

October 1, 2021

To: Frances Boardman
From: Claire Whitcomb, Madison Environmental Commission.

The MEC has reviewed the site plans for 66-68 Main Street/3 Central Ave. pursuant to its mandate.

Overview:

The project requires numerous variances, including waivers for impervious coverage and parking. It offers no environmental benefits beyond new construction basics and includes no details on stormwater management. The climate-change-induced storms we have experienced this year make it clear that Madison must take a leadership stance on construction and be sure that all new projects align with the goals of the Master Plan and the NJ Energy Master Plan. Toward that end, the MEC offers these climate-critical recommendations:

1. Impervious coverage and stormwater runoff.

The current building at 3 Central exceeds the impervious coverage limit (100% vs the required 85%). The MEC firmly opposes granting a footprint variance on the grounds that the applicant offers no innovative stormwater relief. Dumping rainwater into the gutter made sense in 1925. That method of drainage is no longer a viable option for Madison's downtown due to these climate-induced changes:

- New Jersey is experiencing increasingly heavy downpours, followed by periods of flash droughts. This is a pattern that is projected to continue or worsen.
- Currently pedestrians walking on Madison streets experience flooded sidewalks during many rainstorms; water exceeds curb heights in some storms.
- Flood damage in a downtown area will lead to increased expenses for the borough.
- Due to climate change, the atmosphere holds more water, leading to flash floods and the damaging effects recently experienced by many New Jersey towns.
 - "Air can hold about 7 percent more moisture with every degree Celsius, or 1.8 degrees Fahrenheit, of warming." <https://www.nytimes.com/2021/08/25/climate/nyt-climate-newsletter-drought-floods.html>

2. Energy/Utilities

Sixty-six percent of Madison's carbon footprint comes from the built environment. Since most of our building stock is old—and demolition and construction further add to our carbon footprint—it is critical that new construction provide demonstrable energy efficiency and climate-smart innovation, especially where variances are requested. In filling out the Preliminary Environmental Checklist, the applicant mentions "building electrification" and "air filters." It is unclear whether the proposed construction will be 100% electric, in line with NJ state goals, or even if it is "electric ready" in preparation for eliminating gas as a fuel. Air filtering is an essential consideration in a post-Covid world; it is not clear what kind of filtering the applicant is intending

In terms of energy efficiency, the MEC recommends:

- Design plans should demonstrate that the building is solar ready and photovoltaic panels can successfully be installed either now or in the future.
- Electric heat pumps are advised.

- Windows, insulation, roof color and other building materials should be reviewed to demonstrate where energy savings will occur. AC units should have a high energy efficiency rating and this should be noted on plans.
- A light-colored or reflective roof should be installed, reducing the “heat island effect” and the building’s contribution to rising temperatures.
- As noted above, design plans should indicate that the building has the necessary wiring and infrastructure so it can be powered with 100% electricity for heating, cooling, appliances etc.
 - This infrastructure will “future proof” construction and eliminate the need for expensive retrofits as New Jersey passes clean energy electrification measures (see NJ Energy Master Plan notes below).
- Indoor and outdoor plans should include energy conservation features such as energy-efficient appliances, smart thermostats, motion sensor lights, dimmers and timers.
- Outdoor bulbs should be yellow toned, not white/blue (for both human health and wildlife protection).

A note on gas as a fuel:

- Currently gas in NJ is 67% fracked, per www.empowernewjersey.com.
- Fracking is accompanied by damaging methane emissions.
- Gas pipelines leak methane routinely. Mapping in Massachusetts has found 4,000 active gas pipeline leaks, about 1,000 of which are “super-emitters” according to the Washington Post. <https://heet.org/gas-leaks/gas-leak-maps/>
- In homes, gas stoves and heating present health and indoor air quality issues. <https://www.vox.com/energy-and-environment/2020/5/7/21247602/gas-stove-cooking-indoor-air-pollution-health-risks>

3. Parking

The applicant asks for a parking waiver with no innovative alternative plan. Previously, 3 Central Avenue had a lesser need for parking—residents often walked downtown to eat. An apartment building will require prolonged parking, even if residents live within close proximity to the train. With work-at-home being part of the new world of employment, a daily commute is no longer a given.

- Any plan for parking, whether onsite or offsite, should include applicant-installed EV charging spaces so that residents can make the switch from gasoline-powered vehicles.
- NJ has an aggressive goal of 330,000 electric vehicles by 2025, which is probably not far from the timeline for construction completion.

4. Water usage and aquifer protection

This project will increase both water and sewer demand. To mitigate the long-term effect of on Madison’s natural resources, we recommend the following:

- Plans should specify low-flow toilets, waterless urinals, and water-saving appliances (dishwashers, washing machines).

5. Vegetation

The landscaping plan is basically a window box. The recommended plant is English ivy, which is an invasive species that offers no benefit to insects (and, therefore, the birds who rely on insects for food). If

the applicant cannot find a suitable alternate species, please reach out to the MEC's Joan Maccari, MaccariJ@rosenet.org

6. Local and state energy goals

Madison's Master Plan states these goals, which must be taken into consideration:

- Enhance Madison's resiliency to potentially catastrophic events including pandemics, extreme weather and climate, and critical infrastructure interruptions.
- Improve air, water quality and public health by encouraging sustainable design, green infrastructure, and energy practices.
- Encourage use of sustainable design and green building practices where variances are being considered for building and/or impervious coverage.
- Reduce the Borough's environmental footprint and carbon emission

New Jersey's Energy Master Plan calls for:

- 100% clean energy by 2050
 - Solar on new construction
- 90% building electrification by 2050
 - Phase out gas boilers and water heaters.
 - Net-zero carbon goals for new construction
 - "Modern air- and ground-sourced electric heat pumps have similar operating costs to natural gas furnaces and are approximately twice as efficient as electric baseboard heating."
 - "While building electrification increases electricity use, it reduces total energy needs because heat pumps are much more efficient than direct combustion of fossil fuels for heat."
 - "If gas use in buildings is retained, further emissions reductions require either substituting natural gas with much more expensive carbon-neutral, bio- or synthetic gases, or transitioning buildings to electrification by retrofitting gas appliances with heat pumps before their useful life is over."

Thank you for your consideration.

Respectfully,

Claire Whitcomb
Madison Environmental Commission, Chair
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