

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: February 08, 2017

SUBJECT: [Z.C. CASE NO.](#) 14-18A Mid-City Financial Corporation (RIA Block 7) - 1st Stare PUD Modification and 2nd Stage PUD @ Square 3953, Lots 1, 2, and 3

The District's Department of Energy & Environment (DOEE) reviews planned unit development applications to ensure that the applicant is informed of environmental issues during early stages of planning, and to identify opportunities to increase environmental and urban sustainability during development.

DOEE does not have comments on 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 entitlement. The items mentioned below are by no means comprehensive, but are a summary of specific items related to the site in question, including issues that are common with many development projects. DOEE is always interested in meeting with developers and construction companies early in the development process in order to advance efficiency in the built environment and to help avoid future regulatory problems.

The objective of this report is to outline concerns for case number 14-18A RIA Block 7, including the ability of the project to exceed minimum stormwater management and air quality requirements, increase energy efficiency, and integrate on-site renewable energy.

DOEE supports and recommends approval of the PUD Application 14-18A for RIA Block 7 with the following considerations, which would improve the design and increase environmental performance:

Stormwater Management:

- The applicant submitted thorough stormwater management and GAR plans. Given the scale of this project, there are benefits to consider district scale stormwater management, and to ensure that all street runoff is captured through curbside bio-retention.
- The District has strong regulations in place requiring all development sites disturbing greater than 5,000 SF meet a stormwater retention requirement to the 90th percentile storm or 1.2". The current plans show that this site will meet the baseline requirement through extensive green roofs in the courtyard, and micro-bioretenion swales at grade.
- The design should contribute greater stormwater management and tree canopy goals beyond the baseline requirement. This may include stormwater retention up to the 95th percentile rain event (1.7" retention), and ensure 30% tree canopy coverage of non-roof impervious surfaces or 40% non-roof surfaces. Any retention over the baseline would qualify the applicant for the DDOE Stormwater Retention Credit Trading Program, which would provide long-term financial benefits to the developer. The additional trees will also provide greater resilience from increasing temperatures due to climate change.
- The Community Green across the street from this site could be a strong center for the District and may provide an opportunity to showcase stormwater management. A constructed wetland was discussed during the Phase 1 PUD application phase as one possibility, which should be further evaluated. DDOE is excited about the opportunities associated with the large scale development at Brookland Manor and may be a technical resource as needed through the design and regulatory process.
- **Capturing a higher storm level, will benefit the developer's application by demonstrating their commitment to the environment. It will also benefit the city as a whole by minimizing runoff and ensuring cleaner rivers. Hence, DOEE's Watershed Protection Division (WPD) recommends the project capture a 1.7" rain storm event.**

Air Quality

The project would primarily impact air quality through construction dust, fuel-burning equipment, and emissions from development related traffic. These considerations are discussed below.

Fugitive Dust

- Fugitive dust results from construction. The applicant must comply with 20 DCMR 605, Control of Fugitive Dust, throughout development to minimize fugitive dust from construction operations.

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 construction. The applicant may contact AQD at (202) 535-1747 with any questions regarding this permitting process.
- **In addition to these minimum requirements, 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 reduce power demand from the electric grid. Fuel cells or other innovative technologies could also be used in lieu of a traditional emergency generator set. If a traditional emergency generator set is selected, cleaner-burning natural gas would be preferable to diesel fuel. **If a traditional boiler is being considered, AQD recommends that the applicant consider more efficient technologies such as cogeneration or tri-generation.**

Traffic

- Parking entrance location and design (stack height, exhaust velocity, etc.) should minimize carbon monoxide (CO) concentrations from traffic, especially considering the District of Columbia has a history of nonattainment. A formal traffic study will determine the maximum allowable project-attributable CO contribution based on the existing level of service (LOS) and traffic volume. As an initial estimate, DDOT traffic volume maps and ArcGIS World Traffic Service (LOS data) indicates that traffic volume is low at the site and that traffic LOS is only poor at T St SW; therefore the background concentration will most likely not be an issue. There are no known emission sources from contemporaneous developments based on previously filed Environmental Impact Screening Form applications. **Should an air quality study model of this moderately-sized project exceed allowable CO concentrations, redesigning the parking configuration outlined above will be necessary.**

LEED, Green Communities, and Energy Efficiency:

- Well-integrated designs prioritize green building goals and sustainability outcomes to reduce long-term operational costs. They also contribute to the overall sustainability and resilience of the District. As an alternative path to meeting the District's Green Building Code, affordable housing developments have the option to pursue certification under the LEED Homes or Enterprise Green Communities (EGC) Certification platforms. EGC is a rating system specifically tailored for affordable multifamily housing. It is free to register and unlike LEED, does not offer tiered certification levels. DOEE considers green building rating systems a proxy for demonstrating overall compliance with DC's already ambitious Sustainable DC, Clean Energy DC (Draft) and Climate Ready DC plans.
- In addition to the transit oriented development, stormwater management, and indoor air quality requirements that are integrated into District codes and regulations, energy efficiency and clean energy are among the most important strategies a developer can pursue to affect the long-term sustainability of the development and provide an impact

for the residents and city. Although this project has identified a point threshold that exceeds the minimum requirements for EGC Certification, most of the points are “low hanging fruit,” minimum requirements in the codes and regulations of the District, or points that any development would get based on the proximity to existing transportation and connectivity to amenities in an urban context.

- DOEE would ask that this project reconsider opportunities to increase its commitment to energy efficiency and clean energy. Per the projected credits under energy efficiency, the team shows that they are meeting only the current and baseline Energy Conservation Code. Given that the District is continuously updating building codes, additional gains in energy efficiency are possible and encouraged. In addition, there are numerous project examples that have exceeded these thresholds within the constrained construction budgets and pro-forma of income-restricted properties.
- We would encourage the project to maximize all opportunities for increased energy efficiency. While some strategies could have minimal construction cost impacts, it would also decrease utility cost for residents and commercial space leasees. 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).
 - o As an example of the synergies in efficiency that upgraded technologies could produce, a variable refrigerant flow mechanical system would cost about \$1500 more per apartment unit. However, it would reduce electric costs by about 30% and gain rentable floor area (a closet) in each apartment unit. It would also free roof space that could be used for solar panels that generate additional operational savings. Combined, this strategy could have a return on investment in about three years.
- As a threshold beyond the baseline 2015 Enterprise Green Communities Criteria, the project team should consider meeting 2015 GCC 5.2b Advanced Certification: Nearing Net Zero. The project has the option to certify with Passive House Institute US (PHIUS), Living Building Challenge Net Zero Energy Building Certification, or DOE Zero Energy Ready Home. The project should incorporate solar photovoltaics and maximize their rooftop generation potential to the maximum extent allowable by District codes and regulations. This is in line with the new Solar for All initiative and prioritization scoring offered by the Department of Housing and Community Development for gap financing.
- **Given market conditions and the District’s goal of ensuring that all new construction projects are net zero by 2032, is the applicant is strongly encouraged to have the project team revisit their energy model, commitment to increased energy efficiency, and incorporate next generation technology.**

Renewable Energy:

- One critical goal of the District’s Sustainable DC Plan is to source 50% of the District’s energy from renewables by 2032.. This is also a major priority of the administration, as the Mayor signed legislation this summer to increase the District’s Renewable Portfolio Standard (RPS) to 50%, with a local solar carve out of 5% by 2032. For the business and

development community this legislation has given the District some of the best financials for solar energy in the country. In terms of design, solar panels may be mounted horizontally over mechanical penthouses, or in lieu of condensing units if more efficient mechanical systems are incorporated into the project.

- A power purchase agreement may be executed for leased solar panels with zero up front cost. For owner financed solar panels, which can be financed by DC PACE, the typical return on investment is between two and five years. Through the District's community solar program, the energy generated can be "virtually" net-metered and the residents or commercial tenants can "subscribe" into the system, thereby providing mutual benefits for both the property owner and residents. **To create a more resilient and economically progressive project, it is strongly recommended that the project incorporate solar panels capable of generating a minimum of 1% of the buildings' total energy use.**

Finance:

- Financial tools like the DC Property Assessed Clean Energy (DC PACE) program can pay for increases in construction cost for on-site generation, any strategies that increase efficiency above the baseline code requirements, or 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. **DOEE recommends that the applicant investigate opportunities to take advantage of financial tools that would allow greater sustainability investments.**

Redesign of the project to increase energy efficiency, integrate on-site renewable energy and capture street runoff would help the District meet our sustainability goals and ensure that the project remains economically competitive. DOEE is glad to be a technical resource as the project continues forward.