment No. 18-01

BOARD RECOMMENDATION

The Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission reviewed Zoning Text Amendment No. 18-01 (ZTA 18-01) at its regular meeting on March 15, 2018. By a vote of 4:1 (Commissioner Dreyfus dissenting), the Planning Board recommends approval, with minor restructuring, of the zoning text amendment. A majority of the Board members believe it is in the public interest to expand the opportunities for solar production in areas where development is anticipated; while retaining the current limits on Solar Collection Systems in the Agricultural Reserve zone (only allowing it as an accessory use in this zone).

ZTA 18-01 would amend zoning regulations related to solar collection systems providing more opportunities for community oriented solar facilities. Community oriented solar facilities offer the benefit of solar to those who can't, or prefer not to, install solar panels on their homes. These projects enable individuals, businesses, or organizations to purchase or lease a "share" in a community solar project. The Maryland Public Service Commission has adopted regulations for a community solar pilot program in Maryland, with an emphasis on providing renewable energy benefits for low and moderate-income customers. Without ZTA 18-01, solar providers in Montgomery County cannot participate in the State pilot program.

The Board believes that ZTA 18-01 strikes a balance in addressing the desire to provide more solar production opportunities in the County, including the ability to provide "Community Solar" benefits to those who can't, or prefer not to, install solar panels on their homes, with protection measures for properties that are near these facilities. In the case of solar facilities that are not accessory to a principle use, the legislation requires site plan approval and provides limitations on the size of the overall system and the height of any freestanding structure. It is worth reiterating that community oriented solar facilities cannot be placed on properties where the primary use is residential, facilities on these properties remain accessory to the residential use. Attached to this transmittal letter is ZTA 18-01 restructured, we believe, in a fashion that further clarifies the sponsors' overall intent while also maintaining consistency with the Zoning

(7)

The Honorable Hans Riemer
March 19, 2018
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Ordinance format of the limited use provisions for a Solar Collection System. Also attached is the ZTA 18-01 technical staff report.

CERTIFICATION

This is to certify that the attached report is a true and correct copy of the technical staff report and the foregoing is the recommendation adopted by the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission, at its regular meeting held in Silver Spring, Maryland, on Thursday, March 15, 2018.



Casey Anderson
Chair

CA:GR



Zoning Text Amendment (ZTA) No. 18-01, Solar Collection System - Standards



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Completed: 03/8/18

Description

Zoning Text Amendment (ZTA) 18-01 would revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones. Currently, a Solar Collection System is limited to an accessory use in the Agricultural Reserve, Rural Residential, Residential, Commercial/Residential, and Employment zones.

Summary

Staff recommends approval of ZTA No. 18-01, with modifications, to revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones. Staff has included, as Attachment 2, a restructuring of the ZTA that we believe further clarifies the sponsors' overall intent while also maintaining consistency with the Zoning Ordinance format of the limited use provisions for a Solar Collection System.

Background/Analysis

Zoning Text Amendment (ZTA) 18-01 would revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones. The sponsors of ZTA 18-01 believe it is in the public interest to expand the opportunities for solar production in areas where development is anticipated; while it would retain the current limits on Solar Collection Systems in the Agricultural Reserve zone (only allowing it as an accessory use in this zone). The ZTA includes standards to prevent glare and to buffer the facility from surrounding land uses. The ZTA would provide more opportunities for community oriented solar facilities. Community oriented solar facilities offers the benefit of solar to those who can't, or prefer not to, install solar panels on their homes. These projects enable individuals, businesses, or organizations to purchase or lease a "share" in a community solar project. Shared solar means photovoltaic (PV) systems can be somewhere else in the community (in a field, on a building, over a parking lot, and elsewhere) but provide the benefits of solar electricity to participating subscribers. The Maryland Public Service Commission has adopted regulations for a community solar pilot program in Maryland, with an emphasis on providing renewable energy benefits for low and moderate income customers. The Maryland Public Service Commission has the authority to issue a Certificate of Public Convenience and Necessity (CPCN), which provides authority for

a person to construct or modify a new generating station or high-voltage transmission lines; however, power generation of 2 megawatts or less does not require a CPCN. Power generation of greater than 2 megawatts falls into the category of a Public Utility, which requires conditional use approval. ZTA 18-01 only allows Solar Collection Systems of 2 megawatts or less. Such a facility could require 8 to 12 acres of land.

As proposed, ZTA 18-01 modifies the Solar Collection System provisions as discussed below:

- Continues the existing limited use provision requiring that a Solar Collection System located in the Agricultural Reserve zone be an accessory use but does not require a Solar Collection System proposed in other zones to be an accessory use. The ZTA retains language allowing a Solar Collection System as an accessory use in the Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones but does not require such. The limited use standards for solar as an accessory use in the Agricultural Reserve zone are very similar to the existing provisions. As proposed, the ZTA would eliminate the more flexible side yard setback requirement in the Rural Residential or Residential Detached zone for a freestanding Solar Collection System as an accessory use *(the system may be located in the side yard of a property in a Rural Residential or Residential Detached zone if the main building is set back a minimum of 70 feet from the side lot line and the Solar Collection System is setback a minimum of 50 feet from a side lot line and the height of the Solar Collection System is a maximum of 20 feet.)* If this is the intent of the sponsor, then the resulting legislation would require that any freestanding accessory structure be located behind the rear building line of the principal building. *(Lines 50-70)*
- In Rural Residential, Residential, Commercial/Residential, Employment and Industrial zones, where a Solar Collection System is allowed as a limited use, the ZTA allows the use as an accessory use or as a principle use. As an accessory use, the applicable standards as proposed under the Agricultural Reserve zone apply. As a principle use, the following limited use standards apply *(Lines 67-95)*:
 - Site plan approval is required
 - The site must be a minimum of 3 acres in size
 - All structures must be: 20 feet in height or less; at least 50 feet from any property line; and surrounded by a minimum 6-foot-tall fence.
 - If located in an area visible to an abutting residential use or a road: only solar thermal or photovoltaic panels or shingles may be used; the panels or shingles must use textured glass or an anti-reflective coating; and screening that satisfies Section 59.6.5.3.C.8 (Option A) on the sides of the facility visible from the residential use or road is required (minimum depth of screening must be between 30 and 50 feet and must include a 6 foot in height fence or wall).
 - The Solar Collection System must be removed within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system. (Same language as the current requirement for a freestanding Solar Collection System.)

- A system designed to produce more than 2 megawatts (AC) may be allowed as a public utility use. *(It should be noted that a public utility structure requires approval through the conditional use process.)*

Limited Use Requirements for a Solar Collection System—Montgomery County

As defined under Section 59.3.7.2.A, Solar Collection System means an arrangement of panels or other solar energy devices that provide for the collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling, or water heating. A Solar Collection System includes freestanding or mounted devices.

A Solar Collection System is allowed as a limited use in all zones, and must satisfy a number of standards including: In the Agricultural, Rural Residential, Residential, Commercial/Residential, and Employment zones, only being allowed as an accessory use; requiring written authorization from the local utility company if proposed to be connected to the utility grid; prohibition on the removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit for the installation or operation of the solar collection system; allowing solar panels to encroach into a setback as allowed under Section 4.1.7.B.5.c (may project a maximum of 3 feet into any side setback, or any side street setback of less than 25 feet and may project a maximum of 9 feet into any front setback, rear setback, or any side street setback where the side street setback is a minimum of 25 feet) and to exceed the maximum height as allowed under Section 4.1.7.C.3.b (maximum height does not apply to solar panels).

There are also specific standards that apply to a freestanding Solar Collection System that include:

- In the Agricultural, Rural Residential, Residential, Commercial/ Residential, and Employment zones, it is allowed only as an accessory use where the system produces a maximum of 120% of on-site energy consumption and must satisfy the same development standards as an accessory structure; however it may be located in the side yard of a property in a Rural Residential or Residential Detached zone if the main building is set back a minimum of 70 feet from the side lot line and the Solar Collection System is setback a minimum of 50 feet from a side lot line and the height of the Solar Collection System is a maximum of 20 feet.
- In the Residential Multi-Unit, Commercial/Residential, Employment, and Industrial zones, a Solar Collection System installed above a parking lot or other paved surface does not count towards the maximum coverage.
- Only a flush-mounted sign identifying the manufacturer of the system is allowed.
- Removal of the Solar Collection System is required within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system.

Community Comments

Staff received comments at the time of publication of the staff report requesting the inclusion of the Agricultural Reserve zone as a zone that should include Solar Collection Systems as a principle use. Currently and as proposed in ZTA 18-01, a Solar Collection System in the AR zone would only be allowed as an accessory use. The rationale for this request is provide in the attached policy paper (Attachment 3).

Conclusion

Staff believes that ZTA 18-01 strikes a balance in addressing the desire to provide more solar production opportunities in the County, including the ability to provide "Community Solar" benefits to those who can't, or prefer not to, install solar panels on their homes, with the protection measures for properties that are near these facilities. In the case of solar facilities that are not accessory to a principle use, the legislation requires site plan approval and provides limitations on the size of the overall system and the height of any freestanding structure. Staff has included, as Attachment 2, a restructuring of the ZTA that we believe further clarifies the sponsors' overall intent while also maintaining consistency with the Zoning Ordinance format of the limited use provisions for a Solar Collection System.

Attachments

1. ZTA No. 18-01 as introduced
2. ZTA No. 18-01 as reorganized by staff
3. Policy Paper: The Viability of Solar Energy in an Agricultural Setting-Chris Cahoon, Linc Construction Services