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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: CambridgeSide 2.0
PROJECT MUNICIPALITY	: Cambridge
PROJECT WATERSHED	: Charles River
EEA NUMBER	: 16176
PROJECT PROPONENT	: New England Development
DATE NOTICED IN MONITOR	: March 25, 2020

Pursuant to the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62I) and Section 11.03 of the MEPA Regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a mandatory Environmental Impact Report (EIR). The Proponent submitted an Expanded Environmental Notification Form (EENF) with a request that I allow a Single EIR to be submitted in lieu of the usual two-stage Draft and Final EIR process pursuant to Section 11.06(8) of the MEPA regulations. The Proponent should submit a Single EIR in accordance with the Scope included in this Certificate.

Project Description

As described in the EENF, the project involves the redevelopment of the CambridgeSide Galleria mall ("CambridgeSide") in the City of Cambridge (the "City") from the current footprint of 1,090 million-square foot (msf) into an approximately 1.665 msf mixed-use development. This will be achieved primarily through redevelopment of the former anchor stores and above-ground parking garage and an addition of 575,000 net new square feet (sf) of building space. The project will maintain the public sky-lit atrium open space and the active retail and office uses within the mall.

The project is consistent with a new Planned Unit Development 8 (PUD-8) Zoning District approved by the City allowing for retail, office, laboratory and restaurant uses; in addition, 30 percent of net new floor area is required to be reserved for residential uses. The existing Upper Garage, an above-ground parking structure accessed from First Street, is proposed to be removed. Street-level retail and restaurant uses are proposed along the project's frontage on First Street to activate the corridor in favor of pedestrian and bicycle uses. The new 575,000 sf to be added to the site will consist of approximately 175,000 sf of residential and 400,000 sf of commercial uses, and the construction program will consist of 210,000 sf of office space, 665,000 sf of research and development (R&D) space, and about 200 residential units (175,000 sf). Approximately 320,000 sf or 50 percent of the current retail space (associated with the anchor stores) is proposed to be removed.

Project Site

The 8.2-acre project site contains the 1.1-msf CambridgeSide mall located in the Lechmere Triangle neighborhood in Cambridge. The project site is generally bounded by Edwin H. Land Boulevard to the north, Charles Park to the east, First Street to the south, and Lechmere Canal and Canal Park to the west. Land Boulevard is a DCR roadway and the O'Brien Highway (Route 28) is under the jurisdiction of MassDOT. The Land Boulevard Bridge over Lechmere Canal is a MassDOT bridge, and the underpass beneath Land Boulevard adjacent to the Lechmere Canal is under the jurisdiction of DCR. The underpass serves as a critical link for access to the Charles River Reservation from the project site. The mall includes a three-story retail and office core surrounded by three retail anchors and a six-level above-grade parking structure (the Upper Garage) (795 spaces). A three-level below-grade parking garage (the Lower Garage) with 1,695 spaces also serves the site. The mall includes a central sky-lit atrium that functions as an extension of the proximate open space system and connects Canal Park and Charles Park. The mall underwent prior MEPA review (EEA# 3007, Cambridgeside Galleria at Riverside) which concluded in the 1990's.

The project site is comprised of 8.2 acres of filled private tidelands subject to Chapter 91 (c. 91) jurisdiction and the Waterways Regulations (310 CMR 9.00). The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the redevelopment project include: generation of 1,744 adjusted average daily vehicle trips (adt) (10,276 unadjusted adt), an increase in water demand of 115,270 gallons per day (gpd), and an increase in wastewater flows of 104,770 gpd. Greenhouse gas (GHG) emissions are associated with the project's energy use and trip generation.

Measures to avoid, minimize, and mitigate impacts include: redevelopment of a site in close proximity to transit; design of a building that can be certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program; signal coordination using Adaptive Signal Control Technologies; enhancement of a Transportation Demand Management (TDM) program; pedestrian and bicycle improvements; improvements to open space, mobility and connectivity to the Charles River; incorporation of measures to reduce the project's GHG emissions and enhance the project's resilience to the impacts of climate change.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to a mandatory EIR pursuant to 301 CMR 11.03(3)(a)(5) because it requires Agency Actions and will result in New or Expansion of an existing non-water dependent structure that occupies one or more acres of waterways or tidelands. The project also exceeds the EIR threshold at 301 CMR 11.03(6)(a)(6) as it will generate 3,000 or more New (unadjusted) adt , and the ENF threshold at 301 CMR 11.03(5)(b)(4)(a) as it will result in a New discharge or Expansion in discharge to a sewer system of 100,000 or more gpd of sewage.[1] The project will require a c.91 License from the Massachusetts Department of Environmental Protection (MassDEP), in addition to a Vehicle Access Permit from the Department of Conservation and Recreation (DCR) and a Highway Access Permit from the Massachusetts Department of Transportation (MassDOT) to implement traffic improvements. It also requires a Section 8(m) Permit and Construction Dewatering Permit and may require a Sewer Use Discharge Permit from the Massachusetts Water Resources Authority (MWRA). The project is subject to the May 5, 2010 MEPA Greenhouse Gas Policy and Protocol (the "GHG Policy"), and requires a Public Benefit Determination under M.G.L. c. 91, § 18B and 301 CMR 13.00.

The project requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA) and a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA). The project also requires Special Permits from the Cambridge Planning Board, a number of approvals from the Cambridge Department of Public Works (DPW) (including but not limited to Stormwater Control Permit, Sewer Connection Permit, Stormwater and Wastewater Infrastructure Permit, Land Disturbance Permit), and approval from the Cambridge Inspectional Services Department (Demolition Permit, Building/Occupancy Permits, Trench Permit, and Curb Cut Permit).

Because the project requires a c.91 License that applies to the entirety of the site, subject matter jurisdiction is functionally equivalent to full scope jurisdiction in accordance with 301 CMR 11.01(2)(a)(3), and therefore extends to all aspects of the project that may cause Damage to the Environment.

[1] These thresholds were not disclosed in the ENF, but are triggered based on the impact levels discussed in the filing. As described below, the adjusted traffic impacts, after considering mode-share splits and anticipated reductions in retail and parking, are estimated to fall below the ENF 2,000 adt threshold.

Request for a Single EIR

The EENF included a request to file a Single EIR, rather than a Draft and Final EIR, pursuant to Section 11.06(8) of the MEPA regulations. A Single EIR may be allowed, provided that the EENF: a) describes and analyzes all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope; b) provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and, c) demonstrates that the planning and design of the Project use all feasible means to avoid potential environmental impacts. The EENF included supporting documentation consistent with the criteria. It identified potential environmental impacts, described the purpose of the project, and proposed mitigation measures to support the request for a Single EIR. Comments from MassDOT are supportive of the request for a Single EIR.

Consistent with the request for Single EIR review, the EENF was subject to an extended 30-day comment period closing on April 24, 2020. With consent of the Proponent, the comment period was extended for an additional two weeks to May 8, 2020.

Review of the EENF

The EENF provided an overview and site plans for the project, a description of existing and proposed conditions, a discussion of alternatives considered for the project including a comparison of environmental impacts in a tabular format, and a discussion of environmental impacts and potential mitigation measures for the preferred alternative. The EENF included a list of required state, local and federal permits for the project with filing status, and included supporting documentation analyzing GHG emissions, transportation and stormwater impacts.

Alternatives Analysis

The EENF compared three alternatives for the project: the No-Action Alternative, Development Alternative B, and the Preferred Alternative (reduced build option). The No-Action Alternative assumes no change to current conditions, but the Proponent would make efforts to lease the premises to new tenants. This alternative was dismissed as not meeting the project goals of "revitalizing" the CambridgeSide mall and creating a mixed-use commercial center that will be viable for future decades. More specifically, this alternative was deemed economically infeasible in light of the decline in the retail industry (and associated decline in market demand for the available space), and the level of investment that would be needed to convert the existing space for other uses. The EENF notes that forfeiting the redevelopment plan would also lead to lost opportunities to upgrade buildings to a more energy efficient design.

Development Alternative B assumes an expanded building program that would demolish the core mall and atrium and rebuild it to include 875,000 sf of additional building space, including 210,000 additional sf of commercial and 90,000 additional sf of residential space as compared to the Preferred Alternative. It would require a variance from zoning requirements. This alternative was dismissed as inconsistent with the project objective of maintaining the mall's core retail function (centered around the core mall and atrium), which was developed

based on extensive input from the community. This alternative would also create more construction period impacts over 4+ years and result in a loss of 1,000+ jobs during that period.

The Preferred Alternative proposes a reduced building program that maintains the core mall and atrium, but rebuilds the former anchor stores and above-ground garage to accommodate 575,000 sf of additional building space including 400,000 sf of commercial and 175,000 sf of residential uses. This level of development is allowed under a newly created PUD-8 zoning district, and results in a significant increase to the City's affordable housing stock. As part of PUD-8 zoning requirements, the Proponent will also commit to energy efficiency and resiliency measures for buildings and significant investments to improve mobility and access to the Charles River and improve open space and opportunities for community gatherings. This alternative was determined to best meet project objectives and community desires, while minimizing environmental impacts such as traffic, water/wastewater demand, and energy use.

Wetlands/Waterways

As described in the EENF, the project site is subject to a lengthy c. 91 licensing history dating back to the 1800s. Based on a review of MassGIS Tideland Jurisdiction data layers, the EENF confirms that the entire site is located within previously licensed filled private tidelands landward of the historic low water line, and is therefore subject to c. 91 licensing requirements. The site is not located within landlocked tidelands.

Redevelopment of the site to construct what is now CambridgeSide mall occurred in 1990 under License #1829, which was issued in 1988. Subsequent license amendments in 1994 and 2001 removed two parcels associated with the former Lotus building at 1 Charles Park and Hotel Marlowe from the area subject to License #1829, and placed those parcels under separate licenses (License #3863 and #8528, respectively). In 2018, a minor modification to License #1829 occurred in order to accommodate a change in use on the third floor of the mall to a combination of commercial uses including office and retail/restaurant.

The Proponent now proposes further amendments to License #1829 to: (i) decrease the maximum height permitted for the Sears building (but exceeding the permissible heights under c. 91 regulations) and place that parcel under a separate license; and (ii) increase the maximum height permitted under other parcels (but within the permissible heights in c. 91 regulations) and "restate" License #1829 to include just those parcels affected by the latter change. Notwithstanding this height increase for certain buildings, all project activities will occur within the existing building footprint (in fact, the at-grade building footprint will decrease overall), and will not place new fill or pile-supported structures within c. 91 jurisdictional areas. The project site is not located within a Designated Port Area (DPA), and there is no Municipal Harbor Plan (MHP) associated with the site.

The EENF addresses the relevant performance standards for licensure set forth in c. 91 regulations. MassDEP will review these standards for compliance during subsequent permitting. According to the EENF, the project will result in numerous public benefits consistent with c. 91 public trust rights, including expanded open space and meeting spaces for public gatherings, activation of ground floor uses open to the public, improvements to open space through tree

plantings and landscaping (including a $1 million contribution to the City's Tree Replacement Fund), enhanced connections from the neighborhood to Charles River, and traffic and mobility improvements through increased building setbacks to accommodate wider sidewalks and bicycles and other upgrades to enhance pedestrian safety. As the project is subject to EIR review, it requires a Public Benefit Determination under M.G.L. c. 18B(b). Additional information is required regarding impacts on the public's right to access, use, and enjoy tidelands and measures to avoid, minimize, and mitigate impacts.

I refer the Proponent to MassDEP comments, which indicate that the Proponent's proposed licensing approach may not be feasible as the 2001 license amendment pertaining to Hotel Marlowe removed residential uses (Facilities of Private Tenancy) as an allowable use on the site. Comments from MassDEP indicate that the Proponent will therefore need to apply for a new c. 91 license. MassDEP notes that the open space/lot coverage requirements for non-waterdependent-uses could be met under the "maximum reasonable extent" standard for renovation/reuse projects, but that off-site improvements to abutting parks and open space will not count towards compliance. I refer the Proponent to comments from MassDEP which identify additional information that should be provided in the EIR to fully document compliance with the waterways regulations. I also refer the Proponent to comments from the City and Charles River Watershed Association (CRWA) which request further information about ground-floor retail uses and the potential for user conflicts and interference with access and enjoyment of open space by the general public.

In addition to c. 91 jurisdictional areas, the EENF identifies the following wetland areas located near the project site including Lechmere Canal: Inland Bank (and buffer zone); Land Under Water (and buffer zone); Bordering Land Subject to Flooding (BLSF); and Riverfront Area. No work is proposed in these wetland areas, and comments from the City confirm that no Order of Conditions will be required for BLSF and Riverfront impacts. To the extent work is proposed outside current project site boundaries or in buffer zones, the Proponent should work with the City's Conservation Commission to comply with any applicable requirements.

Traffic/Transportation

The EENF provided a Transportation Impact Assessment (TIA) prepared in conformance with the EEA/Massachusetts Department of Transportation (MassDOT) *Transportation Impact Assessment (TIA) Guidelines* issued in March 2014. The TIA described existing and proposed roadway, pedestrian, and bicycle conditions; public transit capacity and infrastructure; roadway and intersection volumes and roadway safety issues.

The TIA analyzed the transportation impacts of the project in a study area including the following 19 intersections:

1. Land Boulevard at Cambridgeside Place and Hotel (Sonesta) Driveway
2. Museum Drive at O'Brien Highway
3. O'Brien Highway at Land Boulevard and Charlestown Ave
4. O'Brien Highway at Cambridge Street and East Street
5. O'Brien Highway at Third Street
6. Cambridge Street at Third Street

7. Cambridge Street at First Street
8. First Street at Cambridgeside Place and Charles Street
9. Land Boulevard at Lower Garage East Entrance
10. Cambridgeside Place at Lower Garage South Entrance
11. Cambridgeside Place at Lower Garage South Exit
12. First Street at Thorndike Street
13. First Street at Lower Garage West Entrance
14. First Street at Upper Garage Entrance/Exit and Spring Street
15. Binney Street at Land Boulevard
16. Binney Street at First Street
17. Binney Street at Second Street
18. Binney Street at Third Street
19. Third Street at Broadway

Trip Generation

The TIA assessed 2020 Existing conditions; 2027 No-Build conditions, which assume no changes to the project site but account for background growth and other planned development projects; and 2027 Build conditions. To set baseline 2020 Existing conditions, daily traffic volumes were established by manual turning movement counts (TMCs) and automatic traffic recorder (ATR) counts conducted in May 2018 and March 2019. For 2027 No-Build conditions, the EENF applied a 0.5 percent background growth rate per year, which the Proponent indicates is consistent with other area traffic studies and was determined in consultation with the City's Traffic, Parking and Transportation departments. In addition, traffic projections for the following specific planned projects were included:

- First Street Mixed-Use Development
- Cambridge Courthouse Redevelopment
- Cambridge Crossing (mixed Use)
- Alexandria Binney Street Development (office/R&D)
- 249 Third Street (residential with ground floor retail)
- MIT Kendall Square Development (office/R&D/retail)
- Kendall Square Urban Renewal Plan Infill Development Concept Plan (office/retail/residential)
- Foundry Building Redevelopment (101 Rogers Street)
- Union Square/ Boynton Yards (office/lab/residential)
- Massachusetts General Hospital Expansion
- Garden Garage Redevelopment (35 Lomasney Way)
- CambridgeSide Third Floor Re-Tenanting (repurposed to office use)

To evaluate the 2027 Build conditions, the EENF calculated daily vehicle trips expected to be generated by the project based on the ITE *Trip Generation Manual* 10th edition using Land Use Codes (LUC) 221 (Multifamily Housing), LUC 710 (General Office Building), and LUC 760 (Research & Development Center) to reflect the building program that will result in total square footage of 175,000 sf for 200 residential units; 210,000 sf of office space; and 665,000 sf of R&D space. To convert the unadjusted project trips to numbers of expected trips by mode,

national census data from the American Community Survey (ACS) were used to identify Average Vehicle Occupancy (AVO) to convert the ITE vehicle trips into person trips. Parking and Transportation Demand Management (PTDM) monitoring reports from six nearby office/R&D and residential developments were then consulted to determine mode split ratios, which were applied to calculate the appropriate share for each transportation mode. Transportation-related (SOV and HOV) person trips were then converted back to vehicle trips using the ACS data for the census tract where the site is located.

The above analysis showed that a significant portion (50 to 60 percent) of expected trips generated by the project would be made by other modes. Specifically, the unadjusted vehicle trips calculated through use of LUCs was 10,276 adt, but this number would be reduced to 3,984 adt if adjusted for mode share splits. Other modes equaled about 4,346 adt for transit and 1,408 adt for pedestrian/bicycles. The analysis also considered the removal of vehicle trips associated with existing retail uses, as much of the retail uses at CambridgeSide would be eliminated through the project. Namely, retail traffic associated with 182,500 sf of retail space was removed, in addition to the retail traffic associated with the 140,000 sf of space re-tenanted to office space through the Third Floor Re-Tenanting Project (one of the background projects included in 2026 No-Build Conditions). In total, vehicle trips representing approximately half of the existing 642,500 sf retail space were removed from the project-generated trip calculation. In addition, the trips associated with the elimination of the Upper Garage as well as removal of about 750 spaces that are currently leased to nearby property owners and local commuters on a monthly basis were removed, as these parking uses would be eliminated as part of the project. With these adjustments, the TIA concluded that the net new adjusted daily vehicle trips generated by the project would equal 1,744 adt. The project's net new trip generation was added to No-Build conditions to assess impacts on traffic and transit, as described below.

Comments from MassDOT generally agree that the project's proximity to several transit operations will reduce anticipated vehicle trips attributable to the project. However, MassDOT suggests refinements to methodology for calculating mode share splits and recommends including additional intersections into the study area. I also refer to the City's request for additional details on monthly parkers who will lose parking privileges and any planned changes to the Commercial Parking Facility Permit program. While the EENF asserts that reduced parking itself should be considered a form of mitigation, the Single EIR should offer more analysis regarding whether the project will remove vehicles associated with monthly parking from the traffic network, or simply distribute it to other locations (such as the First Street Garage) such that the change may not actually improve traffic conditions in the study area.

Traffic Operations

The TIA evaluated the impact of the 1,744 vehicle adt generated by the project on area roadways. For unsignalized intersections, one intersection (Cambridgeside Place at Lower Garage South Exit) was shown to decline from LOS C or better under 2020 Existing and 2027 No-Build conditions to LOS D or better under 2027 Build conditions. The First Street at Upper Garage and Spring Street intersection would decline from LOS C or better under Existing conditions to LOS D or better under No-Build conditions, but would no longer exist under Build conditions as the Upper Garage will be eliminated.

For signalized intersections, the TIA indicates that the project would not lead to significant increases in delays; in fact, the analysis shows improvements in traffic conditions in several locations due to traffic improvements planned to be implemented as part of other background projects included in the No-Build conditions. However, three intersections showed a decline in LOS attributable to the project. Namely, the O'Brien Highway at North First Street intersection was shown to decline from LOS C under 2027 No-Build conditions to LOS D under 2027 Build conditions during the weekday morning peak hour. In addition, the intersection of Land Boulevard at Cambridgeside Place/Hotel Driveway was shown to decline from LOS C under 2027 No-Build conditions to LOS D under 2027 Build conditions during the weekday morning peak hour with a similar decline occurring during the weekday evening peak hour from LOS D to LOS E. I refer the Proponent to comments from DCR which identify a discrepancy regarding the LOS reported for this location. The intersection of First Street at Cambridgeside Place/Charles Street was shown to degrade from LOS C to LOS D during the weekday evening peak hours. A number of other locations were determined to degrade to LOS E under No-Build conditions (which will continue at LOS E under Build conditions) due to the cumulative impacts of the multiple developments planned in the vicinity of the site. These intersections include Cambridge Street at Third Street; Land Boulevard at Cambridgeside Place/Hotel Driveway; Binney Street at First Street; Binney Street at Third Street; and Broadway at Third Street/Main Street. In addition, the intersection at O'Brien Highway/Charles River Dam Road at Land Boulevard/Charlestown Avenue was shown to be operating at LOS F conditions currently, and will continue to operate at this condition under No-Build and Build conditions.

While asserting that the project's traffic impacts are modest overall, the TIA acknowledges that the project is situated near roadways such as Land Boulevard and O'Brien Highway, where there is existing congestion that will be exacerbated due to the effects of multiple developments anticipated in the area. Since the project has direct access to these streets or to connections that will access these streets, traffic mitigation is proposed in the form of signal coordination using Adaptive Signal Control Technologies (ASCT). ASCT constantly monitors vehicle queues and other traffic conditions to maximize the time that vehicles are moving and to increase green-light time to approaches where lengthy vehicle queues are occurring. The ASCT system requires Hybrid video/radar camera installations to be able to detect volumes and queues.

The TIA recommends that signal equipment be installed at 11 intersections in the East Cambridge area, primarily along the First Street, Cambridge Street, O'Brien Highway, and Land Boulevard corridors. Assuming optimum signal timing conditions, the TIA estimates that conditions would improve under 2027 Build Mitigated conditions as follows:

- *Cambridge Street at Third Street*: delays reduced from 68 to 59 seconds during weekday morning peak hour; 61 to 59 seconds during weekday evening peak.
- *First Street at Charles Street/Cambridgeside Place*: delays reduced from 47 to 45 seconds during weekday evening peak hour; no need for mitigation identified for weekday morning peak hour.
- *Land Boulevard at Cambridgeside Place/Hotel Driveway*: operations improved from LOS E to LOS D during both weekday morning and evening peak hours.

- *Binney Street at First Street*: operations improved from LOS E with 55 seconds of delay to LOS D with 55 seconds of delay during weekday morning peak; no need for mitigation identified for weekday evening peak hour.
- *Binney Street at Third Street*: operations improved from LOS E with 67 seconds of delay to LOS D with 38 seconds of delay during weekday evening peak; no need for mitigation identified for weekday morning peak hour.
- *Broadway at Third Street/Main Street*: operations improved from LOS E to LOS D during both weekday morning and evening peak hours.

Comments from MassDOT request the Proponent consider additional mitigation at the O'Brien Highway/Charles River Dam Road at Land Boulevard/Charlestown Avenue intersection. MassDOT also requests further analysis and data to demonstrate how signal optimization will improve traffic conditions, and specify which installations and upgrades the Proponent intends to implement.

Traffic Safety

The TIA included a review of crash data from the MassDOT Safety Management/Traffic Operations Unit for the most recent five-year period available (2013-2017) in order to examine motor vehicle crash trends occurring within the study area. The crash data showed the intersection of O'Brien Highway at Land Boulevard/ Charlestown Avenue as having the highest crash total of the locations in the study area with an average of 15 crashes per year over the five-year study period with four pedestrian-related accidents. The intersection of Land Boulevard with Cambridgeside Place/hotel driveway was noted to have an average of 7 crashes per year and two pedestrian-related accidents were noted during the study period. The crash data indicates a total of 31 crashes at 100 Cambridgeside Place but zero crashes at the Lower Garage South Entrance or Exit Driveways. One pedestrian related accident was noted.

Other than the intersections above, the study area included four intersections with O'Brien Highway, which is under the jurisdiction of MassDOT. These interactions experienced 21-75 crashes over the five-year review period and involved four pedestrians and zero bicyclists. The study area also included three intersections with Land Boulevard, which is under the jurisdiction of DCR. These interactions experienced 0-35 crashes over the five-year review period, and two pedestrians were involved. The study area included three intersections with Binney Street (excluding Land Boulevard at Binney Street), which is under the jurisdiction of the City of Cambridge. These interactions experienced 13-16 crashes over the five-year review period and involved one pedestrian. No fatalities were reported over the five-year study period. None of the intersections were noted to have a crash rate higher than the MassDOT District 6 average for intersections, currently estimated at 0.71 crashes per million entering vehicles (mev) for signalized intersections and 0.52 crashes per mev for unsignalized intersections. No mitigation was identified in the TIA in light of these findings.

The TIA noted that a fatal crash occured at the intersection of O'Brien Highway at Museum Way on November 9, 2018. This crash led to a redesign of Charles River Dam Road roadway layout including the intersections of O'Brien Highway at Land Boulevard/Charleston Avenue and O'Brien Highway at Museum Way. The redesign included new bicycle

accommodations, new cross walks, and an exclusive left-turn lane into Museum Way and one exclusive left-turn lane for Charles River Dam Road to Land Boulevard.

Transit Operations

The EENF described existing transit service in the area and evaluated the impact of project-generated trips on transit capacity. The site is located near Lechmere Station on the MBTA Green Line subway system. The Green Line currently terminates at Lechmere Station but construction is underway on an extension into Medford. The Green Line continues to North Station, where connections to the Orange Line and Commuter Rail routes can be made, and continues to Park Street where connections to the Red Line are possible. The Lechmere station is also the terminating bus station for MBTA Bus Route 69, 80, 87 and 88. A number of carshare and rideshare stations are also present in the immediate area. Carshare services are primarily provided by Zipcar, with a total of 17 spaces between First Street and Main Street.

In addition to the MBTA, the Charles River Transportation Management Association (CRTMA) provides the EZRide Shuttle Bus that circulates between Cambridgeport and North Station in Boston via the Kendall Square Red Line station. During the midday time period, the EZRide does not travel near CambridgeSide and stays in the Kendall Square-Central Square area only. The EZRide Shuttle does not currently operate on weekends. CambridgeSide also operates the CambridgeSide shuttle bus providing free shuttle service from the Kendall Square T stop to the Galleria for an 11-hour period (9:00 AM to 8:00 PM) Monday through Saturday and for a 7-hour period (12:00 PM to 7:00 PM) on Sunday.

The TIA reviewed impacts of the project to the MBTA Green Line and Red Line, as well as the four bus routes ending at Lechmere Station. The TIA notes that significant upgrades are anticipated through the Green Line Extension (GLX) project, for which the groundbreaking occurred on June 25, 2018, with opening scheduled for late 2021. According to the EENF, the GLX project is anticipated to introduce 24 new cars on the Green Line, which will accommodate a 10 percent increase in passengers as compared with the existing cars. In addition, peak-hour headways (time between cars) are anticipated to be reduced from 6 minutes to less than 5 minutes. The GLX project is an extension of the Green Line service out to Medford using existing MBTA Commuter Rail rights-of-way. Five new stations will be built in Somerville, which will increase total weekday ridership by 52,000 riders. The MBTA is also in the process of replacing the cars on the Red Line, with plans to replace all cars by 2023-2024. This is expected to increase overall capacity by 50 percent by raising the current number of trains per hour from 13 to 20 and allowing a three-minute headway for trains, which is a reduction from the current four-and-a-half minute headway.

The TIA incorporated the anticipated MBTA subway upgrades into No-Build conditions, and then analyzed the impact of the project on the anticipated future capacities of the MBTA Green and Red Lines and bus routes. The increase in volume-to-capacity (v/c) ratios between No-Build and Build conditions were shown to be 0.04 or less for all affected bus routes, with the highest v/c ratio shown to be 0.52 for Bus Route #8 (morning peak hour) and Bus Route #88 (evening peak hour) after considering project generated ridership. The increase in v/c ratios for the MBTA Green Line attributable to the project was shown to be 0.12, representing ridership

increases of 26 percent and 23 percent for the weekday morning and evening peak hours, respectively. Overall, the v/c ratios for the Green Line at these peak hours are anticipated to be 0.60 and 0.65, respectively, after adding in project generated ridership. The MBTA Red Line was not anticipated to experience any increase in the v/c ratio as a result of the project, with ridership increasing by only 0.4 to 0.5 percent as compared to anticipated future conditions.

In light of these results, the TIA concludes that the project will not have significant impacts on transit capacity. However, the TIA notes transit improvements that were identified as part of the Kendall Square Mobility Task Force Report, including the potential for bus priority lanes on First Street, Binney Street, and Third Street, as well as the possible implementation of a new CT4 bus to connect Sullivan Square and Kenmore Square. The TIA identifies as potential mitigation a monetary contribution to the City to serve as initial funding for review of local transit improvements, which may include a study to evaluate the feasibility of adding Bus Priority Lanes on First Street for EZ Ride Shuttles and future MBTA bus service routes.

I refer the Proponent to comments from MassDOT and the City, which request further analysis regarding transit impacts, including a detailed presentation of the project's impacts on the surrounding transit system.

Bicycle and Pedestrian Facilities

The TIA described a comprehensive field inventory of pedestrian and bicycle facilities within the study area undertaken in March 2019. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections, as well as the location of bicycle facilities. Sidewalks are provided along both sides of all of the study area roadways except for the eastern side of Charlestown Avenue north of O'Brien Highway. Crosswalks are provided on all approaches to the following intersections:

- Museum Drive at O'Brien Highway
- Cambridge Street at Third Street
- First Street at Cambridgeside Place and Charles Street
- First Street at Thorndike Street
- Binney Street at Land Boulevard
- Binney Street at First Street
- Binney Street at Second Street
- Binney Street at Third Street
- Third Street at Broadway

Bicycle lanes/paths are provided on Main Street, Broadway, Binney Street, First Street, Cambridge Street, and on Third Street from Broadway to Binney Street. In addition, the Paul Dudley White Bikepath extends along both sides of the Charles River to the Charles River Dam by the Museum of Science and provides connections to other parts of Cambridge and Boston for commuting and recreational purposes. Short-term bicycle parking for 100 bicycles have been provided on site by CambridgeSide, and a CambridgeSide-sponsored BLUEbikes station located on Cambridgeside Place provides 15 bikes for general public use. In addition, 46 long-term (weather-protected) bicycle spaces are provided on the first level of the Lower Garage. This

results in a total of 146 bicycle spaces for the site. There are other short-term bike parking locations around the site, but not within the site boundaries.

To encourage the use of bicycles, the Proponent commits to installing approximately 514 long-term (covered) bike spaces and 81 short-term bike spaces for a total of 595 bike parking spaces. Approximately 366 spaces will be intended for employees of the office and R&D space and the remaining 229 spaces will be intended for residents of the project. In addition, a bicycle tune-up/maintenance area will be provided to allow the residents to perform limited repairs of their bicycles. The TIA proposes to expand CambridgeSide's participation in the Bluebikes program and to provide Gold-level corporate membership in Bluebikes for a ten-year period for all tenants.

Parking

The TIA included a review of parking utilization of existing garages. A total of 2,490 parking spaces currently exist, located in a Lower Garage of 1,695 parking spaces and an Upper Garage of 795 parking spaces. In order to provide an estimate of current parking activity, CambridgeSide provided parking counts of the garage facilities (Upper and Lower Garages) for three time periods; May, August, and December. The analysis showed significant excess capacity in the garages due to excess supply over demand under current conditions.

As for future conditions, the project will involve several changes to parking conditions, including removal of the Upper Garage, reduction of non-tenant parking agreements, and reduction in retail parking demand due to reduced retail presence. The TIA estimated future parking demand rates for the resized retail space and the new office, R&D, and residential components of the project. These demands were then compared against anticipated parking supply provided exclusively through the Lower Garage (1,695 spaces).

The TIA estimated future parking demand associated with retail, commercial and residential uses. For retail, the observed patron parking demands that were attributed to approximately 642,500 sf of retail space currently on site were reduced 50 percent to represent the new total of approximately 320,000 sf of retail space. The current parking demand rates of 0.75 to 0.93 spaces per 1,000 sf were used to estimate future demand; this is more conservative than parking demand rates used for other rezoning efforts in the City such as that of the Volpe Center, which was assumed to have a retail maximum parking rate of 0.5 spaces per 1,000 sf. For commercial uses, the project was estimated to have a parking demand for office/R&D space of 0.9 parking spaces per 1,000 sf. This takes into account the availability of transit options such as the MBTA Green Line and Red Line, and is slightly higher than the office/R&D parking demand rate of 0.8 spaces per 1,000 sf selected for the Volpe Center. For residential uses, the project proposes a residential supply rate of 0.5 spaces per unit for a total of 200 units, which is comparable to other developments in the vicinity. Based on these measures, the capacity of the Lower Garage was shown to have sufficient capacity to absorb future demand. Specifically, peak parking demand during the months of May, August, and December was shown to reach a maximum of 1,322 to 1,375 parking spaces, which is within the Lower Garage capacity of 1,675 spaces. As noted, while the EENF touts the reduction of parking as a mitigation measure, further analysis may be needed to assess the actual impact of this measure on the roadway system.

Transportation Demand Management (TDM)

According to the TIA, the Proponent currently provides a number of TDM measures intended to reduce SOV travel and encourage the use of alternative modes of transportation. The following indicates measures currently in place:

- Provide details of a shuttle bus system including routes, schedules, frequency and capacity;
- Implement a computer based ride sharing information bank to assist commuters seeking van pool and car pool arrangements;
- Plan for participation in the MBTA commuter pass program for all employees and tenants of this development (sales at CambridgeSide information desk temporary unavailable due to technology changes at MBTA);
- Provide details of an on-going program to survey customers and employees (including tenants) to determine travel modes, times of arrival and departure, home location, and preferences for ride sharing among other information; and
- Allow for up to 50 percent of the bicycle parking facilities required by the City to be located elsewhere in the East Cambridge riverfront district in public parks and other suitable locations

In addition to these ongoing commitments, the Proponent plans to implement the following additional TDM measures:

- Encourage employees to obtain a Charlie card and register it for bike parking, allowing employees the ability to use the bike cages at area MBTA stations and other areas free of charge;
- Make available public transportation schedules, which will be posted in a centralized location for employees to be located in the lobbies of main buildings;
- Provide information on available pedestrian and bicycle facilities in the vicinity of the project site in a central location for employees;
- Charge for parking at market rates and offer discounts for dedicated HOV vehicle;
- Provide language in lease documents ensuring that employers are required to provide MBTA pass subsidies to employees up to the federal maximum;
- Provide information about transportation options available to employees at orientations and on a company website; and
- Encourage employers to work with the Cambridge Office of Workforce Development

I refer the Proponent to comments from MassDOT and the City requesting further clarity on the project's commitments to the above measures.

Climate Change

Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569; the Order) was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and directs all Executive Branch

agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet GHG emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change. The MEPA statute directs all State Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions. M.G.L. c. 30, § 61.

The GHG Policy and requirements to analyze the effects of climate change through EIR review is an important part of a statewide strategy. These analyses advance proponents' understanding of the project's contribution and vulnerability to climate change.

Greenhouse Gas Emissions

The EENF included a GHG analysis based on the MEPA Greenhouse Gas Policy and Protocol (the Policy). The Policy requires projects to quantify carbon dioxide (CO_2) emissions and identify measures to avoid, minimize, or mitigate such emissions. The analysis quantified the direct and indirect CO2 emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources). The stationary source GHG analysis evaluated CO_2 emissions for two alternatives as required by the Policy, a Base Case and the Preferred Alternative.

The Base Case was designed to meet the minimum energy requirements of the 9th Edition of the Massachusetts Building Code, which references the International Energy Conservation Coode (IECC) 2015 and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013, with Section C406.1 Code-options 1 and 2. The City of Cambridge has adopted the Massachusetts Stretch Energy Code (SC). Therefore, the project will be required to meet the applicable version of the SC in effect at the time of construction. The SC requires at least a 10-percent reduction in energy use compared to the base Building Code requirements. I refer the Proponent to comments from DOER which indicate that the SC will include several new amendments that will become effective in August of this year.

The GHG analysis used eQuest modeling software to quantify stationary source emissions from the project. The GHG analysis modeled each of four buildings and provided calculations for outdoor lighting. Mobile source GHG emissions were calculated for the 2027 No-Build, 2027 Build, and 2027 Build with TDMs Conditions. The EENF included a summary of modeling inputs for each building (e.g. R-values, U-values, efficiencies, lighting power densities, etc.) for both the Base Case and the Preferred Alternative. The EENF identified those energy efficiency measures that will be incorporated into the project and were modeled in the GHG analysis, measures that were dismissed as infeasible or inappropriate (peak shaving or load shifting strategies and green roofs), and measures that will be studied further during the advanced design stages (all-electric scenario with ASHPs, rooftop solar photovoltaic (PV), Passive House design). As presented in the EENF, key building related energy efficiency measures proposed for the buildings include:

- Higher efficiency than Code roof insulation and window elements;
- Installing cool roofs with light-colored material;
- Cold-climate Air Source Heat Pumps (ASHPs) with VRF in the residential building;
- Higher efficiency than Code equipment for space heating and cooling;
- Energy Recovery Ventilation (ERV) systems in all buildings;
- Higher efficiency than Code domestic/non-domestic hot water systems;
- Reduced Lighting Power Densities (LPD) for interior and exterior lighting;
- Sealing, insulating, and testing HVAC supply ducts;
- Energy management systems;
- Using Energy STAR electric appliances; and
- Providing "solar ready" roof space on the new roofs.

The EENF included an analyses of the aggregate vertical envelope for each building which demonstrated the proposed building envelopes will perform forty-percent better than the Base Case envelopes. I refer the Proponent to comments from DOER which indicate that there may be an error in the energy model as indicated by the output which appears unusually high-performing given the proposed envelope improvements. I note the project will be required to meet the version of the Building Code in effect at the time of construction and remind the Proponent that the GHG analysis presented in the Single EIR should clearly demonstrate consistency with the objectives of MEPA review, one of which is to avoid, minimize, or mitigate Damage to the Environment to the maximum extent feasible.

The EENF included a Passive House evaluation for the residential building. The Passive House alternatives included reduced window-to-wall ratio, window shades, increased envelope insulation, improved air sealing, Energy Recovery Ventilation, and ASHPs. The Passive House alternative would generate 416 tpy of GHG which reduces GHG emission by an additional 67.5 tpy compared to the current Preferred Alternative. Comments from DOER and the City note this comparison may be flawed as the Preferred Alternative appears to overestimate the efficiency of the proposed buildings and underestimate their energy use. The EENF also included a cost analysis of the Passive House alternative which indicated it would have a total additional capital cost of $0.412 to $1.723 million. Comments from DOER note that the financial analyses significantly underestimate the value of Passive House. According to DOER, Passive House is likely more affordable than the Preferred Alternative and would save between $350 and $550 per year, including financing costs, for the additional premium to build Passive House. I refer the Proponent to comments from the City which encourage reconsideration of Passive House for the residential building. Additional analysis of Passive House is required in the Scope for the Single EIR.

The EENF provided a preliminary feasibility analysis of a rooftop photovoltaic (PV) system on the project's rooftop area. The EENF identified 31,545 total sf as suitable for installation of a solar PV systems after accounting for shading, mechanical areas, access walkways and solar panel setbacks. Based on this analysis, the project could accommodate an aggregate 485 kW PV system, which would generate approximately 615 MWhr per year of electricity and result in a GHG reduction of 210 tpy. According to the EENF, this solar PV system would have a Net Present Value (NPV) of $155,808 and a simple payback period of seven years. The EENF acknowledged that installation of the solar PV system may be cost

feasible but did not include this as a mitigation measure, citing a longer than acceptable payback period. The EENF included a commitment to provide "solar ready" space on approximately fifty-percent of the top-tier flat roofs of the four new buildings. It is unclear whether this statement refers to the 31,545 sf of usable area identified in the EENF or whether it is a blanket statement that will be applied across all building roofs. Comments from DOER recommend continued analysis and reconsideration of solar PV.

The Proponent is making significant strides towards electrification in the residential building, including a commitment to full electrification of space heating with efficient ASHPs/VRFs. The project also includes electric resistance heating for the office/lab domestic hot water. Maximizing electrification of space and water heating can significantly reduce the project's energy use and GHG emissions over time via the long-term declining emission rates projected for the Commonwealth's electrical grid. I note comments from DOER which encourage the Proponent to expand the efficient electrification into the office/lab portions of the project. The Proponent will build the residential space, including HVAC systems and lighting. Commercial space will be constructed as core and shell and individual tenants will be responsible for fitting-out mechanical systems and lighting. The EENF included a draft outline for a Tenant Manual which noted the tenant will be required for designing HVAC systems and hot water heaters to maintain the efficiencies assumed in the modeling.

The GHG analysis indicates that the Base Case for the entire project will generate approximately 4,506.7 tpy of GHG emissions, consisting of 2,978.2 tpy of stationary source emissions and 1,528.5 tpy of mobile source emissions. The Preferred Alternative will reduce stationary source emissions by 452.4 tpy, an approximate 15.2-percent reduction, and will reduce mobile source emissions by 30.6 tpy, an approximate 2-percent reduction. Comments from DOER indicate that when accounting for requirements of the SC, the reduction in stationary source emissions is decreased to 7 percent. Overall emissions (mobile and stationary) will be reduced by 483 tpy for an approximate 11-percent reduction. Reductions to mobile source emissions are associated with implementation of the TDM plan.

Adaptation and Resiliency

The EENF indicates that the project is compliant with the City of Cambridge Climate Vulnerability Assessment (CCVA) and Climate Change Preparedness and Resilience Plan (CCPR). These policies require projects to use best available data to identify the impacts of climate change on the project, and to assess measures to increase the resiliency of the project to such impacts. The EENF reviewed two key climate change factors: extreme precipitation and extreme heat.

As for precipitation, the EENF indicates that the project site is not currently within the 100-year floodplain designated by the Federal Emergency Management Association (FEMA). According to the FEMA Flood Insurance Rate Map (FIRM) number 25017CO577E, effective June 4, 2010, the Charles River is anticipated to rise to elevation 4.0 feet NAVD88 (equivalent to 15.65 feet Cambridge City Base (CCB)) during a 100-year storm event. This is expected to impact only the perimeter of the Lechmere Canal and not the CambridgeSide mall.

Using data from the MassDOT FWHA Climate Resilience Pilot Project, the Boston Harbor Flood Risk Model, and the findings from the CCVA report, the EENF indicates that the future projected 2070 10-year and 100-year flood depths (*i.e.*, the future floodplain) will be at elevation 17.8 and 20.3 CCB, respectively. Because CambridgeSide is at elevation 21.3, it is not anticipated to be impacted by these storm events. However, the Proponent did identify potential locations that could be affected, including service entrances, the Land Boulevard garage entrance, and doorways along Thorndike Way and the Lechmere Canal. To address flooding risks at these locations, the project proposes to do the following:

- Employ a removable gate closure structure at the Land Boulevard garage entrance;
- Raise the existing grade at the Land Boulevard service entrance by 2 inches;
- Raise the existing grade at the First Street service entrance by 1 inch;
- Bulkhead all entrances along Thorndike Way and the Lechmere Canal;
- Raise doorway elevations approximately 2-4 inches along CambridgeSide Place during re-construction of the "Lechmere" building

The project will also address urban heat island effects, which are documented by the CCVA report which estimates that, by 2070, there could be up to two summer months with days above 90 degrees (with 68 days over 90 degrees, and 16 days over 100 degrees). To address these effects, the project proposes to take the following measures:

- Provide its interior (and exterior) spaces heat island refuge spaces by incorporating resilient cooling in the core public areas;
- Coordinate with City health and emergency services personnel to make the public aware of the cooling features and coordinate heat emergency relief to the East Cambridge neighbor-hood during extreme heat periods;
- Follow the City's Article 22 requirements for green building standards through Project development, including the use of high-albedo 'white' roofs and planted green roofs, where possible, in conjunction with other commitments to achieve LEED Gold Core and Shell;
- Maintain the park system around Lechmere Canal that functions as a river-side/canal-side, blue-green cooling oasis; the project will provide enhancements to the Park, incorporating additional shade through tree plantings and structural shade, and cooling water features in exterior spaces;
- As part of the improvements around Lechmere Canal, enhance the area below the Land Boulevard Bridge to make it more welcoming and provide deep shade shelter for the public adjacent to the water; and
- Set back buildings along First Street to increase the sidewalk width for new tree plantings that will provide additional shade.

I applaud the Proponent for taking proactive measures to address the future impacts of climate change on our built environment. I refer the Proponent to comments from the City, requesting supplemental information and considerations related to energy resiliency options, particularly for residential and lab uses.

Air Quality

The EENF included a mesoscale analysis that evaluated volatile organic compounds (VOC) and nitrogen oxides (NOx) emissions under the following conditions: 2020 Existing Conditions, 2027 No-Build Conditions, and 2027 Build Conditions. Vehicle emission factors used in the analysis were based on the EPA's MOVE emissions model and data from the TIAS. The analysis also considered reductions in emissions associated with implementation of the TDM program (2027 Build with Mitigation Condition). According to the EENF, existing emissions in the study area were estimated as 227.819 kilograms per day (kg/day) of VOCs and 72.112 kg/day of NO_x. The 2027 No-Build emissions were estimated to be 203.641 kg/day of VOCs and 41.086 kg/day of NO_x. In comparison, 2027 Build Conditions result in projected emissions of 207.635 kg/day of VOCs and 42.137kg/day of NO_x. Therefore, the project will increase VOC emissions by 3.994 kg/day and will increase NO_x emissions by 1.051 kg/day. With the implementation of the TDM program, VOC, and NOx emissions will be reduced by 0.08 kg/day and 0.021 kg/day (respectively); for total project-related VOC emissions of 3.914 kg/day and total NO_x emissions of 1.03 kg/day.

Stormwater

The EENF included a general description of existing and proposed drainage systems, and attached Appendix D: Stormwater Management Supporting Documentation (the "Stormwater Report") dated March 2020. According to this report, stormwater runoff is currently collected through area drains, catch basins and roof leaders which discharge to one of the three (3) discharge points listed below:

- 1R – First Street Drainage System
- 2R – Lechmere Canal
- 3R – MWRA Combined Sewer

The report indicates that there are no existing Best Management Practices (BMPs) providing water quality treatment measures or promoting stormwater infiltration and groundwater recharge.

The EENF indicates that the project will not alter existing land cover types or create new impervious area. The project therefore would be considered a redevelopment site under MassDEP's stormwater management standards and must comply with them to the "maximum extent practicable". The project intends to implement a series of BMPs on site to manage stormwater, including deep sump/hooded catch basins, tree box filters and subsurface infiltration trenches where feasible. The EENF indicates that these measures will improve existing drainage conditions.

Off-site stormwater improvements are proposed to meet the infiltration and/or inflow (I/I) removal requirements imposed by the City pursuant to 314 CMR 12.04. These improvements consist of disconnecting five (5) existing storm drain connections to the 5' x 6' MWRA combined sewer in Land Boulevard and re-directing stormwater runoff to two infiltration trenches located at the intersection of Binney Street and Land Boulevard. Based on the MassDEP 1-year 6-hour storm event (1.72 inches of rain) an estimated 393,629 gallons of stormwater

runoff will be removed from the MWRA combined sewer. The Proponent proposes to construct storm drains that will convey stormwater to the City's combined sewer overflow (CSO) Outfall CAM017 at Binney Street, which ultimately discharges to the Charles River. The proposed storm drains will be designed for the 10-year storm event and consist of oversized perforated pipes with flat gradients to promote infiltration and provide phosphorous removal prior to discharging into the Charles River.

While the off-site improvements will reduce flows to MWRA infrastructure, the Stormwater Report acknowledges that the Charles River is considered an impaired waterbody by the EPA and that Total Maximum Loads (TMDLs) for various pollutants have been established for the section of the Charles River in the vicinity of the site. The TMDL for the Lower Charles River sets a target reduction for pathogens at 99.3 percent, and an annual phosphorous loading reduction target for Cambridge at 65 percent. While the Stormwater Report indicates that the off-site improvements designed to redirect stormwater flows away from the MWRA system will reduce the likelihood of CSOs to the Charles River (one of the key causes of water quality degradation), I refer the Proponent to comments from MWRA, which indicate that, during large storm events, drainage from an overflow conduit on Binney Street can exceed the hydraulic capacity of MWRA's overflow system and thereby lead to discharges of untreated CSOs to Outfall CAM017. The Scope for the Single EIR requires additional analysis of this issue. I also refer to comments from the CRWA requesting more details on methods of infiltration and treatment of the redirected flows prior to discharge to the Charles River, and an explanation of how the redesigned flows will contribute to compliance with TMDLs for the Charles River.

Water/Wastewater

The EENF indicates that the project will be served by existing water connections, and will result in an increase in water demand of 115,270 gpd (total 176,342 gpd) which does not exceed MEPA ENF thresholds.

Wastewater flows from the project will be collected and discharged via existing 12-inch and 24-inch sewer pipes in First Street and Land Boulevard, respectively. Based on anticipated changes in land use, the project is expected to generate a total of 176,342 gpd, which is an increase of 104,770 gpd from current conditions and in excess of MEPA ENF thresholds. Existing sewer mains on First Street and Land Boulevard are anticipated to have sufficient capacity for the project.

I refer the Proponent to the additional information provided in MWRA's comment letter regarding the potential need for a MWRA Temporary Construction Dewatering Permit and an 8(m) permit to conduct work in the vicinity of MWRA infrastructure. The Proponent should consult with MWRA and comply with all applicable requirements.

Solid/Hazardous Waste

The EENF indicates that environmental due diligence was performed for the project. Release Tracking Number (RTN) 3-1442 is on file pertaining to this project. A Response Action Outline (RAO) was submitted to MassDEP in 1995, and a second RAO as to another portion of

the site in 2002. Only a limited volume of excess soil is expected to be generated during construction and will be disposed off-site in accordance with Massachusetts Contingency Plan (MCP) and other applicable regulations. Solid wastes generated by the project will be limited to the general operations of the building, and disposal of solid waste and recycling will continue under current contractual arrangements.

Construction Period

The EENF indicated that construction is anticipated to commence in 2021 and will extend through 2023, potentially longer based on market conditions. The EENF did not provide any additional details regarding construction staging or planning. Additional information regarding construction period impacts and measures to be taken to avoid or minimize such impacts is required in the Scope for the Single EIR. As a general matter, all construction and demolition activities should be managed in accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). I encourage the Proponent to require that its contractors use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponent to reuse or recycle construction and demolition (C&D) debris to the maximum extent.

Conclusion

The EENF includes an alternatives analysis, identifies baseline environmental conditions and potential environmental impacts, and proposes mitigation measures to justify the request for a Single EIR. Based on review of the EENF and consultation with State Agencies, I hereby allow the Proponent to submit a Single EIR in lieu of a Draft and Final EIR. The Proponent should submit a Single EIR that provides updated project information and analyses as specified in the Scope below.

SCOPE

General

The Single EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope. Additional recommendations provided in this Certificate may result in a modified design that enhances the project's ability to avoid, minimize, or mitigate Damage to the Environment. The Single EIR should discuss the steps the Proponent has taken to

further reduce the impacts since the filing of the EENF, or, if certain measures are infeasible, the Single EIR should discuss why these measures will not be adopted.

Project Description and Permitting

The Single EIR should include an updated description of the proposed project and describe any changes to the project since the filing of the EENF. The Single EIR should identify, describe, and assess the environmental impacts of any changes in the project that have occurred between the preparation of the EENF and Single EIR. The Single EIR should include updated site plans for existing and post-development conditions at a legible scale. The Single EIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and describe how the project will meet those standards. It should include a list of required State Permits, Financial Assistance, or other State approvals and provide an update on the status of each of these pending actions. The Single EIR should include an update on local, regional or federal permitting as applicable.

The Single EIR should provide an update on the improvements proposed beneath the Land Boulevard Bridge adjacent to the Lechmere Canal. Prior to filing the Single EIR, the Proponent should consult with MassDOT and DCR regarding the proposed improvements. The Single EIR should address the parties responsible for maintaining and monitoring the improvements and should include a draft operation and monitoring plan.

Wetlands/Waterways

The Single EIR should provide the information requested in MassDEP comments to assess compliance with the waterways regulations, including: (i) an annotated plan showing property lines, the project shoreline on the intervening parcel, width of the WDUZ on the intervening property and calculations used to determine the weighted average distance; and (ii) a plan showing the proposed residential buildings and demonstrating compliance with the applicable building height setbacks. The Single EIR should provide further information about ground-floor retail uses and the potential for user conflicts or interference with access and enjoyment of open space by the general public. The Single EIR should clarify how the commitment to keep 75 percent of the ground floor dedicated to FPA (Facilities of Public Accommodation) uses will be enforced over time.

Public Benefit Determination

The ENF indicates that the project is located within filled tidelands that are subject to the provisions of *An Act Relative to Licensing Requirements for Certain Tidelands* and the Public Benefit Determination regulations. The legislation requires that I issue a Public Benefit Determination (PBD) for projects in tidelands that are required to file an EIR. The Single EIR should provide a narrative that explains the project's impact on the public's right to access, use, and enjoy the filled tidelands and describes the avoidance, minimization, and mitigation measures proposed to address said impacts. The narrative should describe the public benefits of the project as required in the Public Benefit Determination regulations (301 CMR 13.00). Additionally, the Single EIR should identify whether the project is located in an area of low

groundwater and if so, should identify and commit to taking measures to avoid, minimize, or mitigate any adverse impacts on groundwater levels in accordance with 301 CMR 11.05(4)(b). I will issue a Public Benefits Determination (PBD) within 30 days of the issuance of a Certificate on the Signal EIR (or a Supplemental EIR, if required).

Traffic/Transportation

The Single EIR should respond to MassDOT's comments regarding refinements to methodology for calculating mode share splits and inclusion of additional intersections into the study area. The Single EIR should respond to the City's request for additional details on monthly parkers who will lose parking privileges and any planned changes to the Commercial Parking Facility Permit program. The Single EIR should offer more analysis regarding whether the traffic associated with monthly parkers will be removed from the traffic network or simply shifted to other locations (such as the First Street Garage), such that this change may not actually affect traffic conditions in the study area. The TIA should be revised to reflect any adjustments to trip generation numbers that would result from these refinements. The Single EIR should identify additional mitigation measures to ameliorate traffic operations on O'Brien Highway, and should respond to MassDOT's comments requesting further analysis and data to demonstrate how signal optimization will improve traffic conditions. The Single EIR should address the discrepancies in the LOS analysis identified in DCR's comment letter. As requested by DCR, the Proponent should consult with the Department's Construction and Access Permit Office prior to filing the Single EIR.

The Single EIR should supplement its transit impact analysis with a detailed presentation of the project's impacts on the surrounding transit system with summary tables for the anticipated demand in terms of the MBTA Service Delivery Policy for transit and bus service. The Single EIR should provide more specific details on proposed mitigation measures, including options to consolidate shuttle services operating between Kendall and Lechmere and to improve transit and bus routes. The Single EIR should provide additional analysis of the project's transit impacts in the event of less than full implementation (or delayed implementation) of the anticipated Red Line and Green Line improvements that were assumed in No-Build conditions.

The Single EIR should provide further clarity on the project's commitments to TDM measures. The Single EIR should also provide a clear monitoring plan to ensure that the goals of these TDM measures are realized. To the extent TDM measures do not yield the reduction in vehicle traffic or SOVs as anticipated, the Single EIR should indicate what measures the project will consider to account for those deficiencies, including by identifying additional mitigation measures that could be considered in future phases of the buildout. The Single EIR should address how TDM measures will be enforced through tenant agreements or leases.

Stormwater

The Single EIR should describe the proposed stormwater management system, including connection points to off-site stormwater conveyance infrastructure. The Single EIR should provide a detailed discussion of stormwater conveyance from the project site to discharge at the CAM017 Outfall on Binney Street. This should include site plans showing the location of the proposed new stormwater drains and the locations where infiltration and treatment will occur.

The Single EIR should further explain how simply redirecting stormwater flows from one CSO outfall to another will meet the City's and MassDEP's I/I mitigation requirements. The Single EIR should address whether redirecting flows to this outfall will exacerbate existing conditions, under which overflows from the MWRA system during large storm events result in discharges of untreated CSOs to Outfall CAM017. The Single EIR should address whether designing the new proposed storm drain for a 10-year storm event is sufficient given existing conditions and the future effects of climate change. The Single EIR should address how the increased stormwater flows to the new outfall will be infiltrated and treated prior to discharge to the Charles River, and how this new design will contribute to compliance with TMDLs for the Charles River. The Single EIR should discuss any new mitigation that may be required in light of this revised analysis.

Climate Change

GHG Emissions

The Single EIR should include a revised GHG analysis which reflects any changes to the project since the Single EIR. The Single EIR should address the issues raised in DOER's comment letter. The project will be required to meet the version of the Building Code in effect at the time of construction. As noted by DOER, an update to the Stretch Code will become effective in August 2020. The underlying code provisions will not change. The Stretch Code to take effect in August is based on ASHRAE 90.1-2013-Appendix G. However, there will be several new, or changed, Massachusetts amendments including: C402.1.5. (envelope backstop), C405.3 and C405.4 (lighting), C405.10 (EV charging), and C406 (additional efficiency measures). The C406 measures are increased from 2 to 3. The amendments will also require that baseline residential buildings set maximum fenestration to 24%.

To accurately evaluate mitigation measures for this project, and in light of the immanency of these amendments, I encourage the Proponent to utilize the updated Stretch Code in updating its GHG emissions calculations and associated mitigation measures. I remind the Proponent that the GHG analysis presented in the Single EIR should clearly demonstrate consistency with the objectives of MEPA review, which are to avoid, minimize, or mitigate Damage to the Environment to the maximum extent feasible. Accordingly, updates to lighting, envelope, and additional efficiency measures will be required and should be evaluated as part of the Single EIR.

As described in DOER's comment letter, high-performing envelope is essential to successful GHG mitigation. The Single EIR should continue to incorporate the following measures to the maximum extent practicable:

- The use of continuous insulation;
- Reducing air infiltration;
- Limiting or eliminating use of glass "curtain wall" and spandrel assemblies;
- Maximizing framed, insulated walls sections;
- Maintaining window at code levels; and
- Reducing thermal bridges.

The Single EIR should also evaluate the effect of targeted Solar Heat Gain Coefficient (SHGC) and external shading considering variability of exposure to sun, building self-shading, and shadows from other building. It should also consider light color roofing and include an expanded feasibility analysis that evaluates green roofs. I refer the Proponent to comments from the City for additional guidance on this issue. Where certain measures are not considered, a clear explanation of the reasons for rejecting the alternative should be provided. The Single EIR should study whether beyond code-minimum improvements to the envelope could potentially eliminate or reduce the need for perimeter heating in the office/lab buildings. As described in DOER's comment letter, the reduction of perimeter heating could potentially result in significant construction cost savings, improved comfort, and reduced maintenance and make full electrification more feasible.

Comments from DOER and the City indicate that there may be an error in the energy model as indicated by the output which appears to under predict the building's energy use. The Proponent should re-examine the residential and office/lab energy models. The Single EIR should provide a revised model or provide additional documentation to demonstrate that the proposed mitigation measures will achieve the energy consumption estimated by the model.

The Single EIR should include a revised Passive House cost analysis that compares the Passive House alternative to the revised model. This cost analysis should include the most recent MassSave incentives for Passive House. I refer the Proponent to DOER's comment letter for additional guidance. The Single EIR does not need to provide a revised model (or additional documentation to demonstrate that the proposed mitigation measures will achieve the energy consumption estimated) or a revised Passive House cost analysis if it includes a commitment to construct the residential building to be Passive House (PHIUS or PHI Method). I note that structures built to Passive House standards will be quieter and better insulated from noise associated with traffic and the active MBTA green line, which is an important consideration for this site. These structures are also inherently more resilient because they can retain comfortable temperatures for a longer period of time during a power outage. In the last year, Proponents have committed to thousands of Passive House multi-family units through the MEPA process. I urge the Proponent to commit to Passive House design for the residential space.

The Single EIR should quantify and include figures identifying rooftop areas that will be provided as "solar ready" in relation to the 31,545 sf of usable area identified in the EENF submittal. This commitment should be incorporated into the draft Section 61 Findings. The Single EIR should explain how prospective tenants will be notified of this design feature, provided with the solar PV financial analysis performed to date, and otherwise encouraged to implement solar PV.

As recommended by the City, the Proponent should evaluate the purchase of energy from the Vicinity Energy (formerly owned by Veolia) district steam network. The Proponent should consult with Vicinity Energy to identify the location of their infrastructure and determine whether an interconnection is feasible. The Single EIR should include an update on this consultation, and include a commitment to continue evaluating this option, or explain, in reasonable detail, why purchasing energy from the Vicinity Energy Plant was not selected – either because it is not applicable to the project or is considered technically or financially

infeasible. The Proponent should consult with DOER regarding the appropriate emissions coefficient that should be used in the analysis.

The Single EIR should also clarify how the Tenant Manual will ensure that fit out of tenant spaces are equal to or better in performance than currently specified elements in order to achieve the identified GHG reduction goals in this scenario. The Single EIR should clarify how the Self-Certification documents will be provided by the MEPA Office (i.e. for each building, or by tenant). The Single EIR should include a revised mobile source GHG analysis to reflect any changes to the TDM program since the EENF. The Single EIR should identify appropriate monitoring measures and indicate a clear commitment to report on any changed or reduced GHG mitigation measures through GHG self-certifications to be provided to the MEPA Office.

Climate Resiliency

The Single EIR should include the information requested by the City related to climate resiliency, including additional consideration of energy resiliency measures for residential and lab uses. The Single EIR should also provide an explanation of why 2070 is an appropriate design horizon given the criticality of buildings and infrastructure at the site, and how the project intends to adapt to changes in climate data and projections during the course of project design and construction, including whether and how the proposed elevation changes could be modified during the eight to ten year buildout of the project.

Construction Period

The Single EIR should describe construction phasing and potential construction period impacts (including but not limited to traffic management, materials management, parking, air quality and noise impacts, and other items as they related to the construction period) and outline feasible measures that can be implemented to eliminate or minimize these impacts in a draft Construction Management Plan (CMP). The draft CMP should identify anticipated work hours, truck traffic routes associated with construction traffic, staging areas, and how safe pedestrian, bicycle and vehicle access through and around the project site will be maintained throughout the construction period. The Single EIR should describe how the surrounding community will be kept abreast of construction schedules and methods, and any changes to construction planning. The Single EIR should also address notification and construction protocols to be implemented if contamination is encountered at the site during construction and potential construction-period dewatering activities and related permitting requirements.

Because this project is located in a dense urban area, I strongly encourage the Proponent to ensure contractors install emission control devices on all off-road vehicles in an effort to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD).

The Single EIR should provide more information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. I encourage the Proponent to commit to

C&D recycling activities as a sustainable measure for the project. Demolition of any structures must comply with the MassDEP Asbestos Regulations (310 CMR 7.15). These regulations require a pre-demolition and post-abatement survey and inspection by a licensed asbestos monitor.

Mitigation and Draft Section 61 Findings

The Single EIR should include a section that summarizes proposed mitigation measures and provides draft Section 61 Findings for each State Agency Action. It should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

In order to ensure that all GHG emissions reduction measures adopted by the Proponent as the Preferred Alternative are actually constructed or performed by the Proponent, the Secretary requires proponents to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings included in the Single EIR.

Response to Comments

The Single EIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the Single EIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended, and shall not be construed, to enlarge the scope of the Single EIR beyond what has been expressly identified in this certificate.

Circulation

The Proponent should circulate the Single EIR to those parties who commented on the ENF, to any State and municipal agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. The Proponent may circulate copies of the Single EIR to commenters other than State Agencies in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The Proponent should send a letter accompanying the digital copy or identifying the web address of the online version of the Single EIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The Single EIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the Single EIR should be made available for review in the Cambridge Public Library.[2]

[2] Requirements for hard copy distribution or mailings will be suspended during the Commonwealth's COVID-19 response. Please consult the MEPA website for further details on interim procedures during this emergency period: https://www.mass.gov/orgs/massachusetts-environmental-policy-act-office.

K. Theoharides

May 15, 2020
Date

Kathleen A. Theoharides

Comments received:

4/24/20 City of Cambridge
4/24/20 Massachusetts Water Resources Authority (MWRA)
4/24/20 Charles River Watershed Association
5/08/20 Massachusetts Department of Transportation (MassDOT)
5/08/20 Massachusetts Department of Conservation and Recreation (DCR)
5/12/20 Massachusetts Department of Environmental Protection (MassDEP)
5/13/20 Massachusetts Department of Energy Resources (DOER)

KAT/TTK/PRC/ttk/prc

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

April 24, 2020

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge St, Suite 900
Attn: MEPA Office, Anne Canaday
Boston, MA 02114

Subject: EOEEA #16176 – Expanded Environmental Notification Form
CambridgeSide 2.0, Cambridge, MA

Dear Secretary Theoharides:

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Expanded Environmental Notification Form (EENF) submitted New England Development (the "Proponent") for CambridgeSide 2.0 (the "Project"). The Project involves the mixed-use redevelopment of the existing CambridgeSide development (the Project site) in East Cambridge, which was built in 1990 and includes the Galleria mall, office uses, hotel space and open space known as Canal Park. The Project will retain existing active retail and office uses as well as the public sky-lit atrium. Former anchor stores and the above ground garage will be redeveloped to generate an additional 574,000 net new square feet (sf), expanding the existing approximately 1.090 million sf retail destination to an approximately 1.665 million sf mixed-use development. Approximately 175,000 net new sf will be devoted to residential uses and 400,000 net new sf will be devoted to commercial space anticipated to include a combination of office, laboratory, restaurant and retail uses.

MWRA's comments on this EENF address stormwater issues, wastewater flows and the need for Infiltration and Inflow ("I/I") removal, Toxic Reduction and Control (TRAC) discharge permitting, and MWRA Enabling Statue Section 8(m) permitting.

Stormwater

The EENF states that stormwater runoff is currently collected through roof area drains, which discharge through the roof leaders to the City of Cambridge municipal storm drains or directly into the Lechmere Canal. The municipal storm drain in First Street and certain storm drains serving the Project site on the north side discharge to Lechmere Canal. The municipal storm drains in CambridgeSide Place and Land Boulevard discharge to MWRA's Cambridge

Marginal Conduit, which conveys combined sewer overflow and separate stormwater to MWRA's Prison Point CSO Facility.

The EENF describes off-site stormwater improvements that will be constructed to help meet the infiltration and/or inflow (I/I) removal requirement of Massachusetts Department of Environmental Protection (MassDEP) regulation 314 CMR 12.04. These improvements involve removing five (5) existing storm drain connections to MWRA's Cambridge Marginal Conduit in Land Boulevard and reconnecting to a proposed storm drain to be constructed by the Proponent in Land Boulevard. The new drain will convey the stormwater to the City of Cambridge's combined sewer overflow (CSO) Outfall CAM017 at Binney Street, which discharges to the Charles River Basin. The Proponent estimates that these stormwater improvements will remove approximately 400,000 gallons of stormwater runoff from the MWRA sewer system and have the potential to reduced CSO discharges at the Prison Point CSO Facility and at Outfall CAM017.

As shown in *Appendix D - Stormwater Management Supporting Documentation* of the EENF, under post-development conditions the hydraulic study area is divided into sixteen tributary areas - subcatchments 1S through 16S. Stormwater runoff is collected through area drains, catch basins and roof leaders, which all currently discharge or will discharge to one of the three discharge points:

- 1R - First Street Drainage System and Lechmere Canal
- 2R - Lechmere Canal
- 4R – Proposed Charles River discharge (currently MWRA sewer system)

The off-site stormwater improvements consist of removing approximately 11.5 acres (subcatchments 8S through 16S) from the Cambridge Marginal Conduit and redirecting stormwater runoff into two infiltration trenches located in Land Boulevard and Rogers Street to treat runoff prior to discharging to the Charles River.

Wastewater

The EENF reports that the Project will increase wastewater flow by 104,770 gallons per day (gpd), from an existing wastewater flow of 71,572 gpd to a new total proposed flow of 176,342 gpd. According to the City of Cambridge sewer and storm drain maps, the Project site is served by City-owned sanitary sewers in the abutting streets. The Cambridge Department of Public Works (CDPW) owns and maintains the local sanitary sewer system which discharges to the MWRA system for conveyance to the Deer Island Wastewater Treatment plant. Existing wastewater flows from the Project site are split among five sewer connections. Flows from Sears, the Mall Food Court and Best Buy discharge to a 12-inch City sewer in First Street, and existing wastewater flows from the Mall and Macy's discharge to a 24-inch City sewer in Land Boulevard. These trunk sewers in First Street and Land Boulevard convey flows to a 25-inch by 29-inch City sewer in Binney Street, which flows west to a connection with MWRA's Cambridge Branch Sewer at the intersection of Cardinal Medeiros Avenue and Bristol Street. The Cambridge Branch Sewer conveys flows to MWRA's DeLauri Pump Station in Charlestown, which in turn pumps flows into MWRA's North Metropolitan Sewer for transport to MWRA's Chelsea Creek Headworks and ultimately to the Deer Island Treatment Plant.

MWRA's Cambridge Branch Sewer also serves combined sewer areas in parts of Cambridge and Somerville. The combination of sanitary flow and stormwater can exceed the capacity of the Cambridge Branch Sewer in large storms and contribute to combined sewer overflows via Cambridge's Binney Street overflow conduit. The Binney Street overflow conduit drains to MWRA's Cambridge Marginal Conduit and Prison Point CSO Facility. In larger storms, the Binney Street overflows can exceed the hydraulic capacity of MWRA's overflow system and contribute to discharges of untreated CSO to the Charles River Basin at Cambridge's Outfall CAM017.

To ensure that the Project's new wastewater flow does not increase surcharging and overflows in large storms, the Proponent should fully offset this flow with I/I removal or sewer separation in compliance with MassDEP regulation and the City of Cambridge's I/I mitigation policy. If not offset, the new flows to MWRA's system may compromise the environmental benefits of MWRA's $911 million CSO Control Program, including water quality improvement in the Charles River. Removing existing Project related stormwater flows from the MWRA sewer system as described in the EENF will contribute to the required I/I removal.

TRAC Discharge Permitting

The Project site is served by separate municipal sewer and storm drain systems. However, stormwater generated on parts of the Project site currently enters the combined sewer system. More information, including construction scheduling, is needed to evaluate whether the Project is eligible for a MWRA Temporary Construction Dewatering Permit. Once more information is available from the Proponent regarding the ultimate discharge point(s) of the groundwater from the proposed construction activities, MWRA will determine if this permit will be required during construction, pursuant to 360 C.M.R. 10.091-10.094.

A Sewer Use Discharge Permit is required prior to discharging laboratory wastewater, and or/photoprocessing wastewater associated with the Project into the MWRA sanitary sewer system. For assistance in obtaining this permit, a representative from the proposed laboratory and commercial space should contact John Norton, Industrial Coordinator, in the TRAC Department at (617) 305-5656.

Section 8(m) Permitting

Section 8(m) of Chapter 372 of the Acts of 1984, MWRA's Enabling Legislation, enables the MWRA to issue permits to build, construct, excavate, or cross within or near an easement or other property interest held by the MWRA, with the goal of protecting Authority-owned infrastructure. Due to the proximity of MWRA infrastructure, utility work in Land Boulevard associated with the Project will require an 8(m) permit. The Proponent should contact Kevin McKenna in the Wastewater Operations Permitting Group at (617) 305-5956 for assistance related to this matter.

On behalf of the MWRA, thank you for the opportunity to provide comments on the Project. Please do not hesitate to contact me at (617) 788-4958 with any questions or concerns.

Sincerely,

Beth Card
Director
Environmental and Regulatory Affairs

cc: John Viola, DEP
Katherine Watkins, Assistant Commissioner for Engineering, City of Cambridge
Catherine Daly-Woodbury, Engineering Project Coordinator, City of Cambridge

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

May 8, 2020

Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: Cambridge: CambridgeSide 2.0 – EENF
(EEA #16167)

ATTN: MEPA Unit
Tori Kim

Dear Secretary Theoharides:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the Expanded Environmental Notification Form for the CambridgeSide 2.0 project in Cambridge, as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

Ten Park Plaza, Suite 4150, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

cc: Jonathan Gulliver, Administrator, Highway Division
Patricia Leavenworth, P.E., Chief Engineer, Highway Division
John McInerney, P.E., District 6 Highway Director
Charles Clayton, Director, Transit-Oriented Development, MBTA
Neil Boudreau, Assistant Administrator of Traffic and Highway Safety
Planning Department, City of Cambridge
Boston Region Metropolitan Planning Organization

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

MEMORANDUM

TO: David Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E, Manager,
Public/Private Development Unit

DATE: May 8, 2020

RE: Cambridge: CambridgeSide 2.0 – EENF
(EEA #16176)

The Public/Private Development Unit (PPDU) has reviewed the Expanded Environmental Notification Form (EENF) submitted by New England Development ("the Proponent") for the CambridgeSide 2.0 project in Cambridge. The proposed project is an expansion of the existing CambridgeSide Galleria Mall, an approximately 1.1 million square foot retail development with 2,490 parking spaces. The project involves the repurposing of square footage and parking space. The redevelopment would result in 200 residential units, 210,000 square feet of office space, and 665,000 square feet of research and development space (the "Project"). The project site is located at 100 CambridgeSide Place, 106-108 First Street, and 60-68 First Street in Cambridge. The site is bounded by Lechmere Canal Park to the north, Edwin H. Land Boulevard to the south and east, and commercial and residential development to the west.

Based on the information presented in the EENF, the unadjusted trip generation estimate is 10,276 daily trips, which exceeds the Massachusetts Environmental Policy Act (MEPA) threshold for trip generation (3,000 new trips). Accordingly, the Project is categorically included for the preparation of an Environmental Impact Report (EIR). When applying, mode share, existing trips, and reallocation of space, the Project is expected to generate 1,744 adjusted weekday daily vehicle trips. This would bring the total trips generated by the site from 5,758 to 7,502 daily trips. The Project also involves the removal of 795 vehicle parking spaces, leaving a total of 1,695 parking spaces.

The Project will require a Vehicular Access Permit from MassDOT for proposed traffic signal improvements along O'Brien Highway (Route 28).

The EENF includes a Transportation Impact Assessment (TIA) prepared in general conformance with the current MassDOT/EEA *Transportation Impact Assessment Guidelines*. According to the TIA, the Project is located within an area with a robust multimodal infrastructure, which includes two rapid transit lines, several MBTA bus routes, private shuttles, and adequate bicycle and pedestrian accommodations. In addition, the Proponent has

committed to traffic signal improvements to improve levels of service (LOS) and delay at several locations within the study area. The Proponent has requested a waiver to prepare a Single EIR for the Project. MassDOT does not object to the waiver's request subject to the Proponent adequately addressing the following comments in the SEIR.

Study Area

The TIA study area is comprised of 19 intersections:

- Land Boulevard at Cambridgeside Place and Hotel (Sonesta) Driveway;
- Museum Drive at O'Brien Highway;
- O'Brien Highway at Land Boulevard and Charlestown Avenue;
- O'Brien Highway at Cambridge Street and East Street;
- O'Brien Highway at Third Street;
- Cambridge Street at Third Street;
- Cambridge Street at First Street;
- First Street at Cambridgeside Place and Charles Street;
- Land Boulevard at Lower Garage East Entrance;
- Cambridgeside Place at Lower Garage South Entrance;
- Cambridgeside Place at Lower Garage South Exit;
- First Street at Thorndike Street;
- First Street at Lower Garage West Entrance;
- First Street at Upper Garage Entrance/Exit and Spring Street;
- Binney Street at Land Boulevard;
- Binney Street at First Street;
- Binney Street at Second Street;
- Binney Street at Third Street;
- Third Street at Broadway.

The Proponent should consider adding or provide justification for not adding the following intersections to the analysis since the new trips to/from the site may affect these intersections:

- Main Street at Vassar Street at Galileo Galilei Way;
- Galileo Galilei Way at Broadway;
- The right turn from the Longfellow Bridge to Land Boulevard Southbound;
- The right turn from Land Boulevard Southbound to Main Street; and
- The U-turn from Land Boulevard Southbound to Land Boulevard Northbound.

Trip Generation

Trip generation is estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual (10^{th} Edition). The Project entails constructing 200 residential units,

210,000 square feet of office space, and 665,000 square feet of research and development space. As such, Land Use Codes (LUC) 221: Multifamily Housing (Mid-Rise), LUC 710: General Office Building, and LUC 760: Research & Development Center were used. Together, the calculated trip generation for all proposed uses is 10,276 average weekday daily trips. 1,103 of these trips would occur in the morning peak hour and 1,054 trips would occur in the evening peak hour.

Due to the project's proximity to various transit services and the walkable/bikeable nature of the surrounding community, a mode split is assumed for each use. The mode splits were primarily developed using data from several similar nearby developments and appear satisfactory. It should be noted the Proponent uses American Community Survey data to aid in calculating vehicle occupancy. However, no calculations were provided for MassDOT review. This should be included in the SEIR submission.

Based on the mode split assumptions, a significant portion of trips are anticipated to be made using modes other than a vehicle. As a result, the total anticipated weekday daily vehicle trips are 3,984 trips. The weekday morning peak hour would see 430 new trips, while the weekday evening peak hour would see 410 new trips.

The TIA further adjusted these trip totals to reflect the closure of the stores and parking garage that are being repurposed in the new development. With the elimination of the existing retail space, 734 weekday daily trips will be removed from the transportation network, with 15 trips being in the morning peak hour and 62 trips in the evening peak hour. These numbers were derived from existing traffic counts. Meanwhile, the parking garage has 750 spaces that are currently leased to nearby property owners and local commuters on a monthly basis. The Proponent plans to end these lease agreements, which would result in a reduction of 1,506 weekday daily trips, with 15 in the morning peak hour and 181 trips in the evening peak hour. These are actual numbers calculated from the garage's tracking system.

By subtracting the existing trips that would no longer occur with the removal of retail space and discontinuance of leased parking, the final estimate is 1,744 net new daily trips, with 200 net new trips in the morning peak hour and 167 net new trips in the evening peak hour. Combined with existing on-site traffic; the Project would generate 7,502 weekday daily trips at the site.

Transit Analysis

The TIA includes a transit analysis since a significant portion of trips to and from the project site is expected to use transit. The Project would add riders to the MBTA's Green Line, Red Line, and Bus Routes 69, 80, 87, and 88. The Project is expected to generate 4,346 average weekday daily transit trips. Of these trips; 3,130 are on the Green Line, 782 are on the Red Line, and 434 are on local bus routes.

The TIA includes a peak hour analysis for each transit service. The analysis assumes higher capacity in future conditions due to planned improved headways and vehicle replacements on both the Green and Red Lines. The Green Line Extension project is also considered in the analysis. With the project's completion, the Green Line would experience a 26.7% ridership increase in the morning peak hour and 23.0% in the evening peak hour as a result of the project. The Volume-to-Capacity (V/C) ratio would be .60 and .65 in the morning and evening peak hours, respectively.

On the Red Line, the morning peak hour would experience a .5% increase in ridership, while the evening peak hour would experience a .4% increase in ridership. In the morning peak hour, the V/C ratio for the Red Line Outbound would be .23, while the Inbound would be .63. In the evening peak hour, the V/C ratio would be .64 Outbound and .43 Inbound.

On the four bus routes, ridership would increase 0.02 – 0.04% in the morning and evening peak hours. Route 69 would have a V/C ratio of .23 in the morning peak hour and .33 in the evening peak hour. Route 80 would observe a V/C ratio of .52 in the morning peak hour and .36 in the evening peak hour. Meanwhile, Route 87 would have a V/C ratio of .47 in the morning peak hour and .41 in the evening peak hour. Finally, Bus Route 88 would experience a V/C ratio of .47 in the morning peak hour and .52 in the evening peak hour.

Overall, the transit analysis provided in the TIA shows that the future transit system has sufficient capacity to handle the additional trips that the project would generate. However, the SEIR should include a revised transit analysis with a detailed presentation of the project's impacts on the surrounding transit system with summary tables for the anticipated demand in terms of the MBTA Service Delivery Policy for transit and bus services. The Proponent should consult with the MBTA on the appropriate metrics to use for the different transit modes to conduct the analysis.

Site Access

With the repurposing of the Upper Garage, access onto First Street from this structure will no longer be provided. The Lower Garage will retain its access to First Street, Land Boulevard, and CambridgeSide Place. No changes to pedestrian or bicycle access are being proposed as a part of the Project.

Network Operations

The TIA includes capacity analyses for 2020 Existing, 2027 No-Build, and 2027 Build conditions for the study area intersections. The 2027 Build conditions assume the mode split described previously. The TIA did not provide a queue length analysis to demonstrate that queues can be accommodated within available queue storages. This should be included in the SEIR.

Several intersections in the study area would experience improvements in LOS between Existing and Build conditions due to MassDOT planned improvements and/or other development-related mitigation projects in the study area. Cambridge Street at First Street/North First Street would observe an improvement from D to C in the morning peak hour, while evening peak hour LOS would remain constant at LOS D. O'Brien Highway at Third Street/Private Driveway would experience a vast improvement in LOS in the morning peak hour from LOS F to LOS B. It should be noted that the LOS table for this intersection shows Third Street northbound as a left turn/right turn lane in existing conditions. However, the intersection is currently configured as left turn, left turn/thru/right turn. The Proponent should revise this intersection's analysis accordingly.

Apart from intersections that would experience LOS improvements, many intersections in the study area would operate at LOS D or better in the 2027 Build conditions. For example, the unsignalized intersections at the parking garage exits remain at LOS D or better, though they would experience slight increases in delay compared to Existing conditions. Furthermore, the intersection of Charles River Dam Road at Museum Way currently operates at LOS C in the morning peak and LOS B in the evening peak. In both the 2027 No-Build and Build conditions, LOS decrease to D in the morning peak hour, while evening peak hour would be LOS C. Similarly, O'Brien Highway at Cambridge Street/East Street currently operates at LOS C in the morning and evening peak hours, but the morning peak would see a decrease to LOS D in both the 2027 No-Build and Build conditions.

Other intersections would experience particularly poor LOS in the 2027 Build conditions. This includes the intersection of Binney Street at First Street, which currently operates at LOS D. It would continue to operate at LOS D in the 2027 No-Build conditions but would operate at LOS E in the 2027 Build conditions. Another notable decrease in LOS can be seen at Cambridge Street at Third Street, which goes from LOS C in the 2020 Existing conditions to LOS E in the 2027 No-Build and Build conditions. Moreover, the intersection of O'Brien Highway/Charles River Dam Road at Land Boulevard/Charlestown Avenue currently operates at LOS F. In the 2027 No-Build and Build conditions, the intersection would continue operating at LOS F with even longer delays.

The TIA suggests that the particularly negative impacts of the Project at these intersections can be mitigated with a signal timing optimization plan. As a part of mitigation plan, the Proponent recommends the installation of upgraded signal equipment at a total of 11 intersections along First Street, Cambridge Street, O'Brien Highway, and Land Boulevard. The Proponent should further detail which aspects of the signal optimization plan and associated upgrades they intend to implement themselves.

According to the TIA, these signal improvements would reduce delay at Cambridge Street/Third Street and First Street/CambridgeSide Place/Charles Street. The mitigation would also improve LOS at Land Boulevard/Cambridgeside Place/Hotel Driveway and Broadway/Third Street/Main Street from LOS E to D in the 2027 Build conditions in both the morning and evening peak hour. The same can be said for Binney Street at Third Street in the

evening peak hour. For the intersection at Land Boulevard/Cambridgeside Place/Hotel Driveway, the TIA should provide the SYNCHRO simulation data to show how signal timing changes would improve delay and LOS.

Finally, the Proponent should consider mitigation at O'Brien Highway/Charles River Dam Road at Land Boulevard/Charlestown Avenue, which is expected to operate with heavy delays and a LOS F in the future Build conditions. There was no proposed mitigation at this location.

Safety

Motor vehicle crash data was obtained from MassDOT for the most recent five-year period available (2013-2017). No crash rates for any study area intersections exceeded the MassDOT District 6 average crash rates of 0.71 and 0.52 for signalized and unsignalized intersections. Also, the safety analysis did not identify any crash clusters with the study area.

Multimodal Access and Facilities

Pedestrian and bicycle facilities are provided on the roadway network surrounding and leading to the project site and will be maintained. The Proponent plans to add 595 new bicycle parking spaces for employees and mall patrons. Approximately 514 of these spaces will be weather-protected. A bicycle maintenance area will also be provided for future residents.

Parking

The TIA includes a parking analysis. The project site currently has 2,490 vehicle parking spaces. The proposed project will eliminate 795 parking spaces from the Upper Garage that is being redeveloped, bringing the total available parking spaces to 1,695 solely in the Lower Garage. The Proponent hopes that eliminating these spaces will encourage mall patrons and employees to utilize public transportation and/or active transportation to access the site.

The TIA provided a parking utilization analysis that suggests the Lower Garage can handle the site-produced parking demand of the Upper Garage. However, the Proponent should elaborate further on where the leased parkers might park without the existing rental availability and what the impact on the surrounding transportation network would be as a result. Finally, it should be noted that the EENF and TIA reference similar but slightly different numbers in regard to parking space totals in several instances. This should be corrected in the SEIR.

Transportation Demand Management Program

The CambridgeSide development currently utilizes a Transportation Demand Management (TDM) program. CambridgeSide 2.0 would continue this practice, as well as

implement several new measures. The following TDM measures are included in the TIA with the goal of reducing vehicle trips by employees, residents, and visitors of the Project:

- Posting of information regarding public transportation services, maps, schedules, and fare information in a central location and/or otherwise made available employees;
- Provision of web-based ride-sharing information bank to encourage carpooling;
- Bluebikes sponsorship on-site;
- Requiring mall tenants to provide employees with subsidies for transit and Bluebikes memberships;
- Plan for participation in the MBTA commuter pass program for all employees and tenants of new development;
- Provision of new weather-protected bicycle parking;
- Expanded CambridgeSide Shuttle services between New Lechmere Station, Kendall Square Station, and the project site;
- Monetary contributions to East Cambridge Transit Expansion Program for the review of local transit improvements, such as the feasibility of adding Bus Priority Lanes on First Street;
- Charging for parking at market rates and offering discounted parking for dedicated HOV vehicles;
- Provision of information about transportation options available to employees at orientations and on a company website; and
- Encouragement of employers to work with the Cambridge Office of Workforce Development.

The Proponent will also utilize a Traffic and Construction Management plan during construction, which will be coordinated with the DCR, MassDOT and the City of Cambridge Traffic, Parking and Transportation Department and the Department of Public Works.

Transportation Monitoring

As a condition of the approval of the original CambridgeSide development, the Proponent has conducted transportation monitoring program annually. The Proponent should expect to continue to conduct these reports when the Project is completed and submit them to MassDOT and the City of Cambridge for review. Details about what will be included in the Transportation Monitoring Report should be included in the SEIR.

MassDOT supports the Proponent's request to file a SEIR for the project. The Proponent should continue consultation with appropriate MassDOT units, including the Public/Private Development Unit, the MBTA, and the District 6 Office during the preparation of the SEIR. If you have any questions regarding these comments, please contact me at (857) 368-8862.

dcr
Massachusetts

May 8, 2020

Secretary Kathleen A. Theoharides
Executive Office of Energy and Environmental Affairs
Attn: Tori Kim, MEPA Office
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: EOEEA #16176 CambridgeSide 2.0 EENF

Dear Secretary Theoharides:

The Department of Conservation and Recreation ("DCR" or "Department") is pleased to submit the following comments in response to the Expanded Environmental Notification Form ("EENF") submitted by New England Development (the "Proponent") for the CambridgeSide 2.0 project (the "Project").

As described in the EENF, the Proponent is seeking to implement a re-visioning of the CambridgeSide Mall by creating a mixed-use development with a combination of retail, residential, office, laboratory and restaurant uses. The current proposal envisions the addition of 575,000 square feet of development, with 175,000 square feet of residential (65% of the square footage for affordable housing) and 400,000 square feet of commercial uses (retail, office, laboratory and restaurant uses). The Project also seeks to facilitate bicycle/pedestrian use along First Street through the widening of the sidewalk, and plans to improve plantings and furnishings.

DCR assets near the Project include the Charles River Reservation and Edwin H. Land Boulevard. Pedestrian and bicycle access is provided between the Project site and the Charles River Reservation by an existing bridge beneath Edwin H. Land Boulevard. The Project requires the filing of an Environmental Impact Report ("EIR"), which the Proponent is seeking to fulfill with a Single EIR rather than the customary two-step Draft and Final EIR. The EENF states that a DCR Construction and Access Permit will be required for the Project.

DCR is pleased to submit the following comments on the Project:

Transportation

The Traffic Impact Assessment ("TIA") analyzes two signalized intersections under DCR jurisdiction: Binney Street at Land Boulevard, and Land Boulevard at Cambridgeside Place/Hotel Driveway; and one unsignalized intersection (Land Boulevard at Lower Garage Entrance Driveway). As part of the mitigation for the Project, the Proponent seeks to install Adaptive Signal Control Technologies that can automatically optimize timing sequences at traffic signals. The Proponent also seeks to install ADA-compliant pedestrian street crossing equipment and vehicle detection equipment along Land Boulevard.

As noted in the EENF, the TIA for these intersections shows that the Level of Service ("LOS") for the Binney Street/Land Boulevard Weekday Morning Peak Hour and Weekday Evening Peak Hour will be maintained, when comparing the 2027 No-Build Condition with the 2027 Build Condition. However, the TIA shows a decrease in LOS at Land Boulevard at Cambridgeside Place/Hotel Driveway, both for the

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Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Kathleen A. Theoharides, Secretary,
Executive Office of Energy & Environmental Affairs

Jim Montgomery, Commissioner
Department of Conservation & Recreation

morning and evening peak hour condition (see Table 25). The TIA concludes that signal timing changes during both the weekday morning and weekday evening peak hours are required, and goes on to predict the impact of these changes (in Table 32 – Mitigated Vehicle Level of Service Summary). DCR notes a possible discrepancy in the TIA where the predicted LOS for Land Boulevard at Cambridgeside Place/Hotel Driveway differs between the 2027 No-Build Condition in Table 25 and 32. For example, the LOS for the Weekday Morning Peak Hour is shown as "D" in Table 25 for the 2027 Build Condition, whereas it is shown as "E" in Table 32 for the 2027 Build Condition. In the EIR, DCR requests the Proponent describe these differences. In preparation for its EIR, DCR requests that the Proponent discuss these improvements with the Department's Construction and Access Permit office.

Charles River Reservation

The Project also seeks to improve the existing space beneath the Land Boulevard bridge adjacent to the Lechmere Canal. The conceptual proposal in the EENF shows improvements such as lighting, art, wood decking, and granite curbing. DCR generally supports these improvements, and looks forward to discussing the proposal with the Proponent. DCR notes that the Land Boulevard bridge is owned by the Massachusetts Department of Transportation. In preparation of the EIR, DCR requests the Proponent discuss these improvements with the Department and MassDOT, and prepare an ongoing maintenance and monitoring plan to be implemented by the Proponent for these improvements.

Thank you for the opportunity to comment on the EENF. Questions can be directed to Nat Tipton, MEPA Review Coordinator at 617-447-5394 or nathaniel.tipton@mass.gov. Questions related to transportation can be directed to Jeff Parenti at 617-626-1499 or jeff.parenti@mass.gov.

Sincerely,

Jim Montgomery
Commissioner

Cc: Patrice Kish, Tom LaRosa, Jeff Parenti (DCR)

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

Memorandum

To: Tori Kim, Assistant Secretary and MEPA Director
Anne Canaday, MEPA

From: Frank Taormina, Waterways Regulation Program, MassDEP/Boston

Cc: Daniel Padien, Program Chief, Waterways Regulation Program, MassDEP/Boston

Re: **CambridgeSide 2.0, Cambridge, Middlesex County / Expanded ENF #16176**
Chapter 91 Waterways Regulation Program Comments

Date: May 12, 2020

The Department of Environmental Protection Waterways Regulation Program (the "WRP") has reviewed the above referenced Expanded Environmental Notification Form (EENF) EEA #16176, submitted by Tetra Tech, Goulston & Storrs, and Elkus/Manfredi on behalf of New England Development (the "Proponent") to redevelop and expand the existing CambridgeSide Galleria Mall ("CambridgeSide 2.0") located on filled tidelands of the Lechmere Canal at 100 Cambridgeside Place, 106-108 First Street, 60-68 First Street in Cambridge, Middlesex County.

Chapter 91 Jurisdiction

The proposed changes to the existing licensed project (previously authorized in Waterways License No. 1829 issued in 1988) will require authorization through M.G.L Chapter 91 and the Waterways Regulations at 310 CMR 9.00, as the entire 8.2-acre project site (1.6-acres less than what was previously licensed) is located on filled Private Tidelands of the Charles River and Lechmere Canal in Cambridge. The proposed project will be reviewed under the Waterways Regulations, including but not limited to the nonwater-dependent provisions of 310 CMR 9.51 through 9.52. The project site does not include Commonwealth Tidelands, therefore the requirements at 310 CMR 9.53.

Chapter 91 Regulatory Analysis
Based on the WRP review of the EENF and supporting materials and plans provided as attachments thereto, we offer the following comments:

Licensing Approach:
In the EENF, the Proponent contemplates seeking two separate Amendments to existing Chapter 91 Licenses, specifically:

- Proposed Amendment #1 to License No. 1829: Proposed renovations to and vertical expansion of the existing Sears Building for residential use;

- Proposed Amendment #2 to License No. 1829: Proposed Amendment/Restatement of Waterways License No. 1829 authorizing the proposed changes to the balance of the proposed project site including vertical expansion of other portions of the building for residential use.

Residential use was authorized for the project site in License No. 1829, but only explicitly for 90,000 square feet of gross floor area (or 50 to 78 units) to be located in the eastern wing of the mall (License Plans Sheet 3 of 4).

In 2001 the Licensee applied for and obtained an Amendment to License 1829 (issued as Waterway License No. 8528) changing the use of the authorized residential building (a Facility of Private Tenancy) to hotel (a Facility of Public Accommodation) and increasing the gross floor area from 90,000 square feet to approximately 154,000 square feet.

Accordingly, License No. 1829, as amended by License No. 8528, no longer authorizes residential uses onsite or any Facilities of Private Tenancy because the amendment approved the change in use from Facility of Private Tenancy to Facility of Public Accommodation requested by the Licensee. Therefore, the current proposal to reintroduce residential uses onsite is considered a change in use.

After review of the Applicant's licensing approach as described in the ENF, the WRP has determined that the proposed changes do not meet the License Amendment provisions at 310 CMR 9.24 because the improvements include (i) a Substantial Alteration (310 CMR 0.92) for the vertical expansion and (ii) a Substantial Change in Use (310 CMR 9.02) for the addition of residential, a Facility of Private Tenancy no longer authorized by the existing license. Furthermore, the reinstatement of License No. 1829 to authorize other vertical expansions, change of use, and modifications to the licensed site cannot be authorized as contemplated because these changes exceed the minimum thresholds for a Substantial Change in Use as noted above.

The proposed structural alterations and changes in use require one or more new Chapter 91 Waterways License.

Open Space:
The existing site was licensed in 1988, prior to the promulgation of the nonwater-dependent use regulations in 1990. The preferred project identified in the EENF includes 7.4± acres of building coverage and 6,765±-square feet of open space, which represents a small increase in open space from existing conditions. We note the project does not meet the nonwater-dependent building lot coverage requirements at 310 CMR 9.51(3)(d). However, this regulation stipulates: "*in the event this requirement is not met by a project involving the renovation or reuse of existing buildings, ground level open space shall be provided to the maximum reasonable extent*". Based on the information provided in the ENF, the project appears to meet this maximum extent practicable standard as the project will result in a net reduction in building footprint with filled tidelands. The WRP will review the anticipated license application for documentation that this standard is meet to the maximum reasonable extent.

The project includes various off-site improvements and enhancements to abutting parks and open spaces required by License No. 1829 and a subsequent Development Agreement with the City of Cambridge. The WRP commends the Proponent on proposing improvements to these parks and open spaces to make them better connected and more actively used by the public, however offsite open space and improvements thereto cannot be counted toward satisfying open space requirements per 310 CMR 9.51(3)(d) on the defined project site.

Water Dependent Use Zone:
While the project site does not directly abut the Lechmere Canal and therefore does not have a project shoreline as defined by 310 CMR 9.02, the proponent must calculate the weighted average Water Dependent Use Zone (WDUZ) per 310 CMR 9.51(3)(c) on the intervening parcel to confirm whether or not the WDUZ extends into the project site. The WRP requests the Environmental Impact Report (EIR) include an annotated plan showing: property lines, the project shoreline on the intervening parcel, width of the WDUZ on the intervening property and calculations used to determine the weighted average distance.

Height:
The project includes new residential buildings with varying building heights, constructed within the existing licensed building footprint, however the WRP cannot confirm at this time whether the proposed project meets the nonwater-dependent building height requirements at 310 CMR 9.51(3)(e). The WRP requests the EIR include a plan showing the proposed residential buildings and demonstrating compliance with the applicable building height setbacks.

The WRP looks forward to reviewing the anticipated EIR, demonstrating compliance with the various nonwater-dependent use regulations noted above. If you have any questions, please contact me at frank.taormina@mass.gov

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
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Charles D. Baker
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Karyn E. Polito
Lt. Governor

Kathleen A. Theoharides
Secretary

Patrick C. Woodcock
Commissioner

13 May 2020

Kathleen Theoharides, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Cambridgeside 2.0, Cambridge, Massachusetts, EEA #16176

Cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resources
Patrick Woodcock, Commissioner, Department of Energy Resources

Dear Secretary Theoharides:

We've reviewed the Expanded Environmental Notification Form (EENF) for the above project. The proposed project consists of about 775,000 square feet of office/laboratory and 275,000 square feet of residential (200 residential units).

Executive Summary

The project is proposing the following mitigation measures:

- Efficient electrification with heat pump/VRF for the residential building.
- Improved windows and roof performance for all buildings

The project could improve mitigation with the following additional improvements:

- Passivehouse for the residential buildings
- Expanded efficient electrification into the office portion of the project

Model outputs for both the residential and office building "mitigated" scenario appear unusually high-performing and are likely erroneous. As a result:

- There is uncertainty as to the Mitigation Level for these buildings. The mitigation is likely less than would be calculated in the EENF.

- For the residential, comparisons of this potentially erroneous "mitigated" scenario to Passivehouse scenarios may be greatly underestimating benefits of Passivehouse.

Our detailed comments follow.

Pathway to 26% Mitigation Level – Whole Project

To correct the currently-proposed Mitigation Level, we have estimated "mitigated" energy use[1]. Using this estimate, the project (all buildings) is currently-proposed to have a Mitigation Level[2] of 7%. This can be improved by about x3.7 to 26%. In summary:

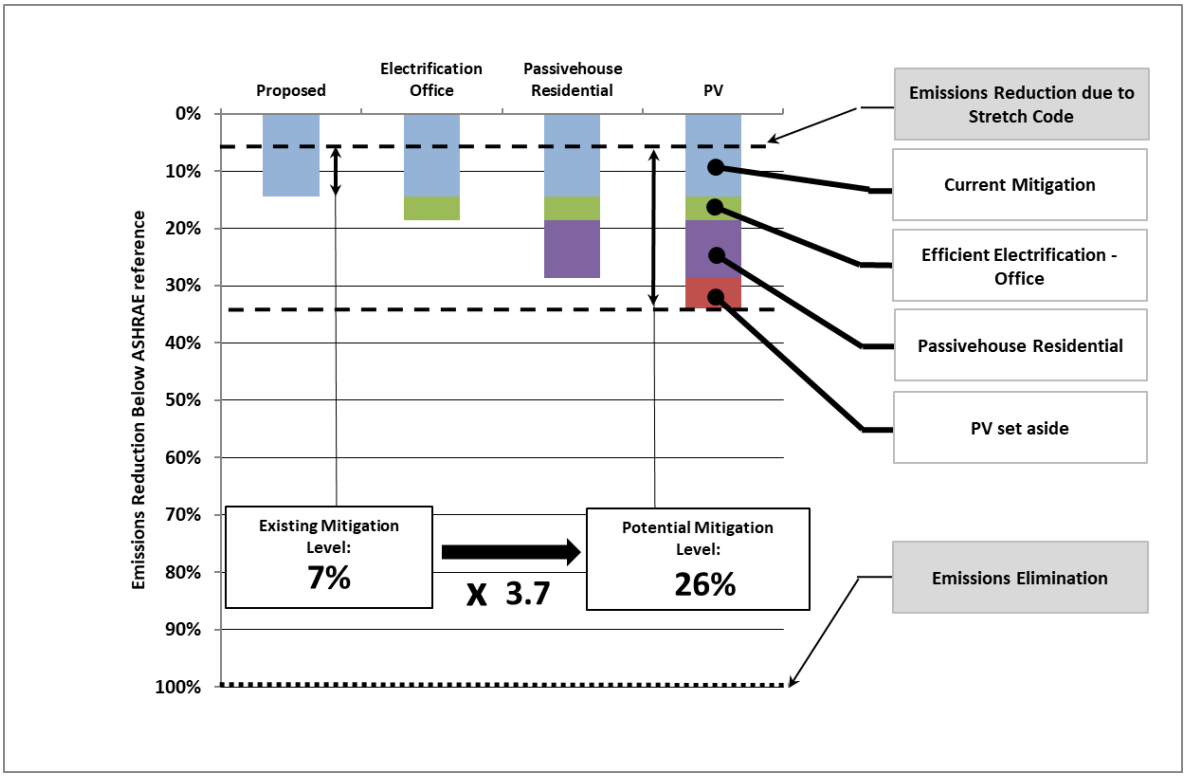
- The currently-committed efficiency strategies deliver a Mitigation Level (ML) of 7%. This is accomplished with improved windows (all buildings), improved roof insulation (all buildings), and efficient electrification of the residential building.

- Mitigation Level can be improved to 38% as follows:

  - Efficient electrification of the office would increase ML to 11%
  - Passivehouse for the residential improves ML to 21%
  - Installing solar PV on committed PV-ready areas improves ML to 26%.

[1] To estimate Code Baseline, the DOER used energy use from prototype buildings estimated by US Department of Energy for this climate and for Mitigated, the DOER estimated reductions in heating, cooling, water heating, etc commiserate with stated improvements over code.

[2] Mitigation Level is the percent GHG reduction beyond the reduction that would occur as a result of following state and local building codes. A Mitigation Level of 0% means that no mitigation is proposed.

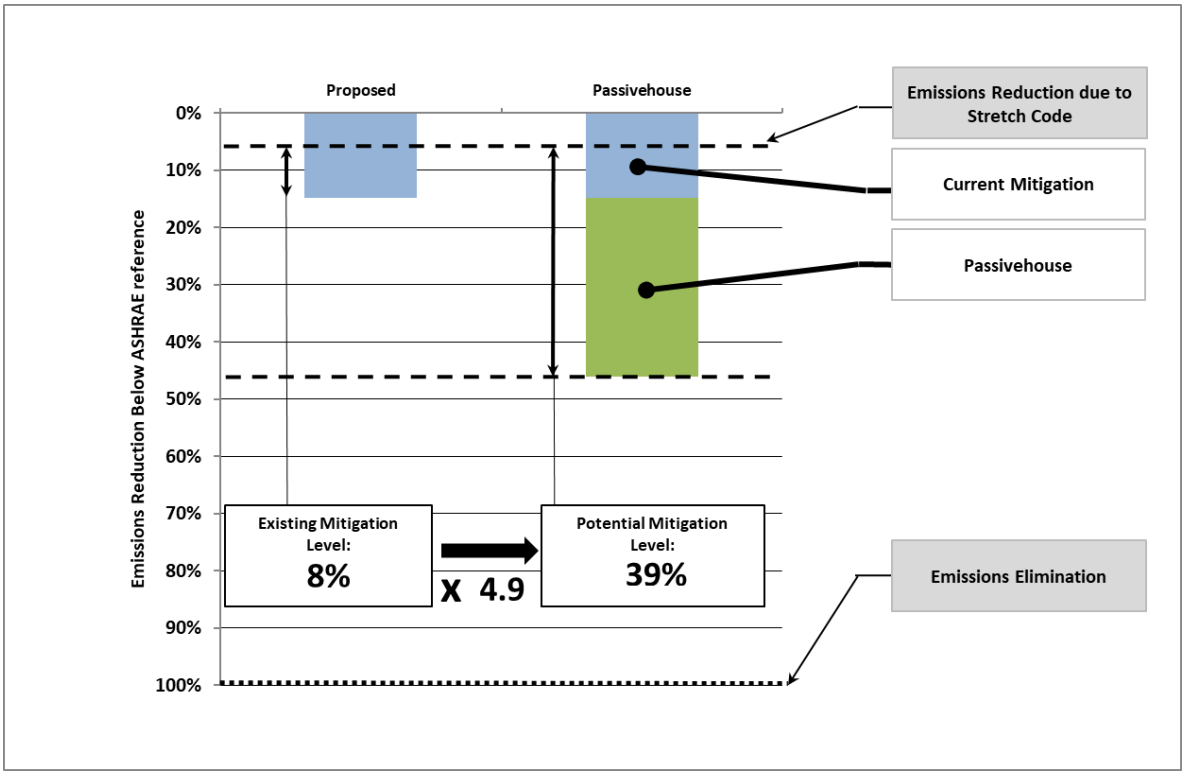


Pathway to 39% Mitigation Level – Residential Buildings

Using the same estimates to correct "mitigated" scenario, just the residential portion of the project would have a Mitigation Level of 8%. This can be improved by about almost x5 to 39%. In summary:

- The currently-committed efficiency strategies deliver a Mitigation Level (ML) of 8%. This is accomplished with improved windows, roof, and efficient electrification.

- Mitigation Level can be improved to 39% by building to Passivehouse standards.



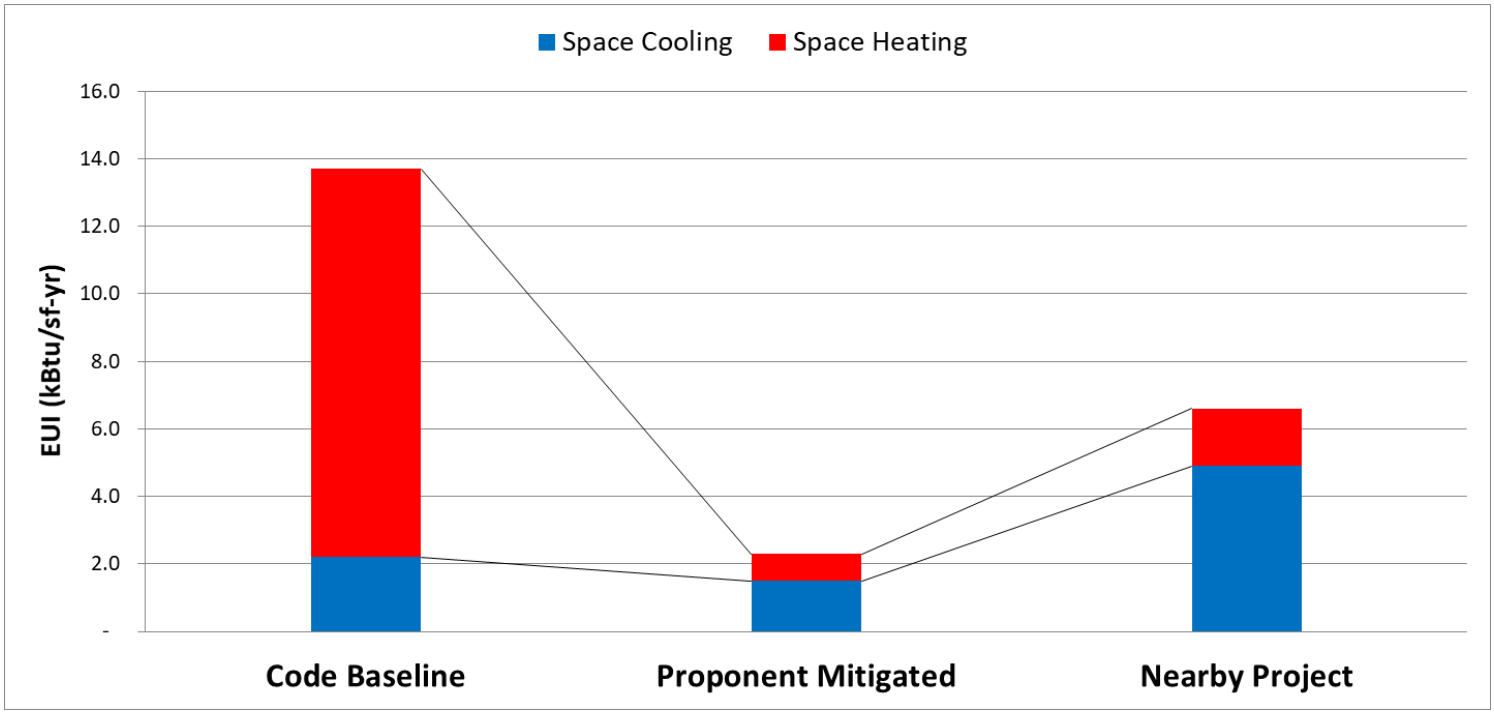
Potential Errors in Model Output

Both the residential and office model output have unusually low "mitigated" energy performance, includes heating and cooling end use reductions which seem inconsistent with the proposed improvements.

Focusing, on the residential buildings' heating end use, the model shows a **93% reduction in heating end use consumption**. In fact, heating consumption for the "mitigated" scenario is even lower than expected Passivehouse level performance. For cooling end use, both "Code Baseline" and "Mitigated" appear unlow.

The illustration on the next page shows heating and cooling end use for: code-performance energy consumption (left), the modeled "mitigated" performance (middle), and the results from a similar, nearby residential apartment project[3] (right). As shown, both heating and cooling end use consumption is substantially smaller than the nearby project which has substantially more envelope and other commitments.

[3] MEPA project number 16024 "Riverside Station Redevelopment", Newton. Information can be accessed here: http://eeaonline.eea.state.ma.us/eea/emepa/searcharchive.aspx



Minimum Code Baseline	
Roof	R30c.i
Wall	U-0.055
Window	U-0.42
Vertical UA	0.20
Infiltration (cfm/sf)	0.4
Infiltration Field Confirmed	Not required
Heating Efficiency (%)	88
Exhaust Air Recovery (1)	50% effective
Cooling EER	13.1
Verified with WUFII	Not required

Proponent Mitigated	
Value	Improvement
R36c.i.	**17%**
U-0.055	**None**
U-0.27	**35%**
0.12	**40%**
0.4	**Same leakage**
	No
250	**184%**
65% effective	**30%**
13.4	**2%**
	No

Nearby Project Mitigated	
Value	Improvement
R-78c.i.	**61%**
U-0.036	**34%**
U-0.22	**48%**
0.11	**46%**
0.014	**97% less leakage**
	Yes
320	**264%**
70% effective	**40%**
14.2	**8%**
	Yes

1. Where required by Code.

The tables above present the corresponding inputs for both projects and shows the performance improvements over Code.

- For the subject project, vertical envelope performance is 40% improved over code, with no improvement in air-infiltration. A 17% improvement to roof improvement is planned.

- In contrast, the nearby project is committing to both higher UA and roof improvements and, critically, a 97% reduction in air leakage, which will also be confirmed with in-field testing.

The nearby project heating, cooling, and ventilation equipment is also comparable or better than the proposed project.

In summary, the heating performance of the residential building appears unusually high performing, exceeding the performance of other projects which are committing to a superior envelope, and even exceeding Passivehouse levels. These results appear to be erroneous.

The office model findings follow a similar pattern. To resolve this issue, we recommend conducting a new, separate, independent analysis using new EQuest models and/or a WUFI model for the residential building.

Codes and Baseline

Massachusetts Stretch Code applies to this project. Stretch Code requires a 10% energy performance improvement over ASHRAE 90.1-2013-Appendix G plus Massachusetts amendments. Accordingly, the baseline for this project should be based on ASHRAE 90.1-2013 plus Massachusetts amendments. The project is using this baseline.

In August 2020, an update to the Stretch Code will take effect. The underlying code provisions will not change. The Stretch Code to take effect in August also uses ASHRAE 90.1-2013-Appendix G. However, there will be several new, or changed, Massachusetts amendments including: C402.1.5 (envelope), C405.3 and C405.4 (lighting), C405.10 (EV charging), and C406 (additional efficiency measures). In addition, the additional C406 measures are increased from 2 to 3.

To accurately estimate Mitigation Level for this project, we recommend that the baseline for this project be set at the Stretch Code provisions which will be required in August 2020 as this will likely be the code that will be used for building construction. Accordingly, updates to lighting, envelope, and additional efficiency measures will be required in the baseline. In accordance with the GHG Policy, the project is welcome to continue to compare to the baseline that existed at the time of the ENF, as well, for comparison purposes.

Building Envelope Performance

High-performing envelope is essential to successful GHG mitigation. Key strategies for maintaining integrity of envelope are:

- Continuous insulation;
- Reducing air infiltration;
- Reducing thermal bridges;
- Limiting or eliminating use of glass “curtain wall” and spandrel assemblies;
- Maximizing framed, insulated walls sections;

- Maintaining window at code levels.

Beginning in August 2020, Massachusetts energy code amendments require conformance with 2018 IECC Section C402.1.5 which mandates that the aggregate performance of all above-grade surfaces conform to the wall performance factors in IECC Table C402.1.4 and C402.4 and fenestration values in C402.4.1 and C402.4.3. It appears that the buildings conform to this requirement though this should be verified in the next submission.

Also beginning in August 2020, Massachusetts amendments require that baseline residential buildings set maximum fenestration to 24% from current 40%. (Currently the baseline uses 30%. This should be adjusted in the next submission.)

The project is currently committing to the following:

- All buildings, including the lab/office, are completely avoiding glass curtain wall/spandrel assemblies. All vertical faces are either built, insulated wall (R-0.055) or window (R-0.27 for the residential and 0.29 for the commercial).

- All buildings are committing to R-36c.i. roofs.

Committed vertical envelope performance (vertical walls and windows) for the buildings are shown below. For comparison, vertical envelope performance required for code starting in August 2020 is also shown.

Building	August 2020 Code minimum (U value)	Committed (U value)	Improvement in U-value performance
Residential	0.14	0.12	16%
Lab/office	0.20	0.15	26%

Vertical U value

The next submission should be updated to reflect August 2020 code in the baseline

Building Envelope and Perimeter Heating – Office/lab

The office/lab has code level wall performance (0.055) albeit with improved windows. We recommend the proponent also examine whether further wall and/or window improvements could potentially eliminate or reduce the need for perimeter heating for this building.

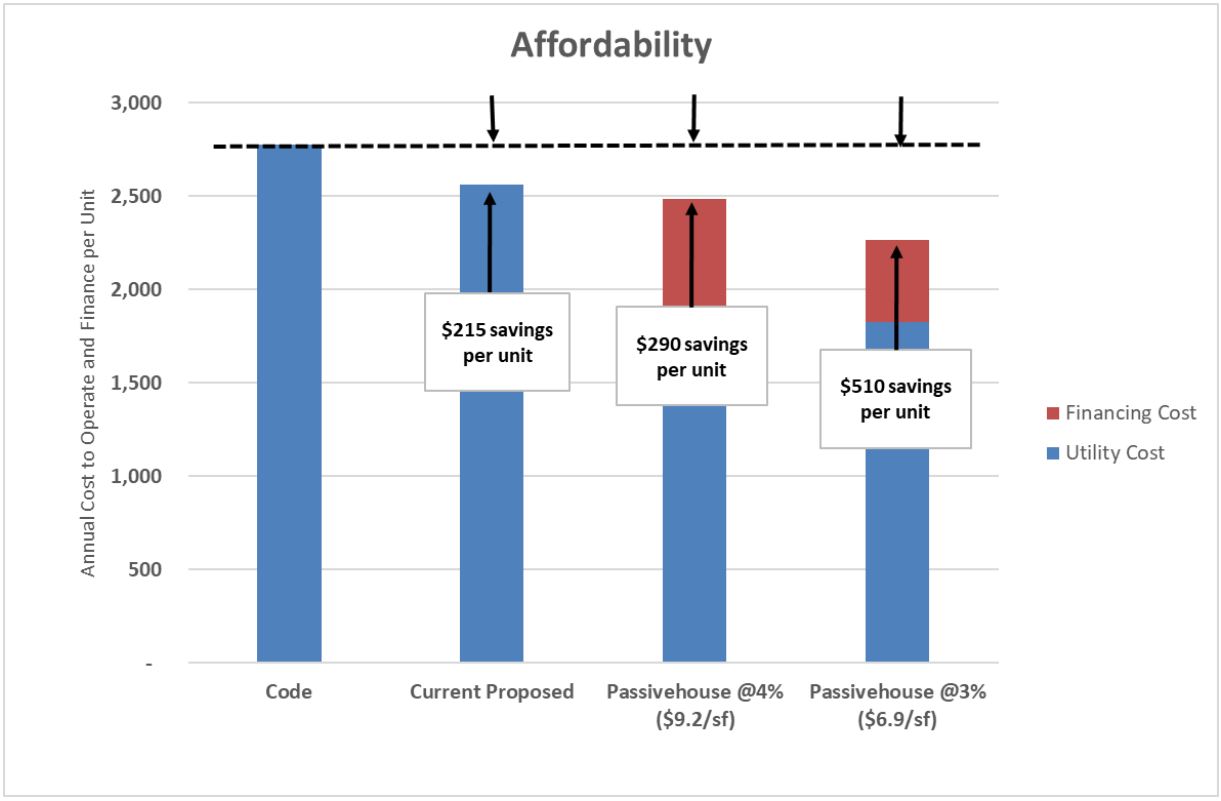
Elimination/reduction of perimeter heating could potentially result in significant construction cost savings, improved comfort, and reduced maintenance. Also, elimination/reduction of perimeter heating may also make full electrification more feasible and thus improve GHG reduction.

Passivehouse - Residential

The submission contained an analysis of Passivehouse for the residential building. As shown above, committing to Passivehouse would increase emissions reduction by a factor of almost 5.

In addition, Passivehouse is likely more affordable then either code or as currently proposed, as illustrated below. Current proposed saves each dwelling unit $215 per year compared to code. In comparison, Passivehouse would save between $290 to $510 per year, including financing costs for the additional premium to build Passivehouse.

Passivehouse is recommended given the superior financial and emissions performance.



The above is based on the following assumptions:

- Premium cost ranging from 3% ($6.90/sf) to 4% ($9.20/sf). The upper bound actually exceeds the premium cost range for a similar Passivehouse residential tower in New York City, as thoroughly documented by NYERDA[4].
- Electric and gas costs contained in the submission ($0.21/kWhr and $1.54/therm)
- Financing over 30 years at 5.5% interest rate
- MassSave incentive of $3,000 per dwelling unit

The value of Alternative Energy Credits is not included.

[4] http://www.fxcollaborative.com/projects/182/feasibility-study-to-implement-the-passivhaus-standard-on-tall-residential-buildings/

Fossil-Fuel Reduction and Efficient Electrification

Efficient electrification of space and service water heating is an effective strategy for GHG mitigation. Electrification entails swapping from gas-fueled equipment to air source electric heat pumps and VRF systems.

The project is making significant strides towards electrification in the residential building, committing to full electrification of space heating with efficient air-source heat pumps/VRF.

The project is also committing to electric resistance heating for the office/lab domestic hot water.

We recommend expanding electrification of space heating as shown in the recommendations section below. (An estimate of the GHG reduction is provided at the beginning of this letter.)

External Shading and Solar Heat Gain Coefficient (SHGC)

External shading and solar heat gain coefficient (SHGC) have not been analyzed yet, consistent with the level of design of the project at this time. As the project moves forward, we encourage examination of building self-shading, external shading, and varying SHGC as a function of exposure. (For example, targeting lower SHGC-rated glass for building sides and areas more exposed to sun and/or less shaded.)

Rooftop Solar PV

Rooftop PV can provide significant GHG benefits as well as significant financial benefits. The proponent completed a detailed analysis for rooftop PV space, concluding there is space for 485 kW of PV when applied across all buildings (approximately 39,000-sf of roof space).

The project states in the submission that they are committing to be solar ready for "50% of the top-tier flat roofs". It's not clear in the submission whether this statement refers to the 39,000-sf analyzed in the submission. This should be clarified in the next submission.

Recommendations for Subsequent Submissions

Recommendations are as follows:

1. Correct the potential model errors described herein using new, separate, independent analysis using new EQuest models and/or a WUFI model for the residential building.

2. Update project baseline to reflect August 2020 building codes with Massachusetts amendments including setting maximum baseline fenestration to 24% from current 40%.

3. Confirm that the project will meet the requirements of 2018 IECC Section C402.1.5 which mandates that the aggregate performance of all above-grade surfaces conform to the wall performance factors in IECC Table C402.1.4 and C402.4 and fenestration values in C402.4.1 and C402.4.3.

4. Examine office/lab wall and/or window improvements to evaluate potential elimination of perimeter heating.

5. Commit to Passivehouse for the residential building.

6. Expand efficient electrification of heating to the office portion of the office/lab.

7. Clarify PV commitment (put in terms of square feet set aside and size of system (kW) that could be housed).

8. Examine effect of targeted SHGC and external shading considering variability of exposure to sun, building self-shading, and shadows from other buildings.

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

Brendan Place
Clean Energy Engineer
Massachusetts Department of Energy Resources

City of Cambridge
Executive Department

LOUIS A. DePASQUALE
City Manager

LISA C. PETERSON
Deputy City Manager

April 24, 2020

Kathleen A. Theoharides
Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Anne Canaday, EEA No. 16176
100 Cambridge Street, Suite 900
Boston MA 02114

Dear Secretary Theoharides:

The City of Cambridge submits the attached comments on the Expanded Environmental Notification Form for the Cambridgeside 2.0 project submitted by New England Development. The proposed redevelopment of the Cambridgeside property is significant to Cambridge's economy and community. Our comments are intended to address the anticipated impacts to ensure that Cambridge can reap the benefits of the development while ensuring that the community's quality of life and environment are protected.

If your agency has any questions about the comments, please contact John Bolduc of my staff at jbolduc@cambridgema.gov. We appreciate your consideration of these comments.

Sincerely,

Louis A. DePasquale
City Manager

City of Cambridge

Comments on Expanded ENF
EEA No. 16176, Cambridgeside 2.0

General

The proposed renovation of the Cambridge Galleria is an important project for the community. The proponent has worked with the City and the community to develop a concept and design that will ensure this asset serves the community and region well going forward. There are numerous benefits incorporated into the project including a significant housing component, open space and public realm enhancements, and support to the East Cambridge neighborhood. These comments are offered to assist the proponent as it goes through the permitting process to ensure that the project is designed and developed successfully for the proponent and the community.

Transportation and Public Realm

The City of Cambridge's development review process has Transportation Impact Study (TIS) requirements that differ somewhat from the MEPA TIS requirements. For reference, the scope for the Cambridge TIS for this project are attached.

This project will undergo review in Cambridge through the Zoning Ordinance's Planned Urban Development permitting process which includes special requirements and review criteria for transportation and sustainability. The Cambridge Planning Board will review and assess the project before it can be approved, with conditions incorporated into a special permit. To provide some early feedback to the proponent, we offer the following comments.

Some items that the proponent should consider expanding on in the EIR include:

- Additional analysis on the project's transit impacts, including increased demand and opportunities for enhancing public and private transit services, i.e., between Cambridgeside and the regional transit systems (i.e. North Point, Sullivan Square, Kendall Square (Red Line), water transportation, and pedestrian and bicycle connections to/from the regional bicycle and pedestrian pathways.
- Opportunities for improved frequencies/headways and days of service for public and private buses and shuttles.
- Consolidation of the EZ Ride shuttle with the Cambridgeside shuttle to improve service frequencies, headways, and broaden the connections to and from Cambridgeside and key transportation hubs in the region. The EIR should describe what would be necessary to consolidate the EZ Ride shuttle and Cambridgeside shuttle, including the cost to operate the Cambridgeside shuttle.

- The EIR should provide more information on the existing monthly parkers that will be displaced from parking at Cambridgeside ,including the number of monthly parkers and who they are.
- The EIR should describe the existing and ongoing requirements for Cambridgeside's "Commercial Parking Facility Permit", how the proposed Project may require changes to this Permit, and describe the process needed to amend the Commercial Parking Faclity Permit.
- The EIR should provide more definitive transportation demand management (TDM) commitments.
- There are a few errors in the EENF e.g., the numbers for bike share station size are incorrect.
- The EIR should not consider bicycle parking that is required by zoning a TDM measure unless the commitment is above and beyond zoning requirements.

The City welcomes the enhanced environment for people walking and bicycling proposed by the proponent, particularly from the connection to Canal Park from First Street, and along the pathways around the Canal. Some items the proponent should address in the EIR include:

- High quality and well-designed access to the Canal Park pathways will be important. We note there is a proposal to fill the entry plaza with activities such as outdoor dining. While we welcome enhanced active use such as additional doors in this area, the City would want to see a design that ensures that people traveling through by all modes have ample space and that conditions do not create user conflicts. Through the City permitting process, there will be an opportunity to review outdoor seating holistically but the entry plaza should remain more open for people accessing the park and pathways in addition to the building. There is considerable space in the area currently used for outdoor seating and expanding/enhancing that area, while leaving the entry plaza more open for people accessing the park and pathways in addition to the building.
- The project area is currently occupied by a substantial number of short-term bicycle parking spaces; while relocating them is not necessarily an issue, the City would want to ensure that they were in an equally visible and convenient location.
- The City very much welcomes the proposal to upgrade the gravel pathways to materials that are not subject to ponding, inaccessibility, and difficult maintenance regimens. We do note that any proposed changes would be subject to City review and approval, as the paths are on City-owned park land. We would like to see surfaces that work for all wheeled users, i.e., level, stable, and well-drained. The proponent should evaluate any opportunities for widening the path or improving connections. The City would like a commitment to maintain these paths from snow and ice year-round. Currently the gravel path is completely inaccessible during snow and ice events. The clearance would be needed for both levels of the paths as well as the connecting ramps.
- The proposed additional pedestrian-level lighting is most welcome, especially under the bridge area, which currently feels unwelcoming and unsafe.

- In Section 9.5.7 (page 9-6), the ENF states "Although not required, the Project has committed that at least 75% of the ground floor of the Project will continue to be dedicated to FPA uses with less than 25% of the ground floor of the Project devoted to Upper Floor Accessory Services." The EIR should clarify how this commitment will be enforced over time.

Sustainability

The proponent estimates GHG emissions of the project will be 15.2% lower compared to the base case per ASHRAE 90.1 2013. In contrast, the GHG analysis compares the 2027 transportation emissions of the preferred alternative to the no-build option and indicates an increase of 1,497.90 tons of carbon dioxide (CO_2) or 2 percent. While the projected reductions for the whole project relative to the base case are positive, it must be noted that what matters is how much emissions change relative to the current or no-build conditions. Given the large-scale expansion of floor area, it appears the project will add to Cambridge's total GHG emissions. The EIR should analyze how much the preferred alternative will change emissions compared to current conditions (no-build alternative). This analysis would allow a clearer understanding of how much the project is mitigating its climate change impacts and the effect of the project on Cambridge's net zero emission goal. If the analysis finds that the preferred alternative would increase emissions relative to the no-build option, we encourage the proponent to consider additional measures to reduce emissions.

Regarding the energy analysis, the following questions and comments are offered:

- The analysis of the Passive House option for the residential building was useful. We note that the Finch Cambridge project, Cambridge's first multifamily building (98 units) designed under Passive House is nearing completion. It makes sense to reconsider Passive House when the residential phase approaches in three to four years.
- Given that the buildings occupy the entire site, the building roofs are a key opportunity to improve the sustainability and resiliency of the project. The existing roofs on the Core Mall and Sears building are already white. Converting the roofs of the parking garage and the Best Buy building to white would further increase the albedo of the site.
- While high SRI roofs are better than dark roofs in terms of the amount of heat absorbed by buildings, vegetated roofs offer similar urban heat island reduction and energy efficiency benefits plus additional benefits for stormwater, air quality, ecological habitat, and possibly as an amenity of building occupants. The GHG analysis states the proponent does not consider green roofs to be financially feasible, but does not support that view with an analysis. However, the ENF suggests that the proponent is still considering green roof options (see Section 5.4.3, page 5-3). It would be useful for the proponent to conduct a feasibility analysis to assess whether green roofs are a viable option or not. We note there are a number of green roofs installed in the region, including Cambridge, and green roof installation firms.

- Vicinity Energy recently acquired the district steam system in Cambridge from Veolia. There is an existing steam distribution line that runs up Edwin Land Boulevard to Monsignor O'Brien Highway and over to the old Charles River Dam to connect with the district steam system in Boston. The system serves various customers in Kendall Square and East Cambridge. Steam if produced efficiently by the combined cycle cogeneration system at the Kendall Station powerplant. While the steam is not zero carbon, its carbon intensity is relatively low and may be an option for the project to further reduce its greenhouse gas emissions. The GHG analysis for the EIR should include an analysis of the district steam option, particularly for the commercial elements of the project. The proponent should consult with the Department of Energy Resources regarding the appropriate emissions coefficient that should be used in the analysis.
- The projected energy use intensities (EUIs) presented by the GHG analysis report appear to be quite low given the range of proposed energy efficiency measures. The GHG analysis reports a projected EUI of 27.3 kbtu/sf for the residential building and an EUI for the commercial buildings around 35 kbtu/sf. Based on 2018 energy data reported under the Cambridge Building Energy Use Disclosure Ordinance, office buildings averaged 79.4 kbtu/sf, multi-family buildings averaged 67.27 kbtu/sf, and laboratories 272.0 kbtu/sf. These figures include many buildings that were constructed when energy efficiency standards were lower. The proponent's analysis results in EUIs that rival recent highly efficient projects in Cambridge that employ extensive efficiency and clean energy strategies. We are concerned that the proponent's analysis overestimates the efficiency of the proposed buildings and underestimates the projected greenhouse gas emissions of the project. The EIR should further explain the energy modeling and adjust the estimates as appropriate.
- The project's GHG emissions should be reduced as much as possible, as soon as possible. While making buildings net zero ready is a good step, the sooner that net zero strategies are installed, the less the cumulative emissions of the project over future years will be. We commend the proponent for proposing the residential building design based on air source heat pump technology. The GHG analysis indicates that the proponent is still considering measures such as air source heat pumps (AHSPs) for the commercial buildings. The EIR should include an evaluation of the ASHP option for commercial buildings along with other options such as district steam and Passive House.

<u>Resilience</u>

The proponent has proposed a good range of measures to increase the resilience of the project, including those needed to enhance community resilience. In regard to heat vulnerability, the City anticipates increasing temperatures that will result in more intense and longer heat waves. The proponent's approach to both design physical improvements to outdoor space for cooling and programming of the indoor, cooled space makes Cambridgeside an important community resource to help cope with increasing heat stress. We note the commitment to work with emergency response officials at the City to coordinate the use of the Core Mall as a cooling center. This would be consistent with the City's Climate Change Preparedness and Resilience

Plan recommendation to create “cool cooling centers” or places that resident will be attracted to use during heat emergencies. It will be useful to discuss how and if the Core Mall could provide extended hours during heat emergencies given the public health importance of providing cooling during evening hours. We also encourage the proponent to consider other potential measures that would provide other neighborhood resilience benefits, such as mobile device charging stations and temporary shelter options during emergencies.

In regard to the roof space of the various buildings, it will be important to plan the allocation of roof space among the mechanical, solar, and green roof elements to ensure the maximum benefit of these technologies. As the buildings come up for design, this consideration should be addressed.

We note the work of the Urban Land Institute in thinking about the implications of extreme heat for real estate. The national ULI organization produced last year the report titled *Scorched: Extreme Heat and Real Estate*. The report provides an excellent overview of the business case for developments to address extreme heat risks. Case studies are presented for projects that have incorporated measures to respond to extreme heat such as Sundance Square Plaza in Fort Worth, Texas and Miami’s Brickell City Center. The ULI Boston chapter’s *Living with Heat* also provides useful perspective on extreme heat and urban design.

The EIR should evaluate options for energy resilience, particularly in the residential building and lab space. A design based on Passive House would in addition to higher energy efficiency provide passive resilience to extreme heat. The Finch Cambridge project mentioned earlier, which is expected to achieve Passive House certification, would allow residents to shelter in place safely in terms of indoor temperatures for 4 or 5 days without any power. Lab buildings place a premium on energy resilience given the need to ensure the freezers and vivariums do not lose power as well as to prevent disruption to research activities. A number of lab properties in Cambridge have incorporated combined heat and power systems to ensure energy resilience as well as reduce energy costs. These systems are based on natural gas supply. We encourage to consider other options including energy storage technology.

The proponent has proposed a design with forward-looking climate projections based on the City’s Climate Change Vulnerability Assessment. The sea level rise and storm surge flood risk projections are based on the Boston Harbor Flood Risk Model developed by MassDOT. We note that those projections are expected to be updated soon by the Massachusetts Coastal Flood Risk Model (MC-FRM). Preliminary data indicates probabilities of flooding from coastal storm surges in the future will increase significantly in probability and extent. We are unsure what changes in flood elevation will be provided. The proponent has worked diligently over the past two years with data from the Boston Harbor Flood Risk Model. To deal with shifting flood risk projections, the proponent should incorporate flexible design measures such as passive, deployable flood barriers or other approaches that can address changing projections. Unfortunately, there are no longer fixed projections and designs must be nimble to cope with climate change.

Wetlands Protection Act

The project as presented in the ENF does not appear to trigger permits specific to the Wetlands Protection Act. The wetland resource areas close to the project include 25-foot riverfront area at the Lechmere Canal part of the Charles River (no buffer zone) and Bordering Land Subject to Flooding (BLSF – no buffer zone). However, if the staging for the project extends beyond the limits identified in the ENF then the Commission would require a more in-depth project review specific to construction mitigation and wetland resource area protection. As presented, the Conservation Commission is satisfied that the work is not jurisdictional.

CITY OF CAMBRIDGE
TRAFFIC, PARKING, + TRANSPORTATION

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March 30, 2020

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RE: Cambridgeside 2.0 Transportation Impact Study (TIS) Scope

Dear John and Scott:

The Cambridge Traffic, Parking, and Transportation Department (TP+T) received your February 18, 2020 request for a Transportation Impact Study (TIS) scope for a proposed development project called Cambridgeside 2.0 (the "Project").

Project Overview

The Project includes re-construction, re-tenanting and new construction at the existing Cambridgeside mall site, including a Build Condition of approximately 375,000 square feet of retail space, 350,000 square feet of office space, 665,000 square feet of R&D space, 200 housing units (175,000 square feet), and a reduction in parking spaces at the site from approximately 2,490 existing spaces to approximately 1,695 future parking spaces.

The area received a rezoning in December 2019 into a new Planned Unit Development 8 (PUD-8) District, which according to your Scoping request letter allows up to 575,000 square feet of Net New Gross Floor Area. The TIS should clearly document the existing site conditions, proposed future conditions, net change for all land uses, and parking space changes. At a minimum, Table 1 in your scoping request letter should include the Total Square feet for all land uses, for the Existing Condition, Build Condition, and Net Changes. The TIS should show how the Project is consistent with the zoning for the new PUD-8 District, including up to 575,000 square feet Net New Gross Floor Area.

Based on TP+T staff review, the TIS scope is approved as follows:

TIS Guidelines

- Notwithstanding this TIS Scope, the TIS shall comply with the Cambridge TIS Guidelines and the attached Supplemental/Updated TIS Guidelines.

Traffic Data Collection

- You may use the traffic counts you conducted in May 2018 and supplemented with counts conducted in March 2019 at the following study area intersections for weekday morning and weekday evening peak hour vehicle, pedestrian, and bicycle turning movement counts (TMCs).
    1. Monsignor O'Brien Highway at Museum Way
    2. Monsignor O'Brien Highway at Land Boulevard and Charlestown Avenue
    3. Monsignor O'Brien Highway at Cambridge Street and East Street
    4. First Street at Cambridge Street
    5. Monsignor O'Brien Highway at Third Street
    6. Third Street at Cambridge Street
    7. First Street at Thorndike Street
    8. First Street at Garage exit/Spring Street
    9. First Street at Garage entrance
    10. First Street at Charles Street and Cambridgeside Place
    11. Cambridgeside Place at Lower Garage South Exit
    12. Cambridgeside Place at Lower Garage South Entrance
    13. Land Boulevard at CambridgeSide Place and Hotel Driveway
    14. Land Boulevard at Lower Garage East Entrance
    15. Binney Street at Land Boulevard
    16. First Street at Binney Street
    17. Second Street at Binney Street
    18. Third Street at Binney Street
    19. Third Street at Broadway

The Traffic Network Figures for vehicles, pedestrians and bicycles (e.g., Figures 2.c.1 and 2.c.2) in the scoping request letter should indicate the exact day the count was conducted for each intersection, instead of a general footnote stating that counts were conducted May 10, 2018 and March 6, 2019. The Figures should be more specific, such as indicated on page 2 and 3 in your scoping request letter.

As stated on page 3 in the scoping request letter, it should be noted on the Traffic Network Figures that during the 2018 counts the Longfellow Bridge was not yet open to two-way travel. The TIS should also include the data and comparison that you stated you conducted for counts in 2018 (with the Longfellow Bridge closed) and 2019 (with the Longfellow Bridge open) for the O'Brien Highway/Land Boulevard/Charlestown Avenue intersection to justify your statement in the scoping request letter that there was no appreciable volume variation from the 2018 volumes.

- As proposed in your scoping request letter, you may provide Automatic Traffic Recorder (ATR) counts at the following locations:
    A. First Street, south of Spring Street
    B. Cambridgeside Place, west of Land Boulevard

C. Land Boulevard, north of Cambridgeside Place

- As proposed in your scooping request letter, you may provide twelve-hour pedestrian and bicycle counts at the ATR locations.

Trip Generation Analysis

- As suggested in your TIS scoping request letter, empirical trips rates may be used based on observed driveway/traffic counts from nearby sites with similar land uses based on recent PTDM and Planning Board Special Permit transportation monitoring reports. Trip rates should be based on occupied square footage for comparable buildings and also consider the percent of employees that park on-site as you included in your initial draft trip generation calculations.

- Below are the trip rates you may use for the TIS, subject to any requested changes by TP+T. The trip rates shown below are per 1,000 square feet, except for residential use which are per unit. Vehicle trip rates will need to be converted to total person trip rates based on mode shares.

Land Use	AM Enter	AM Exit	PM Enter	PM Exit
Office/R&D	0.36	0.02	0.04	0.32
Residential	0.03	0.07	0.06	0.04

Sources: Office/R&D rates are based on 2017, 2018, and 2019 PTDM monitoring reports from 150 Second Street, One Rogers Street, and Two Canal Street buildings.
Residential rates are based on 2017 and 2019 Avalon North Point, 2018 North Point S&T, 2018 Twenty20, 2018 303 Third Street (1,973 units).

- The TIS mode split assumptions should be as shown below or as otherwise approved by TP+T.

Land Use	SOV	HOV	Transit	Walk	Bike	Work at Home	Other/ Out of Office
Office/R&D	39%	3%	37%	5%	6%	9%	1%
Residential	27%	9%	29%	29%	6%	0%	0%

Sources: Office/R&D mode shares are based on 2017, 2018, and 2019 PTDM monitoring reports from 150 Second Street, One Rogers Street, and Two Canal Street buildings.
Residential mode shares are based 2017, 2018, and 2019 TDM monitoring reports from Avalon Bay North Point, North Point S&T, Twenty20, 303 Third Street, and One First Street.

- You may use the trip distribution assumptions as discussed in your TIS scoping request letter, with any modifications or changes approved by TP+T.

Traffic Analysis Scenarios

- The TIS should include the following traffic analysis scenarios for the morning and evening peak hours:
  - 2020 Existing Condition for vehicle, pedestrian and bicycles. For the 2020 Traffic volumes, you may use traffic counts conducted in May 2018 and supplemented with counts in March 2019. It should be noted that counts were conducted prior to the Covid-19 outbreak.
  - 2020 Modified Baseline Condition with Third-Floor Re-Tenanting to Office Use. Existing volumes plus the net new trips associated with the Third Floor Re-Tenanting Project for vehicle, pedestrian, and bicycles (i.e., approximately 59 net new AM peak hour vehicle trips and 23 net new PM peak hour vehicle trips to be added to the traffic network based on the Third-Floor Re-Tenanting November 2018 TIS).
  - 2020 Build Condition. The Modified Baseline Existing Condition plus the Project generated net new trips at full build out and full occupancy.
    The TIS must explain and justify the trip credits for retail trips, particularly during the AM peak hour because the current mall does not open until 10 AM. (i.e., justify why approximately 15 AM peak hour retail vehicle trips (Table 6 in the scoping request letter) should be credited when the mall doesn't open until 10 AM).
    The TIS must explain and justify exactly how reducing monthly parkers may make up to 750 parking spaces available for the Project and reduce approximately 215 AM and 181 PM peak hour vehicle trips in the area as shown in Table 7 in your scoping request letter. The TIS should provide updated counts and data on monthly parkers to supplement the May 2018 data and must provide as much information as possible on who the monthly parkers are who will be displaced and when that displacement is expected to occur.
  - 2025 Future Condition. 2020 Build Condition plus 0.5% background traffic growth rate per year for 5-years, plus other projects under construction, permitted or proposed, including the following projects:
    - First Street Mixed-Use Project
    - Cambridge Courthouse Redevelopment (40 Thorndike Street)
    - Cambridge Crossing
    - Alexandria Binney Street development
    - 249 Third Street
    - MIT Kendall Square development
    - Kendall Square Urban Renewal Plan (KSURP) Infill Development Concept Plan
    - Foundry Building
    - The 2025 Future Condition should include the intersection and roadway geometries and travel lane assignments as presented in the Final Design Phase 2B package submitted on October 1, 2018 for the O'Brien Highway (Route 28 Reconstruction Project), and the 100% package for the CRA/Kendall Square Streetscape Redesign.

Public and Private Transit Analysis

- The TIS should study the impacts of increased demand on the public and private transportation services in East Cambridge.

- The TIS shall include graphics and description of the development's relationship to future regional rail, bus, pedestrian, bicycle, and other transportation system connections in the area, including water transportation.
- A key component of the transit analysis should be a description of the CambridgeSide Shuttle Bus service including weekday and weekend schedules, headways, ridership, stop locations, boardings by hour (9 AM to 9 PM), and costs per week and per year to operate the shuttle service.
- The TIS should indicate the annual amount of money contributed to the Charles River Transportation Management Association's EZ Ride Shuttle and the utilization of the EZ Ride shuttle by site employees and patrons. Furthermore, because the Cambridgeside Shuttle does not operate prior to 9 AM, describe how future site employees are expected to have shuttle bus access in the morning peak hours (i.e., 7 AM to 9 AM) between Cambridgeside and the MBTA Kendall Square Station and MBTA North Station.
- The TIS should analyze what it would take to improve the Cambridgeside Shuttle Bus headways and expand its service locations (i.e., to/from the MBTA North Station, Sullivan Square Station, and Kendall Square Station).

Automobile Parking Analysis

- The TIS must demonstrate in detail that the existing underground parking garage can support the parking demand of the development for the future Build condition.
- The TIS should provide tables and graphs showing the existing number of on-site parking supply and occupancy by hour and by users of the parking (i.e., retail employees/patrons, monthly tenants, etc.) and show the expected parking demand by hour and by users of the parking for the Build Condition with and without existing monthly parkers. Detailed Information should also be provided on any long-term parking lease commitments (with whom, number of spaces, when the lease commitment ends, and current utilization of the spaces).
- The Cambridgeside Mall has an existing Commercial Parking Facility Permit with various conditions, such as a limit on the number of vehicles that may enter the garage prior to 10 AM. The TIS should describe the Commercial Parking Facility Permit and itemize out any conflicts it may have with the proposed Project's parking demands. The TIS should describe what steps will be taken to address any conflicts, including any specific approvals that may be needed from the City.
- The TIS must conduct a shared parking study as required in the PUD-8 District zoning ordinance 10.106.5.
- The TIS should figure out and propose the right set of specific parking allowances, limitations and other requirements necessary for the Project to meet Zoning requirements and the Commercial Parking Facility Permit.
- The TIS should explain the proposed parking management plan for the site, including access management by users of the parking spaces and parking fees (including if/how the two hotels will continue to be accommodated).

Bicycle Parking Analysis

- The TIS should document the existing on-site bicycle parking spaces (short-term and long-term bicycle spaces), including utilization (hourly and peak utilization for a typical weekday and Saturday).

- The TIS should provide a bicycle parking plan with the proposed quantity, design and arrangement of bicycle parking that will serve bicycles users for all land uses at the site.

Pedestrian Analysis

- The TIS should show on a map pedestrian desire lines and clearly show in site plans the widths of pedestrian facilities.
- The TIS should provide AM and PM peak hour pedestrian level-of-service analysis at study area intersections according to the methodologies in the TIS Guidelines.

Loading and Service Deliveries Analysis

- The TIS should describe in detail and provide site plans (i.e., 1 foot = 40-inch scale) for the proposed project's loading and service deliveries operations.

Consistency with Other Plans

- The TIS should describe how the proposed Project's transportation plan (i.e., public transit access, street network connections and circulation, automobile parking, bicycle parking, transportation mitigation, TDM measures, etc.), are consistent with other plans and designs for the area including, but not limited to, Envision Cambridge Plan, 2013 Kendall Square Report, 2015 Cambridge Transit Strategic Plan, 2017 Kendall Square Mobility Task Force Report, Cambridge Bicycle Plan, and other relevant transportation plans for the Kendall Square area.

Transportation Mitigation Measures

- The TIS should describe in detail proposed transportation mitigation, including Transportation Demand Management (TDM) measures. TDM measures should be in line with expectations set forth in the K2C2 and Envision Plans, as well as recently approved development projects in the adjacent vicinity.
- The TIS should describe how transportation mitigation measures for the proposed Cambridgeside 2.0 Project may be linked to milestones, thresholds, or performance standards as this project develops in multiple stages.

If you have any questions, feel free to contact Adam Shulman of my staff at 617-349-4745.

Very truly yours,

Joseph E. Barr, Director

Cc: Adam Shulman, TP+T, Patrick Baxter, TP+T

Charles River Watershed Association

April 24, 2020

Via email

Anne Canaday
Environmental Analyst, MEPA Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
anne.canaday@mass.gov

Re: Expanded Environmental Notification Form for CambridgeSide 2.0, Cambridge, MA, EEA No. 16176

Dear Anne:

Charles River Watershed Association ("CRWA") submits the following comments on the Expanded Environmental Notification Form ("ENF") for CambridgeSide 2.0 in Cambridge, Massachusetts filed with the MEPA Office on March 16, 2020. This project, which is situated along the banks of the Lechmere Canal (an inlet of the Charles River), proposes to redevelop several portions of the existing CambridgeSide mall – namely, the big box stores and the parking garage – into residential, retail, office, laboratory, and restaurant uses. The entire project is located on filled tidelands and will require an amended Chapter 91 waterways license.

As an initial matter, we are pleased to see that climate resilience has been considered in the design of this project. Planning for 2070 flood depths and future rainfall projections is important, as is incorporating cooling and heat island-relief into the project design. Tree planting and other landscaping features will also provide benefits in terms of both flood control and cooling. Contribution to the City's Tree Replacement Fund will further enhance these benefits.

In order to maximize this project's climate resilience and public benefits, we request that the following recommendations be included in the Draft Environmental Impact Report ("DEIR") and/or the Chapter 91 waterways license application, as appropriate.

Public Open Space and Access

As noted in the Expanded ENF, this project will require an amended Chapter 91 waterways license that must comply with the waterways regulations found at 310 CMR 9.00. We look forward to providing more detailed comments on the application for the amended license, but at this point note the following.

We do not necessarily agree that the "provision of space (e.g., shipping containers or kiosks) for small pop-up retail incubators within Canal Park" qualifies as a public benefit, especially

in an area that is already so retail heavy. While a small amount of kiosks provided on a temporary basis might be beneficial to some local vendors, we have seen shipping containers in other local areas be transformed into semi-permanent retail structures dominated by non-local vendors to the detriment of publicly-accessible open spaces and parks. We therefore recommend that the proponent focus on activation of public spaces in ways that create meaningful public engagement and provide benefits to the community that would not otherwise exist. To the extent retail exists at all in public open spaces, it should be compatible with and not in any way impede upon use of these spaces by the general public.

Stormwater

Given this site's proximity to the Charles River, stormwater runoff from impervious surfaces on the site will have a significant environmental impact. As discussed during the virtual site visit, alternatives to impervious surfaces such as porous materials for walkways should be used wherever possible. We appreciate the proponent's commitment to using infiltration chambers and tree box filters for managing stormwater. In the DEIR, we request that for each of the sub-watersheds, the proponent provide sizing of Best Management Practices ("BMPs") and documentation of compliance with the Total Maximum Daily Load ("TMDL") for nutrients in the Lower Charles River, as well as the TMDL for pathogens in the Charles River. While the proponent has acknowledged the existence of both TMDLs, more information is needed in the DEIR to demonstrate how compliance will be achieved.

We are glad to see that this project is planning to divert 400,000 GPD of stormwater from the MWRA combined sewer, but the Expanded ENF does not describe how that stormwater will be treated. Further explanation should be provided in the DEIR.

Other Considerations

Finally, we request that the fountain located within the canal be shut off when there is a cyanobacteria bloom. We understand there have been concerns raised in the past about the fountain spraying cyanobacteria into the air and potentially causing health impacts. While reduction and elimination of cyanobacteria blooms is CRWA's ultimate objective – and the green infrastructure measures suggested herein can help to achieve that – in the event blooms do occur, it is critical to implement public health protections, which include shutting off the fountain.

Thank you for considering these comments, please do not hesitate to reach out with any questions at hmiller@crwa.org or 781-788-0007 x 234.

Sincerely,

Heather Miller, Esq.
General Counsel & Policy Director