

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment



MEMORANDUM

TO: Anthony J. Hood
Chairman, DC Zoning Commission

FROM: Jay Wilson, DOEE
Green Building Program Analyst

DATE: March 5, 2018

SUBJECT: [Z.C. CASE NO.](#) 17-19 for The Warrenton Group's Deanwood Town Center –
Application for Consolidated PUD and Related Map Amendment for Lots 1, 64,
65, and 73 in Square 5197

The District Department of Energy and Environment (DOEE) does not have comments to the applicant's height or setback requests, or for matters that will be fully addressed through any of DOEE's normal regulatory review processes. Rather, the comments contained herein address issues that the applicant should be made aware of in the early stages of design and development, including strategies to exceed regulatory requirements to meet the policies outlined in the District's Comprehensive Plan and the goals of the Sustainable DC Plan. The items mentioned below are by no means comprehensive, but are a summary of specific items related to the site in question. DOEE is always interested in meeting with applicants early in the development process in order to identify opportunities and to help avoid future regulatory conflicts.

DOEE recommends support and **support** of the application for design review for case 17-19 for Deanwood Town Center with the following recommendations:

Applicant's pre-hearing submission outlines a few environmental benefits addressed by the project, including Enterprise Green Communities Certification and a green roof to meet stormwater requirements. While this submission demonstrates at a schematic level that the Applicant is on track for meeting the minimum environmental regulatory requirements, there are several additional measures that should be considered and investigated during the design phase that would improve the environmental performance of project. In addition, DOEE staff has had several coordinating conversations with the applicant and the recommendations made during those conversations are reflected in the comments below.

The following outlines specific environmental policies included in the District's Comprehensive Plan and DOEE's recommendation for how the development project could contribute to meeting those policies.

Comprehensive policies related to stormwater management:

Policy E-3.1.1: Maximizing Permeable Surfaces

Encourage the use of permeable materials for parking lots, driveways, walkways, and other paved surfaces as a way to absorb stormwater and reduce urban runoff. ^{613.2}

Policy E-3.1.2: Using Landscaping and Green Roofs to Reduce Runoff

Promote an increase in tree planting and landscaping to reduce stormwater runoff, including the expanded use of green roofs in new construction and adaptive reuse, and the application of tree and landscaping standards for parking lots and other large paved surfaces. ^{613.3}

Stormwater Management & Flood Adaptation:

- The project is located in the MS4 sewershed, adjacent to Watts Branch, and the western building is within the 100-year flood hazard area. By raising the first floor units above the floodplain, this project appears to be compliant with current floodplain regulations. However, given that the project is receiving public financing and is being developed on a site that is prone to flood risk, the project is encouraged to meet increased requirements for flood protection and stormwater management as follows:
 - **Floodproof the building to the 500-year flood elevation** – Provide dry floodproofing to the 500 year flood elevation including: use of moisture resistant materials; clearly articulating evacuation and emergency management plans; raising vents, windows, and other openings; and, providing removable flood barriers at entrances and other openings below the 500-year flood elevation.
 - **Increased stormwater retention** – A conceptual stormwater management plan was included with this submission, although calculations were not provided. The applicant indicates that the project will meet standard regulatory requirements, including capture and retention of the 90th percentile storm event. It is recommended that this project increase stormwater retention and capture to an increased volume of the 95th percentile storm, or 1.7" storm event. Any retention volume above the baseline may be registered with the District's Stormwater

Retention Credit (SRC) trading program and will thereby generate operational savings.

- **Capturing a higher storm level volume will benefit the project and the neighborhood, and demonstrate the developer's commitment to the environment by providing needed relief from stormwater runoff. Hence, DOEE's Regulatory Review Division (RRD) recommends the project capture a 1.7" rain storm event.**

Comprehensive policies related to air quality and environmental impacts:

Policy E-4.1.3: Evaluating Development Impacts on Air Quality

Evaluate potential air emissions from new and expanded development, including transportation improvements and municipal facilities, to ensure that measures are taken to mitigate any possible adverse impacts. These measures should include construction controls to reduce airborne dust, and requirements for landscaping and tree planting to absorb carbon monoxide and other pollutants. ^{618.8}

Policy E-4.1.4: Stationary Sources

Maintain controls on gaseous and particulate emissions from stationary sources of air pollution in the city, such as power plants and refrigeration plants. Particular attention should be given to monitoring the air quality impacts of local power plants, which are the largest stationary sources of air pollution in the District. ^{618.9}

Air Quality:

The project would primarily impact air quality as a result of construction dust, fuel-burning equipment, and emissions from traffic resulting from the development. A full evaluation of the project's environmental impacts with regard to air and environmental quality will be done during the permitting and approval process. Significant adverse environmental impacts due to installation of fuel burning equipment and traffic are not expected to result from this development. Considerations are discussed below.

Fugitive Dust

- Fugitive dust results from construction. The applicant must comply with 20 DCMR 605, Control of Fugitive Dust, during project construction in order to minimize fugitive dust.

Fuel-Burning Equipment

- Any fuel-burning equipment to be installed must comply with District of Columbia regulations. Any installation of fuel burning equipment (such as boilers) with heat input ratings greater than 5 MMBTU/hour, stationary generators, or other stationary air pollutant emitting equipment will need to go through a separate air quality permitting process prior to installation.
- **In addition to these minimum requirements, the DOEE's Air Quality Division (AQD) recommends that the applicant consider using lower-emitting technologies to the extent possible to provide power, heating, and cooling.** Renewable technologies such as solar power may help to reduce power demand from the electrical grid. It is not

expected that boilers or emergency generators would be installed as a part of this development project.

Comprehensive policies related to building design, energy efficiency, and renewable energy:

Policy E-2.2.1: Energy Efficiency

Promote the efficient use of energy, additional use of renewable energy, and a reduction of unnecessary energy expenses. The overarching objective should be to achieve reductions in per capita energy consumption by DC residents and employees. ^{610.3}

Policy E-2.2.5: Energy Efficient Building and Site Planning

Include provisions for energy efficiency and for the use of alternative energy sources in the District's planning, zoning, and building standards. The planning and design of new development should contribute to energy efficiency goals. ^{610.7}

Policy E-2.2.4: Alternative Energy Sources

Support the development and application of renewable energy technologies such as active, passive, and photovoltaic solar energy, fuel cells, and other sustainable sources. Such technology should be used to reduce the dependence on imported energy, provide opportunities for economic and community development, and benefit environmental quality. A key goal is the continued availability and access to unobstructed, direct sunlight for distributed-energy generators and passive-solar homes relying on the sun as a primary energy source. ^{610.6}

Policy E-3.2.1: Support for Green Building

Encourage the use of green building methods in new construction and rehabilitation projects, and develop green building methods for operation and maintenance activities. ^{614.2}

Sustainable design, energy efficiency, and solar:

The Applicant's pre-hearing submission notes that the development will pursue Enterprise Green Communities Certification. This is a minimum requirement under the Green Building Act for projects receiving at least 15% government financing. Although the applicant is meeting the minimum requirements, opportunities to increase energy efficiency and to integrate renewable energy remain and should be pursued.

Energy Efficiency:

- The District's goal to reduce energy consumption and greenhouse gases each by 50% by 2032 is ambitious and requires that buildings, especially new construction development, exceed baseline code standards. There are numerous opportunities where the design could be improved to achieve a higher level of energy efficiency.
 - The Green Communities checklist does not show any additional credits for energy efficiency above the prerequisite requirements. While some strategies could have minimal construction cost impacts, such as improvements to the building envelope, they are the most significant opportunity to decrease utility costs for

residents. Many energy conservation measures, including additional insulation, LED lighting and controls, high efficiency mechanical systems, and envelope commissioning and air sealing, have a return on investment within five years and can be financed with no up-front cost through the DC PACE program (see below).

The project should target a minimum 15% energy efficiency improvement above the building code.

- The roof plans show condensing units associated with split-system mechanical equipment. Variable refrigerant volume (VRF) mechanical systems are more suitable for small residential apartment units and are up to 25% more efficient than conventional air-sourced systems. In addition, VRF systems reduce the amount of roof space required for mechanical equipment allowing the building to dedicate more square footage for green roof or solar panels. VRF systems should be considered for this development.
- **Given market conditions and the District’s goal of continually improving building codes to meet higher efficiency targets, with the ultimate goal of achieving net zero energy properties by 2032, it is strongly encouraged that the applicant maximize all strategies to increase energy efficiency and, therefore, decrease tenant utility costs.**

Solar:

- A critical goal of the Sustainable DC Plan is for renewable energy to make up fifty percent (50%) of the District’s energy use. This is a major priority of the current administration. The Mayor signed legislation this summer to increase the District’s Renewable Portfolio Standard (RPS) to 50% of energy use, with a local solar carve-out of 5.0% by 2032. As a result of this legislation, the District has the best financials available to the business and development community for solar energy in the country.
- Several design solutions could allow the applicant to include solar photovoltaic panels as an energy option, including minimizing rooftop equipment through installation of VRF systems, moving equipment toward the north and east to maximize southern and western exposures and contiguous open space, and integrating solar into the extensive green roof design.
- **To create a more resilient and economically progressive project, it is strongly encouraged that the project developers incorporate solar panels to the maximum extent practicable and utilize the District’s Community Solar program to offer the resulting cost-saving benefits to residents.**

Finance:

- A financial program like the DC Property Assessed Clean Energy (DC PACE) program can pay for increases in construction costs for on-site energy generation, for increased energy efficiency above baseline code requirements, and for stormwater management strategies that garner return on investment through the District’s Stormwater Retention Credit Trading program. This financing does not increase debt on the property and is repaid over time as a special assessment on the property tax. Rebates may also be available from the DC Sustainable Energy Utility (DC SEU) for energy efficiency measures such as lighting and insulation upgrades.

- **DOEE recommends that the applicant take advantage of programs and opportunities, such as DC PACE, that would finance an increased commitment to sustainability.**

Well detailed and integrated new construction helps the District to meet its sustainability goals and ensures that the project is economically competitive into the future. DOEE recommends that the applicant increase stormwater retention, increase energy efficiency 15% over the baseline, and integrate rooftop solar photovoltaic energy. DOEE is happy to serve as a technical resource for the Applicant as the project continues forward.