City of Cambridge
Department of Public Works

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TO: Planning Board

FROM: Katherine F. Watkins
City Engineer

RE: 195 & 211 Concord Turnpike:

We are in receipt of the Special Permit Application materials, dated January 19, 2017, for the redevelopment of the site at 195 & 211 Concord Turnpike. We have reviewed the materials and have presented below some comments related to the interests of the Department of Public Works.

The Applicant has met with both the Engineering and Conservation Commission divisions of the DPW and has been made aware of permitting requirements for the project. The DPW, based on the provided documentation, does not anticipate the project having any issue meeting all of the requirements of the DPW as the project will be subject to thorough and complete engineering review at the time of the Building Permit Application. The Conservation Commission issued an Order of Conditions on November 23, 2016.

As the project is further advanced, DPW will work with the applicant to ensure the following requirements are met:

Flood Plain Mitigation:

<u>20.70 Flood Plain Overlay District</u>
DPW has reviewed the Incremental (per foot) Flood Storage Capacity Calculations submitted as part of the Planning Board Submission. The documentation submitted demonstrates that the project has met the Criteria in Section 20.75. There is no filling or encroachment that would impair Special Flood Hazard Areas to carry or discharge flood waters. The submitted flood storage capacity calculations show an increase in flood storage for the parcel for both FEMA 1% annual occurrence flood elevation and the City of Cambridge CCVA 2030 100 year flood elevation.

Climate Change / Resiliency:

The Applicant has been asked to address flood level impacts and building resiliency associated with increased flood elevations presented in the November 2015 *Climate Change Vulnerability Assessment.* Flood Elevations associated with the 2030 and 2070 100-year storm events have been provided to the Applicant.

The building has been designed above the 2030 100-year flood elevation and designed to minimize damage and recover from the 2070 100-year flood event. The Applicant has worked proactively with DPW to use the best available information in the design of the buildings and has committed to additional resiliency measures.

1. The first floor elevation is approximately 1' above the anticipated 2030 100-year flood elevation.
2. All residential units are located on the second floor and higher; significantly above the 2070 100-year flood elevation.
3. All areas of the building located below the 2070 100-year flood elevation are designed to recover from the 2070 100-year flood event. The building materials will maximize use of non-porous materials and will be mold and mildew resistant. These areas are limited and include the lobby, bike storage room and a small bowling alley.
4. All interior building mechanical rooms will be water proofed to resist damage due to potential inundation during more significant flooding events.
5. The Applicant will work with Eversource to evaluate the options for elevating or waterproofing the exterior site electrical infrastructure.
6. The Applicant will develop a site Action Plan to allow for future adaptation to flooding risks associated with climate change. This will allow the building to proactively adapt over time to the changing climate.
    - Parking garage entrances will be constructed to be readily retrofitted with flood control gates or other designs to protect the garage in the future.
    - The Action Plan will be submitted to DPW for review and approval through the Building Permit process. The plan will include resiliency measures such as providing sand bags / inflatable barriers on site; resident notification / evacuation plan; and provide for future adaptation of the site to reduce flooding risks.
    - The Action Plan will be reviewed by the site owner and property management team every 5 years through 2035 to confirm the effectiveness of existing adaptation measures and the need for additional measures. The reviews will be reviewed with DPW.
    - The Action Plan will identify emergency evacuation meeting points on an elevated courtyard in each building and develop evacuation routes.

Stormwater Management:
The project proposes to make significant stormwater management improvements. There is currently no stormwater management system on the parcel in the existing condition and all stormwater is currently discharged uncontrolled off of the site.

1. The project design demonstrates that the proposed peak rate of runoff for the 2-year, 10-year and 100-year storm events will be less than the pre-development conditions.
2. The project will improve water quality being discharged from the site and achieve 65% phosphorus removal, as required, by increasing permeable area on the site; constructing a wet pond and a rain garden; and installing deep sump catch basins and a structural water quality unit.
3. Under the City Land Disturbance Regulations due to the project requiring a Special Permit from the Planning Board, the Applicant will need to obtain a Stormwater Control Permit from the Department of Public Works. The permit requirements cover the design standards and long term operation and maintenance of a management system for the project site, as well as the construction phase erosion and sedimentation control plans.

Public Infrastructure:
The Applicant understands the DPW requirements associated with public infrastructure and has committed to working with the DPW through the building permit process on design details, including the removal of approximately 66,420 of stormwater inflow or infiltration into the sewer system to offset the new sanity sewer flows.

A thorough review of the development during design and construction will be required by the DPW to ensure that the above items are implemented as described.

Please feel free to contact me with any questions or concerns related to the comments provided above.

Sincerely,

Katherine F. Watkins, P.E.
City Engineer