

# Memorandum

**To:** Colin Punt, Dept of Planning & Community & Economic Development

**From:** Jon Cakert, Associate Principal – Cooper Carry

**Date:** January 02, 2024

**Re:** Madison College Dual-Brand Hotel / 20220469

**Subject:** Sustainability Strategies & Techniques

**Copies:** Andy Inman, Chief Development Officer – NCG Hospitality

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The following reflects the design strategies and techniques currently being proposed by the Design Team on the Madison College Dual-Brand Hotel.

## Location & Transportation:

- EV charging stations.
- Reduction of provided parking on-site and “shared parking” agreement to reduce the carbon impact of the overall development and construction duration.
- Bicycle Storage and Maintenance Facilities, as well as immediate adjacency to rapid transit, which reduces the project’s overall carbon impact.
- Bike parking racks near building entrance for visitors/residents to support multi-modal transportation.
- A dedicated seating area at the intersection of Johnson/Wisconsin for Metro Transit bus stop to support multi-modal transportation.

## Sustainable Sites:

- Historic preservation and adaptive reuse of former Madison College buildings. Adaptive reuse will eliminate demolition waste, reduce need for new construction materials, and provide new, efficient housing in the downtown core.
- Efficient high-density development in new 11-story hotel building.
- Controlled Stormwater run-off
  - Courtyard: considered a vegetated (“green”) roof, with permeable pavers, which allows for sub-level collection and management of stormwater.
  - Low-Roofs (adjacent to Winter Garden): controlled flow roof drains as a “blue roof” reduces rate of which stormwater enters into the storm system.
- Use of native or adapted plants that are drought, salt, and generally urban tolerant and require less watering and maintenance beyond initial establishment.
- Use of native or adapted plants that provide habitat and support pollinator species.



- Use of regionally sourced landscape materials – site furnishings, landscape stone, and pavers to support local economy and minimize shipping related emissions.
- Protection of existing canopy trees to be preserved on site which provide habitat, manage stormwater runoff, and provide passive solar heating/cooling of the building.
- Providing adequate planting soil volume and rooting space for proposed tree plantings for long term health and establishment of urban tree canopy through the use of silva cells, or similar, in paved areas and planting soil blend of topsoil/sand/compost at a minimum of 24" depth.

#### Water Efficiency:

- Low-flow (gallons per minute) fixtures (toilets, urinals, sinks/lavatories) are specified and comparable with USGBC LEED standards to promote overall reduction in water-usage.

#### Energy & Atmosphere:

- Glazing on the building is a high-performance glass which mitigates solar heat gain during summer months, and is comprised of a thermally protected assembly, which manages heat loss during winter months.
- Horizontal surfaces (roofs) have been designed to manage the "heat island effect" through the selection of materials that meet the solar reflectance index standards of USGBC and manage overall heat gain upon the building – which reduces energy consumption.
- Connections through the façade are either thermally broken (like the screenwall at the roof) or "thermally improved" (like the brick ledge details) to minimize thermal bridging and maximize continuous insulation.
- "Energy Star" cooking and refrigeration equipment when available.
- "Variable Flow Device" (VFD) exhaust fans on Type 1 Exhaust hoods
- Energy recovery dishwashers are specified.
- Water-cooled HVAC Systems. Hotel uses water-cooled VRF and Apartments use water-cooled heat pumps. Both systems are very efficient, allowing energy to be 'shared' between spaces, and manage to both energy use and utility costs.
- Condensing Style Heating Boilers. Condensing style boilers provide heat injection for both VRF and heat pump systems. These boilers are higher efficiency than standard boilers.
- Domestic hot water preheating. Wasted heat energy from the HVAC water-cooled systems is used to preheat domestic hot water, reducing energy use.
- DOAS units with airside energy recovery. Outdoor air is preheated/precooled by exhaust air via heat exchangers in the DOAS systems to reduce energy use.
- Hotel DOAS systems control ventilation/exhaust based on guestroom occupancy, reducing energy use.
- Electric appliances in MF units prepare property for 'electrification' trends.
- Architectural light fixtures consist of all LED lighting, including energy efficient decorative fixtures, which will meet and exceed energy code. Controls are designed for automatic shutoff and daylight response.



Operational:

- Hotel will incorporate NCG's and Marriott's sustainable practices designed to reduce waste, water consumption, energy use, and overall carbon footprint.

**END OF MEMORANDUM**