



City of Cambridge
Department of Public Works

Owen O'Riordan, Commissioner

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July 5, 2018

TO: Planning Board

FROM: Katherine F. Watkins
City Engineer

RE: 50 Cambridge Park Drive Residences

We are in receipt of the Special Permit Application materials, dated June 11th, 2018 for the redevelopment of the site known as 50 Cambridge Park Drive. 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 approved the project on March 12th, 2018.

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

Flood Plain Mitigation:

DPW, through the Conservation Commission Filing, has reviewed the Incremental (per foot) Flood Storage Capacity Calculations. 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 2070 10 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 2070 10-year and 2070 100-year storm events have been provided to the Applicant.

The building has been designed with retail spaces set above the 2070 10-year flood elevation and Residential units and amenities set above the 2070-100 year flood elevation. 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.

In direct response to the City's Alewife Preparedness Plan, The Applicant outlines design elements and programming at the development to improve the projects resiliency. As the project design is progressed, the DPW will work with the Applicant to confirm that proposed measures are implemented and incorporated into a Site Action Plan. The Site Action Plan shall allow for future building adaptation to flooding risks associated with climate change with an emphasis on providing safety and comfort to the residents. The plan shall include the below and be reviewed and approved by DPW and Fire Department staff through the building permit process.

- a. The Action Plan shall be reviewed by the Permittee and property management team every five years through 2070 to confirm the effectiveness of existing adaptation measures and the need for additional measures. The reviews shall be reviewed with DPW and the Fire Department.
- b. The Action Plan shall develop a notification regarding flooding risks that shall be included in the leases to ensure residents are informed of the flood risk. This plan shall be operational immediately upon occupancy of the building.
- c. The Action Plan shall develop a resident notification / evacuation plan. This plan shall be operational immediately upon occupancy of the building.
- d. The Action Plan shall develop information, guidance, and resources to assist residents sheltering in place, such as a disaster supply kit. This plan shall be operational immediately upon occupancy of the building.
- e. The Action Plan shall identify emergency evacuation meeting points on an elevated courtyard in each building and develop evacuation routes for residents and access points for the Fire Department. This plan shall be operational immediately upon occupancy of the building.
- f. The Action Plan shall detail an operations plan for sand bags / inflatable barriers on site to reduce flooding risks. This plan shall be operational immediately upon occupancy of the building.
- g. The Action Plan shall develop the operation of the fire detection and suppression systems to ensure that they remain operable during flood events or loss of power. This plan shall be operational immediately upon occupancy of the building.
- h. The Action Plan shall address elevator operation and heated community space in each building in the event of loss of power. This plan shall be operational immediately upon occupancy of the building.

- i. The Action Plan shall identify appropriate public spaces in each building to locate key emergency medical supplies and other emergency response supplies. This plan shall be operational immediately upon occupancy of the building.
- j. The Action Plan shall develop a notification protocol to be utilized in the event of a flooding or other natural disaster. This plan shall be operational immediately upon occupancy of the building.
- k. The Action Plan shall detail future adaptation measures that can be implemented at the site to reduce flooding risks.
- l. The Action Plan shall detail the design of the entrances to any below grade facilities to facilitate future flood control gate installation to protect the garages from flooding in the future.

Triangle Preparedness and Resiliency Initiative:

The Applicant outlines, in the cover letter and text of the Special Permit Application, a neighborhood based preparedness and resilience plan for the properties along Cambridge Park Drive. The DPW has met with the Applicant to discuss this plan and applauds their willingness to lead this neighborhood based planning effort. The DPW looks forward to collaborating with the neighborhood group.

More specifically, the Applicant has committed to sponsor a yearly meeting between stakeholders and City Staff for 3 years (2019, 2020 and 2021) to ensure that the initiative become established and can be an effective tool in protecting the neighbors into the future.

Stormwater Management:

The submitted documentation includes discussion of the proposed storm water management system for the development. The documentation indicates that the proposed system will meet the Mass DEP and City of Cambridge Concord Alewife Design Standards. 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. A thorough review of the design will be completed at the time of this permit submission.

The presented design is based on design storm events consistent with NOAA Atlas 14, Volume 10, Version 2 Point Precipitation Frequency Estimates. These design storms are more consistent with current storm intensities and frequencies than the model storm events typically used and required by the Mass DEP. While we acknowledge this effort by the development team, we will be working with them as the Design progresses to size onsite infrastructure for future storm events consistent with what the City's Climate Change Studies are anticipating for 2030.

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.

- The applicant acknowledges the projects need to remove approximately 163,000 gallons of storm water inflow or infiltration from the sewer system to offset the 40, 750 gallons per day of new sanitary sewer flow. The submitted documentation committed to working with the DPW to meet this 4:1 I/I mitigation requirement.
- Work in the Public right of way, of CambridgePark Drive and some aspects of the shared common drive will need to be reviewed and coordinated with the DPW and other interested City Departments.
- The Applicant shall be aware of the importance of existing street trees and the preservation of the City's urban canopy. Potential impacts to existing shades trees shall be identified and coordinated early in the design process with David Lefcourt, City Arborist.

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,

A handwritten signature in blue ink, appearing to read "Katherine F. Watkins".

Katherine F. Watkins, P.E.
City Engineer