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To Whom it May Concern

We are delighted to submit the following information for an Innovation Credit for the Frick Chemistry Laboratory, based on innovative water collection and reuse within the building. The system was designed to reduce the impact on the environment, by reusing water that would otherwise be conveyed offsite through the storm water sewers, contributing to reducing the site's overall stormwater runoff, one of the main environmental goals of new construction. It simultaneously reduces potable water use within the building. The size and ambition of this project challenged the design team to provide innovative solutions that are multi-disciplinary while tackling a broad spectrum of issues.

The system was design to collect stormwater from the laboratory and atrium roof, and condensate generated by the laboratory air-handling unit (AHU) cooling coils, to be reused for non-potable purposes, reducing the building's freshwater usage. Due to the large amounts of outdoor air that must be optimally conditioned to serve the laboratories, condensate is generated through the dehumidification process, generally in the warm or humid months of the summer, early autumn, and late spring.

Working with the site civil engineer, plans were developed for a 12,000 gallon cistern to collect the stormwater. After mechanical filtration and disinfection by UV light, the water is colored and distributed for the entire building's toilet flushing system. The coloring discourages the use of the water for other purposes, and also informs the occupants that the water is from a recycled source. During periods of low water collection (e.g. winter), an automatic domestic water makeup valve tops off the main collection tank.

To help disseminate information to both occupants and visitors, a building dashboard is installed near the front entrance of the building, displaying its sustainable and energy-saving features. In addition to the overall energy savings achieved through various measures in the building, the dashboard also displays the amount of water collected and used through this collection system and compares it to a conventionally designed and operated building of similar size and program. A series of flow meters on the intake,

makeup, and supply side of the cistern collects the information accurately, allowing the occupants to be conscious about and understand a portion of the building's water balance.

We believe this system meets all of the Innovation Credit criteria, particularly with regard to criteria #1. With Princeton's expansion of the sciences through the construction of new research facilities, this ground-breaking approach of water collection and reuse within the building has served as a model for all future buildings on campus.

Yours sincerely

Fiona Cousins.

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Principal