



*The Commonwealth of Massachusetts*  
*Executive Office of Energy and Environmental Affairs*  
*100 Cambridge Street, Suite 900*  
*Boston, MA 02114*

Charles D. Baker  
GOVERNOR

Karyn E. Polito  
LIEUTENANT GOVERNOR

Kathleen A. Theoharides  
SECRETARY

Tel: (617) 626-1000  
Fax: (617) 626-1181  
<http://www.mass.gov/envir>

May 1, 2020

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
NOTICE OF PROJECT CHANGE/DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Bunker Hill Housing Redevelopment  
PROJECT MUNICIPALITY : Boston  
PROJECT WATERSHED : Boston Harbor  
EEA NUMBER : 15584  
PROJECT PROPONENT : Corcoran Jennison Associates  
DATE NOTICED IN MONITOR : February 26, 2020

Pursuant to the Massachusetts Environmental Policy Act (MEPA, M.G. L. c. 30, ss. 61-62I) and Sections 11.08 and 11.10 of the MEPA regulations (301 CMR 11.00), I have reviewed the combined Notice of Project Change (NPC) and Draft Environmental Impact Report (DEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations. The Proponent submitted an NPC/DEIR with a request that I grant a Phase 1 Waiver pursuant to 301 CMR 11.11(4) that will allow the first phase of the project to proceed prior to completion of the MEPA review process for the entire project. In a separate Draft Record of Decision (DROD), also issued today, I am **proposing to grant** the request for a Phase 1 Waiver. The Proponent should submit a Final Environmental Impact Report (FEIR) in accordance with the Scope contained in this Certificate.

Project Description

As described in the NPC/DEIR, the project consists of the redevelopment of the Bunker Hill Public Housing development in Charlestown. The Bunker Hill Public Housing development is owned and operated by the Boston Housing Authority (BHA). It is the BHA's (and New England's) largest housing community for low and moderate-income individuals and families. It contains 1,100 federally

subsidized units (consisting of one to five-bedroom units) in 42 three-story walk-up buildings. Over 97 percent of the units are occupied.

The project proposes to demolish existing buildings and replace them with 3.28 million square feet (sf) of development, including 2,699 mixed-income residential units and 73,000 sf of retail/community space within a 13-block area. It will include market rate and affordable units. Affordable housing will be replaced on a 1:1 basis (1,100 units). All residents will have the right to return to the new development. The project will create 6.74 acres of landscaped open space. Retail uses are proposed as an amenity to residents and the surrounding area. The project will include up to 1,379 off-street parking spaces in surface or underground parking lots, and 482 on-street parking spaces on internal and perimeter streets.

The project will be built over an approximately eight- to ten-year period. Construction is proposed in four phases to minimize the number of residents that must be relocated at any given time. It will be constructed on a rolling basis, beginning with Phase 1, which includes Buildings F and M; Phase 2, which includes Buildings A through E; Phase 3 includes buildings H through L; and Phase 4 which includes buildings N, and O.

The Proponent has requested a Phase 1 Waiver to allow the construction of Buildings F and M to proceed prior to the completion of the MEPA process for the remaining development. Phase 1 includes the construction of approximately 376,400 sf of residential space (358 total units), as well as infrastructure and site improvements on approximately 4.1 acres. Building F is an up to 10 story mixed-income residential building with 256 units fronting Decatur Street, Samuel Morse Way, Corey Street, and Moulton Street. Building M is a four- to six-story residential building with 102 units fronting Corey Street, Medford Street, and Tufts Street. It is adjacent to one of the public open spaces, and opposite the Community Center.

#### Project Change Description

As described in the NPC/DEIR, the Proponent filed an NPC to propose changes to the phasing of the project, specifically, by adding a request that I grant a Phase 1 Waiver to allow the construction of Buildings F and M to proceed prior to the completion of the MEPA process for the remainder of the project. The NPC/DEIR also documented other changes to the project, including a reduction of 501 residential units and approximately 27,000 sf of retail/community space from what was proposed in the Environmental Notification Form (ENF). This results in a reduction of 701 parking spaces. A portion of the new off-site parking spaces (244 total) may be located in an area underneath the Tobin Bridge, which will require a new Agency Action in the form of an Access Permit or long-term lease with the Massachusetts Department of Transportation (MassDOT). The revised building program will generate 9,866 average daily vehicle trips, which is approximately 4,481 fewer trips per day than what was presented in the ENF. Building heights were reduced from a maximum of 22 to 10 stories (from 240 ft. to 115 ft.), and buildings fronting Bunker Hill Avenue and Medford Street will have been reduced to four stories where residential areas exist on the opposite side of the street.

### Project Site

The project site consists of 27.6 acres of land bounded by Medford Street, Decatur Street, Vine Street, Bunker Hill Street, and Polk Street. The site consists of buildings, concrete sidewalks, parking, roadways, parks, playgrounds, and landscaped areas which were constructed in 1941.

The project site does not contain any property listed on the Massachusetts Historical Commission (MHC) *Inventory of Historic and Archaeological Assets of the Commonwealth*. Within a quarter-mile radius of the site there are 13 properties and districts listed in the State and National Registers of Historic Places or included in the Inventory. These include the Bunker Hill Monument, the Charlestown Navy Yard (Boston Naval Ship Yard), and the Monument Square Historic District.

Approximately 6,600 square feet (0.15 acres) of the site is located within filled former tidelands. These tidelands are located greater than 250 feet from mean high water and landward of the first public way, meeting the statutory and regulatory criteria for Landlocked Tidelands, which are exempt from licensing under Chapter 91.

### Environmental Impacts and Mitigation

Potential environmental impacts of Phase 1 of the project will include the generation of approximately 702 unadjusted net new average vehicle trips (adt) with 59 New parking spaces; 29,524 gallons per day (gpd) of new water use; and 26,840 gpd of new wastewater. All of these metrics are below ENF thresholds. No new land alteration or increase in impervious area will result from Phase 1.

Potential environmental impacts of the full buildout of the project will include the generation of 9,866 unadjusted net new adt (reduced from 14,347 adt, disclosed in the ENF); 1,138 new parking spaces (reduced from 1,839 in the ENF); 240,768 gpd of new water use (reduced from 391,113 gpd in the ENF); and 218,880 gpd of wastewater (reduced from 355,557 in the ENF). The reduced impacts are associated with the reduction in total housing units (2,699 units, as compared to 3,200 units in the ENF) and gross square footage (3,287,000 sf, reduced from 3,300,000 sf in the ENF) for the project. The full buildout will result in 23.5 total acres of impervious area, which is an addition of 3.4 acres of New impervious area to existing conditions. No new land alteration will result from the full buildout. The sizable development will add CO<sub>2</sub> emissions and is located in a coastal region subject to climate change effects. The eight- to ten-year buildout will have construction period impacts for the neighborhood.

Measures to avoid, minimize and mitigate impacts include redevelopment of an urban site in direct proximity to transit; proposed roadway and transit improvements to be implemented together with the City of Boston (the "City") and MBTA; implementation of a transportation demand management (TDM) program; addition of bicycle and pedestrian accommodations; aggressive energy efficiency targets through a commitment to Passive House building standards and US Building Council's Leadership in Energy and Environmental Design (LEED) Gold certification; use of stormwater Best Management Practices (BMPs); contributions to the Boston Water and Sewer Commission (BWSC) to offset Inflow/Infiltration (I/I); and construction period mitigation measures to address noise, dust, air quality and other related issues. The project will create 6.74 acres of landscaped open space and 73,000 sf of retail/community space, including a 14,000 sf community center with a commitment to provide \$1.1 million per year for operations and programming.

### Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to a Mandatory EIR pursuant to 301 CMR 11.03(6)(a)(6) and 11.03(6)(a)(7) because it will generate 3,000 or more average daily vehicle trips with access to a single location and will construct 1,000 or more New parking spaces at a single location. It is also subject to 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, industrial waste water or untreated stormwater.<sup>1</sup> The project may require a new Agency Action in the form of an Access Permit or long-term lease from MassDOT for parking access under the Tobin Bridge. The project is also seeking State Financial Assistance from various sources, including Low Income Housing Tax Credits from the Massachusetts Department of Housing and Community Development (DHCD). The project is subject to review under the May 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol. In addition, the project requires a Public Benefit Determination.

The project requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA), a Disposition Approval by the U.S. Department of Housing and Urban Development (HUD), and a Height Restriction Notice or Determination of No Hazard from the Federal Aviation Administration (FAA).<sup>2</sup> The project will be subject to multiple reviews by the City of Boston, including Article 80B Large Project Review by the Boston Planning and Development Authority (BPDA) (formerly the Boston Redevelopment Authority), Article 28 Design Review by the Boston Civil Design Commission, Article 37 Green Buildings Review by the Interagency Green Building Committee, and Site Plan Review and Approval by BWSC.

The Proponent is seeking State Financial Assistance for the project. Therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

### Waiver Request

The Proponent has submitted a combined NPC/DEIR and requested a Waiver that will allow Phase 1 of the project to proceed prior to completing MEPA review for the entire project. The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

- a) result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; and

---

<sup>1</sup> The ENF certificate indicated that the project also exceeds the ENF threshold at 301 CMR 11.03(1)(b)(6) because it is a change in an approved M.G.L. c. 121A urban redevelopment project that consists of 100 or more dwelling units. In correspondence with the MEPA Office on April 28, 2020, the Proponent clarified that the project is not a M.G.L. c. 121A project, but rather involves a minor modification to an existing Charlestown Urban Renewal Plan under M.G.L. c. 121B. The project does not implicate the ENF threshold at 301 CMR 11.03(1)(b)(7), which relates to a New urban renewal plan or a major modification of an existing urban renewal plan.

<sup>2</sup> The NPC/DEIR indicates that review by HUD under the National Environmental Policy Act (NEPA) concluded in 2016 with a Finding of No Significant Impact and approval for release of federal funds for the project.

- b) not serve to avoid or minimize Damage to the Environment.

Additionally, in the case of a partial waiver of a mandatory EIR review threshold that will allow the Proponent to proceed with Phase 1 of the project prior to preparing an EIR, I shall base the finding required in accordance with 301 CMR 11.11(1)(b) on a determination that:

- a) the potential environmental impacts of Phase 1, taken alone, are insignificant;
- b) ample and unconstrained infrastructure facilities and services exist to support Phase 1;
- c) the project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated; and
- d) the agency action(s) on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

Consistent with the request for a Phase 1 Waiver, the Proponent identified the criteria for granting a Phase 1 Waiver and the project's consistency with these criteria.

### Review of the NPC/DEIR

The NPC/DEIR was generally responsive to the Scope included in the Certificate on the ENF. Notwithstanding the request for a Phase 1 Waiver, the NPC/DEIR provided substantial information related to both Phase 1 and full buildout of the project, such that an FEIR may be prepared with a limited Scope as described below. It described the proposed project and changes since the filing of the ENF. The NPC/DEIR described existing conditions, provided an updated description and plans of the project, described potential environmental impacts and mitigation measures, and provided a discussion of alternatives considered for the project. The NPC/DEIR included a list of required State Permits, Financial Assistance, and other State approvals, an update on the status of each of these pending actions, a Response to Comments received on the ENF and Draft Section 61 Findings.

I refer the Proponent to comments from MassPort indicating that Form 7460 must be submitted to the FAA to ensure that the project does not exceed airspace limits around Boston Logan International Airport, which could jeopardize the safety of airplane traffic. MassPort indicates that this filing is required notwithstanding the decision to lower building heights from 21 to 10 stories. I encourage the Proponent to consult with MassPort to ensure compliance with all applicable aviation requirements, and the FEIR should provide an update on this consultation and address this permitting requirement.

### *Alternatives Analysis*

The NPC/DEIR provided a comparison of the alternatives carried forward from the ENF, namely, the Straight Replacement Alternative and Reduced Build Alternative, in addition to the Previously Proposed Preferred Alternative which is the same project as proposed in the ENF. Due to changes made to the project since the ENF, the Reduced Build Alternative (as described in the NPC/DEIR)<sup>3</sup> was chosen as the Preferred Alternative as described herein, in lieu of the Previously

---

<sup>3</sup> While the ENF identified a "Reduced Size" alternative, it did not provide specific details and, instead, discussed it at a general level to compare against the Previously Proposed Preferred Alternative. The NPC/DEIR sets forth a specific development plan that it is now referenced as the Reduced Build/Preferred Alternative.

Proposed Preferred Alternative. As required by the ENF, the NPC/DEIR provided a comparison of alternatives and environmental impacts in a tabular format, and provided conceptual plans for each alternative. The As described in the NPC/DEIR, the alternatives were evaluated on their ability to meet based on nine project goals: (i) financial feasibility; (ii) mixed-income neighborhood; (iii) sustainable and resilient design; (iv) connected open space; (v) activated public realm; (vi) quality urban design; (vii) balanced transportation options; (viii) community services and programming; and (ix) accommodative tenant relocation.

The Straight Replacement Alternative would involve demolishing the existing 42 structures containing 1,100 residential units and replacing them with new, updated units on a one-to-one basis. It would not include any retail or civic space, and would maintain all off-street parking in surface lots. While this alternative would not create any net *new* environmental impacts, it was dismissed as it would not meet the fundamental project objective of creating a mixed-income neighborhood by leveraging private sources of funding. As described in the NPC/DEIR, there is no longer adequate public funding to construct new buildings consisting entirely of subsidized housing, and the cost to renovate the buildings has been shown to far surpass the cost to replace them. The NPC/DEIR indicated that this alternative also does not further the City's overall goal of delivering 69,000 new residential units by 2030, nor does it create open space and community services and programming as with the other alternatives.

The Previously Proposed Preferred Alternative is the same as the preferred alternative identified in the ENF, and would consist of 3.3 million gross square feet of new development with approximately 3,200 residential units and 2,080 (1,839 new) off-street parking spaces. It would also include approximately 7.5 acres of open space and 100,000 sf of retail/community space<sup>4</sup> to serve the residents and surrounding community. As described in the NPC/DEIR, while this alternative would have made a significant contribution towards the City's housing goals, the surrounding community was not supportive of this level of density, and, therefore, the alternative was dismissed as infeasible. The NPC/DEIR indicated that this alternative also envisioned moving all surface parking to 13 garages either underneath or near each proposed building; however, the construction of 13 new garages proved financially infeasible, and would create an oversupply of parking.

The Reduced Build/Preferred Alternative (as described herein) would involve 3.287 million gross square feet of new development with 2,699 residential units (1,599 net new) and up to 1,379 (1,138 new) off-street parking spaces. The Phase 1 components of this alternative consist of the construction of two buildings, Buildings F and M, representing 358 (247 new) residential units and 86 (59 new) off-street parking spaces. According to the NPC/DEIR, the development of 1,689 market-rate units to replace roughly half of the subsidized units at the site will enable the Proponent to leverage private funds and minimize reliance on housing subsidies. The NPC/DEIR indicated that this alternative makes a significant contribution to the City's housing goals and is supported by the surrounding community. The reduced development also minimizes environmental impacts through a commitment to seek Passive House certification for all buildings, which would make the development the second largest Passive House project in the world upon completion (by far the largest in the U.S.). This commitment contributes to meeting the Commonwealth's and the City's aggressive goals for greenhouse gas reductions by 2050. I commend the Proponent for leading by example to minimize GHG emissions in

---

<sup>4</sup> While the ENF referenced 90,000 sf of retail/community space, the NPC/DEIR identifies this number as 100,000 sf, meaning that 27,000 sf has been eliminated under the Reduced Build Alternative.

this manner, and acknowledge the comment received from Boston City Councilor Lydia Edwards emphasizing the contribution of this project to achieving the City's affordable housing goals.

### *Traffic and Transportation*

The NPC/DEIR 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 identified and evaluated the transportation and traffic impacts of Phase 1 and the Full-Build scenario. As required by the Scope included in the ENF Certificate, the NPC/DEIR 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 11 intersections:

- Existing Transportation Conditions Medford Street at Polk Street
- Medford Street at Monument Street
- Medford Street at Chelsea Street
- Bunker Hill Street at School Street/Mystic Street
- Bunker Hill Street at Polk Street/Green Street
- Bunker Hill Street at Monument Street
- Bunker Hill Street at Vine Street/Tufts Street
- Vine Street at Moulton Street
- Vine Street at Chelsea Street
- Bunker Hill Street at Medford Street/Main Street
- Main Street/Warren Street at Austin Street/Green Street

### *Existing Transportation Network*

The project site is located near the regional roadway system, which includes Interstate 93 (I-93), Rutherford Avenue (Route 99), and U.S. Route 1 including the Tobin Bridge crossing of the Mystic River. The intersections above are under the jurisdiction of the City. The Charlestown neighborhood is accessed from the south from City Square, from the north and west through Sullivan Square, and over Gilmore Bridge to connect to Cambridge. The area is served by a well-defined network of city streets, of which Main Street, Bunker Hill Street, Chelsea Street, and Medford Street form the backbone of the neighborhood. Medford Street and Bunker Hill directly abut the site to the north and south, respectively.

The project site is also surrounded by an extensive public transportation network, including the MBTA Orange Line, Bus Lines 92 and 93, and the MBTA Commuter Ferry F4 operating between the Charlestown Navy Yard and Long Wharf in Boston. Private shuttle services are provided by Massachusetts General Hospital (MGH) to various MGH locations, and by Bunker Hill Community College between its Charlestown and Chelsea campuses.

### *Trip Generation*

The TIA assessed 2019 Existing Conditions; 2026 No-Build Conditions, which assumes no changes to the project site but accounts for background growth and five specific planned development projects; 2026 Full-Build and Phase 1 Build Conditions; and 2026 Full-Build with Mitigation Condition, which assumes full buildout of the project but incorporates proposed mitigation measures.

To set baseline 2019 Existing Conditions, daily traffic volumes were established by automatic traffic recorder (ATR) counts at three locations in October 2019. Turning movement counts (TMCs) were conducted at all study intersections during a typical weekday morning between 7:00 AM and 9:00 AM and weekday evening between 4:00 PM and 6:00 PM in October 2019, with peak morning and evening commuting hours defined as 8:00 AM to 9:00 AM and 4:45 PM to 5:45 PM, respectively. The intersection TMCs were used to establish traffic networks for the 2019 Existing Condition.

For 2026 No-Build Conditions, the NPC/DEIR applied a 0.25 percent background growth rate per year for seven years, which the Proponent indicates is consistent with other recent MEPA projects and Boston Transportation Department (BTD) methodology. In addition, traffic projections for the following specific planned projects were included:

- The Chain Forge Hotel - a proposed 230-room hotel located in the Charlestown Navy Yard with 200 parking spaces. Currently BPDA approved.
- The Ropewalk - a proposed residential project that includes 97 residential units, 6,300 SF of community space, and 86 parking spaces. Currently under construction.
- Hood Master Plan - a proposed Master Plan project for the former Hood Plant which includes approximately 1.4 million sf of office, 92,000 sf of retail, 157,000 sf of residential, and 86,000 sf of hotel. Currently BPDA approved.
- 32 Cambridge Street - a residential project that includes 171 residential units, 2,500 sf of retail, and 114 parking spaces. Completed in August 2019.
- Charlestown Battalion Armory - a residential project that includes 42 residential units. Completed in August 2019.

To evaluate the 2026 Full-Build Condition, the NPC/DEIR calculated daily vehicle trips expected to be generated by the project based on the ITE *Trip Generation Manual* 10<sup>th</sup> edition using Land Use Codes (LUC) 221 (Multifamily Housing), 252 (Senior Adult Housing), and 820 (Shopping Center). This analysis showed that the project is expected to generate 15,860 unadjusted adt overall, and 9,866 net *new* unadjusted adt after accounting for existing traffic conditions. To convert the unadjusted project trips to numbers of expected trips by mode, local mode share and vehicle occupancy ratios for each land use were applied to the unadjusted ITE trip. The mode shares for residential were established from U.S. Census Bureau American Community Survey (ACS) 2013-2017 five-year estimates. Retail mode shares were based on the BTD Access Boston 2000-2010 mode splits and adjusted to account for the type of community retail that is envisioned for this project. Based on this conversion, the project will generate 5,006 net new adjusted vehicle trips, 4,334 transit trips, and 4,264 trips by other modes (bicycle, walking) on an average weekday. The project's net new trip generation was added to No-Build Conditions to assess impacts on traffic and transit, as described below.



For 2026 Phase 1 Build Condition, the project will generate 702 net new adjusted vehicle trips, with approximately 58 net new vehicle trips during the morning peak hour and 82 net new trips during the evening peak hour. Phase 1 will generate 476 transit trips, with 40 new transit trips during the morning peak hour and 55 new trips during the evening peak hour. The NPC/DEIR indicated the Phase 1 trip generation would have a minimal impact, as these numbers amount to an addition of one or less vehicle or transit trips per minute during peak periods. Comments from MassDOT confirm this analysis and indicate agreement that no additional mitigation is required for Phase 1 impacts.

### *Traffic Operations*

The TIA evaluated the impact of added vehicle trips generated by the full-build project on area roadways. During the morning peak hour, the two signalized intersections were evaluated as operating at an overall Level of Service (LOS) C or better for existing and future build conditions. However, at the intersection of Main Street/Warren Street at Austin Street/Green Street, traffic would deteriorate from LOS C to LOS D at the Main Street eastbound approach and the Austin Street northbound approach. During the evening peak hour, the intersection of Bunker Hill Street at Vine Street/Tufts Street operates at LOS A under all scenarios, but the intersection of Main Street/Warren Street at Austin Street/Green Street would be reduced from LOS C to LOS D with an increase in delay of 18 seconds; the latter reduction is largely due to the fact that the Austin Street northbound approach would operate at LOS E even under no-build conditions, and would be reduced to LOS F under Full-Build conditions.

For unsignalized intersections, traffic conditions during the morning peak hour would operate at LOS F under Build and No-Build conditions at Intersections # 5 (Bunker Hill Street at Polk Street/Green Street) and #10 (Bunker Hill Street at Medford Street/Main Street), and would degrade from LOS C to LOS F at Intersection #9 (Vine Street at Chelsea Street). During the evening peak hour, traffic conditions at Intersection #9 would again degrade from LOS C to LOS F, and Intersection #10 would operate at LOS F during existing and future build conditions. To mitigate these impacts, the NPC/DEIR reviewed possible measures, such as adding traffic signals, improvements to existing signal timing, and new striping and lane configurations. These improvements would address conditions at Intersections # 5 (Bunker Hill Street at Polk Street/Green Street), #9 (Vine Street at Chelsea Street), and #10 (Bunker Hill Street at Medford Street/Main Street). These measures will be reviewed with BTDA and BPDA, and are anticipated to improve LOS to LOS C or D at the three locations. I refer the Proponent to comments from MassPort, which identify a concern that traffic conditions on Chelsea Street could impact truck traffic in the area and impede the operations of Boston Autoport, which is located on approximately 80 acres of MassPort property in the Mystic River Designated Port Area (DPA) and conducts a marine industrial facility that supports commerce throughout the region. I encourage the Proponent to continue to consult with BTDA, BPDA and MassPort regarding roadway improvements to mitigate the project's impacts. The FEIR should provide further details on the status of these discussions.

### *Traffic Safety*

The TIA included a review of crash data available in the City of Boston Vision Zero database for the most recent three-year period available (2016 to 2018) for the 11 intersections in the study area. The NPC/DEIR indicated this database more accurately reports crash data for the City of Boston compared to the MassDOT Crash Portal as a result of the report format used by the Boston Police Department. According to the NPC/DEIR, a review of the Vision Zero data indicates that none of the intersections in

the study area exceeds the average crash rate or have a crash resulting in a fatality. However, three of the study area intersections had one crash that involved a bicyclist or pedestrian during 2016-2018, and a fourth intersection (Main/Warren Street at Austin/ Green Street) had two crashes involving pedestrians. A review of MassDOT's Highway Safety Improvement Program (HSIP) database found that none of the study area intersections are located in a "HSIP Crash Cluster," which indicates crash rates within the top 5% of all clusters in the region. Based on these findings, no mitigation was identified.

### *Transit Operations*

The NPC/DEIR described existing transit service in the area and evaluated the impact of project-generated trips on transit capacity. Existing capacities for the MBTA Orange Line were calculated based on vehicle load standards as set forth in MBTA's Service Delivery Policy and Crush Capacity manual. The "Policy Capacity" refers to the average maximum number of passengers allowed per vehicle to provide a safe and comfortable ride. The "Crush Capacity" is calculated by adding the number of seated passengers plus 1.5 sf per standing passenger.

Under current conditions, which includes a six-minute headway (time between trains) and a peak hour on-time performance (OTP) of 0.90, the Policy and Crush Capacity, respectively, of the Orange Line was calculated to be 7,074 passengers per hour and 12,096 passengers per hour during the morning and evening peak hours. By 2026, the MBTA will have added new train cars that will reduce the headways to 4.5 minutes; this will increase the Policy and Crush Capacity to 9,432 passengers per hour and 16,128 passengers per hour, respectively. According to the NPC/DEIR, even at full buildout, the project will add fewer than four (4) passengers per peak hour train associated with the 117 new transit trips added during the morning peak hour and the 130 trips added during the evening peak hour. Thus, this increase in ridership will be minimal when compared to the projected capacities of the MBTA Orange Line. The FEIR should discuss the project's impacts without assuming Orange Line expansion.

As for bus ridership on Routes 92 and 93, which accounts for 50% of the increase in transit trips associated with the project, the project will add up to 7-9 passengers to each bus for Route 92 (9-10 passengers for Route 93) in the morning peak hour in the peak direction, and up to 11-14 passengers to each bus for Route 92 (15-17 passengers for Route 93) during the evening peak hour in the peak direction. However, when accounting for other bus riders alighting and boarding, the NPC/DEIR asserts that the net increase in ridership is lower and will not materially impact the MBTA OTP capacity.

As for ferry ridership, the project is estimated to generate approximately 48 (20 in, 28 out) ferry trips during the morning peak hour and 64 (36 in, 28 out) ferry trips during the evening peak hour. During each peak hour, four ferries (inbound and outbound) will carry about nine new passengers each, an increase that can be accommodated within the capacity of 149 or 190 passengers for each boat.

While asserting that project-related impacts are modest, the NPC/DEIR acknowledges that, due to delays in headways and bunching of buses on Routes 92 and 93, riders often experience longer delays and crush capacity conditions rather than the average target conditions. There have been community complaints about delays on Route 93. In light of these realities, the NPC/DEIR includes a commitment to consider transit mitigation measures in coordination with MBTA's Better Bus Project and BTD's prioritization of bus service and infrastructure in the context of Complete Streets. The NPC/DEIR offers a list of possible mitigation measures, including increasing frequency of service (headways), dedicated

bus lanes, and alternate bus routes, which could be explored together with MBTA and BTD. The NPC/DEIR also includes a commitment to join a Transportation Management Association (TMA) to explore enhancements to private shuttle services, including a possible new shuttle connecting the Bunker Hill project to the Community College MBTA Orange Line station. Additional information on the details on the status of these discussions, including transit mitigation measures, is required in the Scope for the FEIR. The FEIR should also discuss how the Proponent intends to support efforts to form a TMA for the Charlestown area, as the existing TMA for Boston does not appear to cover this area.

### *Bicycle and Pedestrian Facilities*

The TIA included a review of existing and proposed bicycle and pedestrian conditions in the study area. The NPC/DEIR notes that Charlestown is a pedestrian friendly neighborhood with good connections to transit and local neighborhood destinations as well as the Charlestown Navy yard. Sidewalks are provided throughout the study area and crosswalks are present at all the study area intersections. The project site will be designed with generous and attractive sidewalks, ADA-compliant ramps and improved pedestrian crossings to encourage people to walk to their destinations.

The TIA reviewed potential impacts of the project relative to “Pedestrian Level of Service” (PLOS) at signalized and unsignalized crosswalks in the study area. The PLOS at signalized intersections is dictated by the portion of the signal cycle dedicated to the pedestrian crossing. Thus, increasing pedestrian volumes does not alter PLOS at signalized intersections. All signalized crosswalks in the study area were evaluated as operating an PLOS C or better, and are not expected to change under Full-Build conditions. For unsignalized crosswalks, the PLOS is calculated using the crosswalk length and the conflicting vehicular flow rates for the morning and evening peak hours. All crosswalks at unsignalized intersections currently operate at PLOS D, and will remain at the same level under build conditions with the exception of certain peak periods at six crosswalks. The NPC/DEIR included a commitment to work with BTD to explore opportunities for improvements such as better signage, warning devices in the roadway, improvement of sight-lines and other measures.

The NPC/DEIR indicated that the existing bicycle infrastructure in the vicinity of the Project site is limited with no dedicated on-street bike lanes or shared lane striping. There is a Bluebike station located in front of St. Catherine’s church at Hayes Square, and nine others in the Charlestown neighborhood. The project commits to adding short-term, outdoor bicycle parking for the general public and long-term covered and secure bicycle parking for residents, visitors and employees of the project. It is currently anticipated that up to 2,700 long-term spaces will be provided to support the full buildout of the project, along with a minimum of 120 short-term spaces. The Proponent will work with BTD to determine exact numbers, and should provide an update on these discussions in the FEIR.

The NPC/DEIR makes note of other pending projects planned by BTD to improve pedestrian and bicycle transport. While these projects do not directly impact the intersections included in the study area, they could serve to ease traffic in the area overall. These projects are the Rutherford Avenue/Sullivan Square Design Project, North Washington Street Bridge Project, and the Bunker Hill Street (bike lane) project. The Proponent should coordinate efforts to provide bicycle and pedestrian accommodations with these ongoing City efforts.

### *Parking*

The project site currently contains approximately 233 on-street parking spaces within the site, of which 79 are located on private streets and are not open to Charlestown resident permit parking (“RPP”). There are 142 spaces along the perimeter streets that are shared with the public. As currently envisioned, the full buildout of the project will provide approximately 326 on-street spaces on internal streets and an additional 156 spaces on perimeter streets, for a total 482 on-street spaces site-wide. This will also increase the current count of RPP spaces by 154.

As for off-street parking, there are currently 280 parking spaces which are reserved for existing residents of the BHA. The Proponent is currently considering two options for off-site parking expansion, both of which would include 476 podium parking spaces and 23 surface parking spaces at the Decatur/Moulton Lot. One option would then provide 880 additional spaces at two structured garages beneath Buildings L and O, whereas an alternative option would move 244 of those spaces to a parking area underneath the Tobin Bridge through an Access Permit or lease with MassDOT. While the latter alternative reduces the number of project-controlled RPP, it lowers the cost of structured parking and opens up more spaces for the public. Both options would create a total 1,379 (1,138 new) off-street parking spaces. The project will comply with the City’s electric vehicle (EV) parking policy, which requires that 25% of parking spaces are electric vehicle supply equipment (EVSE) installed, and the remaining 75% of parking spaces are “EV Ready” to enable future installations as needed.

As with trip generation, the parking increase in Phase 1 is modest. Phase 1 will add approximately 63 podium parking spaces in Building F, along with approximately 23 surface parking spaces at the Decatur/Moulton Lot for a total of 86 off-street parking spaces. An additional 62 on-street parking spaces will be added in Phase 1.

### *Transportation Demand Management (TDM)*

The project will implement a TDM plan to encourage alternative modes of travel to and from the site. The TDM plan will include the following components:

- Join a TMA established for the Charlestown Area;
- Designate a Transportation Coordinator to oversee all transportation related operational matters at each Project component, including vehicular operations, servicing and loading, parking and implementation of the TDM Plan;
- Post and make available transit maps, schedules and other information relevant to commuting residential building lobbies;
- Assign car sharing spaces in garages, subject to demand;
- Install electric vehicle charging stations for up to 25% of parking capacity and EV-ready parking for balance of parking capacity;
- Provide long-term covered secure, and short-term public realm bicycle spaces (number of spaces to be determined based on demand and in collaboration with BTM);
- Provide an on-site “Fix-it” bike station;
- Charge for residential parking separately from rental fees;
- Add other project components to decrease convenience trips such as: dry cleaning valet, grocery delivery cold storage, package lockers, etc.

The NPC/DEIR indicates that the Proponent has not yet discussed specific traffic mitigation or TDM measures with BTD or MassDOT. However, the Proponent will enter into a Transportation Access Plan Agreement (TAPA) with the BTD which will formalize and document all transportation mitigation and TDM commitments to be made in connection with the Project. The TAPA will be signed prior to issuance of local building permits for each building. As noted below, the FEIR should provide further details on anticipated measures to be included in the TDM program, including a robust monitoring plan and the timing of the TAPA and TDM measures relative to each phase of the buildout to ensure that mitigation measures are in place to address the project's impacts as they arise.

### *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 NPC/DEIR provided an analysis of stationary- and mobile-source GHG emissions and identified measures to mitigate the project's GHG impacts. It reviewed existing and future storm and flooding conditions and described design features to improve resiliency to the effects of climate change.

### *Greenhouse Gas (GHG) Emissions*

A notable change from the ENF is the Proponent's decision to move beyond regulatory requirements to set its own aggressive energy efficiency goals by committing to PHIUS+ Core Passive House Certification and LEED Gold certification for the project. This commitment would make the development the second largest Passive House project in the world upon completion (by far the largest in the U.S.), and makes a significant contribution towards meeting the state's GHG reduction goals. Passive House is a performance-based certification program that provides a comprehensive approach to energy modeling, design, and construction for projects to attain an extremely high level of energy efficiency. I applaud the Proponent for adopting such ambitious energy efficiency goals, and am optimistic that it will set an example for other comparable developments.

The NPC/DEIR included a GHG analysis based on the MEPA Greenhouse Gas (GHG) Policy and Protocol. The GHG Policy requires projects to quantify carbon dioxide (CO<sub>2</sub>) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis quantified the direct and indirect CO<sub>2</sub> emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources).

### Stationary Sources

The stationary source GHG analysis evaluated CO<sub>2</sub> emissions for the Base Case and the Design Case. The Base Case is designed to meet the minimum energy requirements of the 9<sup>th</sup> Edition of the Massachusetts Building Code, which references the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013. The City has adopted the “Stretch Energy Code,” which requires 10% greater energy efficiency compared to ASHRAE 90.1-2013. The Design Case includes additional energy-efficiency measures proposed in the Preferred Alternative.

Given Passive House design, the direct and indirect stationary source CO<sub>2</sub> emissions from the proposed building sources were calculated using the computer based WUFI Passive model for Passive House buildings, rather than the eQuest modeling software. With input from the Department of Energy Resources (DOER), the NPC/DEIR evaluated prototype energy models representing the residential buildings (one mid-rise Building F (included in Phase 1) and one low-rise Building D2), and also evaluated parking garages. The results of these two prototype energy models were scaled to estimate the energy consumption and GHG emissions of the entire Master Plan Project. While specific inputs into the modeling may be subject to design modification as design progresses, the Proponent has committed to achieving the stationary source GHG emissions reduction targets estimated in NPC/DEIR for the final building program and to meeting Passive House standards for all residential buildings.

For the mid-rise prototype, Building F, CO<sub>2</sub> emissions under the Base Case were estimated to be 1,044 tons per year (tpy), and with currently proposed building design and system improvements, estimated energy use reduction for the building under the Design Case is 56.5%, which equates to a reduction of 56.4% (589 tpy) in CO<sub>2</sub> emissions. For the low-rise prototype, Building D2, CO<sub>2</sub> emissions under the Base Case were estimated to be 214 tpy, and with currently proposed building design and system improvements, the estimated energy use reduction for the building under the Design Case is 56.3%, which equates to a 56.2% (120 tpy) reduction in CO<sub>2</sub> emissions.<sup>5</sup> Extrapolated from these two prototypes, the CO<sub>2</sub> emissions for the full buildout of the project are estimated to be 11,238 tpy, and with the currently proposed building design and system improvements, estimated CO<sub>2</sub> emissions under the Design Case are 4,933 tpy, a 56.1% reduction (6,305 tpy). DOER comments note that this reduction is closer to 47% when considering Stretch Code requirements already in effect in the City of Boston.

The project will also include two structured parking garages. All parking areas will be naturally-ventilated, unconditioned areas. As such, the only energy use that is expected is electricity consumption associated with lighting. The Proponent commits to use LED lighting in the parking areas. This is expected to reduce the lighting power density of the parking areas by 29%. With these design features, the CO<sub>2</sub> emissions are expected to decline from 104 tpy to 30 tpy (28.6% reduction).

According to the NPC/DEIR, the Passive House program leverages the following five design principles to achieve ultra-high energy efficiency:

- Continuous insulation throughout the enclosure without any thermal bridging (heat transfer);
- An airtight building enclosure to limit air infiltration and the loss of conditioned air;

---

<sup>5</sup> While the GHG emissions specific to Phase 1 (Buildings F and M) were not quantified in the NPC/DEIR, they are estimated to be modest and would roughly equal the emissions from the two prototype buildings (Buildings F and D2)—namely, 1,258 tpy under Base Case and 710 tpy under Design Case (56.5% reduction).

- High-performance windows and doors that manage solar gain and harness the sun's energy for heating purposes in the heating season, while minimizing overheating;
- High efficiency, balanced heat and moisture recovery ventilation; and
- Minimal space conditioning mechanical systems

Comments from DOER confirm that the project is committing to an ultra-performance envelope consistent with Passive House standards. I refer the Proponent to additional recommendations from DOER to evaluate external shading and solar heat gain coefficient (SHGC) as the buildings move forward to design. For instance, targeted use of lower SHGC-rated glass may be preferable for building sides or other areas with greater sun exposure.

A variety of renewable and alternative energy sources were also evaluated for the project, including heat pump water heating, solar, and cogeneration in the form of combined heat and power (“CHP”). The Proponent conducted detailed modeling of solar capability in the two prototype buildings (Buildings F and D2) used to model GHG emissions. Extrapolated to include other similar low-rise and mid-rise buildings planned for the Master Plan Project, the full buildout was evaluated as having the potential to produce 1,284,000 kWh (about 1.33 MW) of solar PV electricity annually and reduce GHG emissions by an additional 438 tpy. The Proponent plans to construct rooftops to be “solar-ready” to maximize the area available for PV panels and identifying where the PV electrical equipment would be located. DOER comments indicate that installation of 1.1 MW of solar PV would improve the project’s GHG mitigation level from 47% to 50%. I encourage the Proponent to continue to consider solar PV options as building design progresses.

As for other measures, the Proponent indicates that large-scale installations of the electrified hot water systems are not feasible at this time due to cost considerations. CHP or district energy systems were also dismissed in favor of the Passive House design, which uses VRF systems to provide space conditioning. Because VRF systems operate on electricity, use of a fossil -fueled district energy solution or CHP deployment was deemed to be counterproductive to GHG reduction goals. I refer the Proponent to DOER comments, which acknowledge the benefits of electric space heating through VRF systems but encourage the continued consideration of efficiency electrification of water heating. DOER recommends a pilot of one building that can be designed with a central air source heat pump for domestic hot water production. I encourage the Proponent to continue to consider all-electric options, including by researching additional incentives and subsidies that may be available.

The NPC/DEIR commits to considering other measures to further reduce GHG emissions, including the purchase of Renewable Energy Credits, installation of Energy Star appliances, and reducing water use and wastewater generation through the installation of low-flow fixture. The Proponent currently estimates a reduction of water usage by 40% compared to baseline based on these measures. The Proponent will provide Tenant Guidelines to future residents to educate them about the benefits of Passive House design and provide information on MassSave and other incentives available to maximize energy efficiency.

#### Mobile Source Emissions

The NPC/DEIR analyzed the project’s mobile-source CO<sub>2</sub> emissions using the EPA’s MOVES emissions model and data from the traffic study. The MOVES model calculates emissions factors for

vehicles expressed in a volume per distance travelled. Total emissions of vehicles are estimated by applying Vehicle Miles Travelled (VMT) data to vehicles in the study area and emissions from idling vehicles. The analysis calculated GHG emissions under the Existing 2019, No Build 2026 and Build 2026 scenarios. Regional GHG emissions from mobile sources are expected to decrease from 5,383 tpy under Existing 2019 conditions to 4,702 tpy under No Build 2026 conditions due to anticipated improvements in vehicle engine and emissions technologies. Regional GHG emissions in the 2026 Build condition were estimated as 5,651 tpy, representing an increase of 949 tpy due to project-related trips.

The NPC/DEIR indicates that impacts from mobile source emissions can be mitigated through TDM measures to reduce the Single Occupancy Vehicle (SOV) trips and vehicular travel by residents and visitors to the project site. The NPC/DEIR estimates a 2% reduction in CO<sub>2</sub> emissions, or 19 tpy, attributable to these measures. It also indicates that proposed roadway improvements that will improve traffic flow and reduce delay/idling will have GHG reduction benefits, and estimates an additional reduction of 490 tpy attributable to these measures. While I commend the Proponent for its commitment to a TDM program, the NPC/DEIR acknowledges that the details of the program have yet to be fully defined through consultation with BTM and MassDOT. Additional details on TDM measures, including a plan for monitoring to verify the expected 2% reduction in emissions should be provided in the FEIR.

### *Adaptation and Resiliency*

The NPC/DEIR indicates that the project is compliant with BPDA's Climate Change Preparedness and Resiliency Checklist required for all Article 80 Large Project Reviews. 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 NPC/DEIR analyzed three key climate change factors: sea level rise (SLR), extreme heat, and extreme precipitation.

### Sea Level Rise

The NPC/DEIR initially notes that prior analysis relied on data from the Boston Research Advisory Group's Climate Change and Sea Level Rise Projections for Boston (June 2016). Since that time, revised data and projections have become available, including the Climate Ready Boston Report (Dec. 2016), the BPDA's current Resiliency Policy (Oct. 2017), the BPDA's Resiliency Checklist (Oct. 2017), and the online Sea Level Rise Flood Mapping and Climate Ready Boston Map Explorer tools. The City also released the 2018 Coastal Resilience Solutions for East Boston and Charlestown report. The NPC/DEIR relied on these updated data sources in its design.

The BPDA recommends use of the BPDA Sea Level Rise-Flood Hazard Area (SLR-FHA) map, which assumes a modeled 1% annual chance flood event with 40 inches of SLR by 2070. According to the BPDA Sea Level Rise Viewer and the Climate Ready Boston Map Explorer, portions of Buildings E1, E2, F, L, M, and N, as well as the open spaces adjacent to buildings M and N, are projected to be impacted by the 1% annual chance flood by 2070 with 36 inches of SLR up to a base flood elevation (BFE) of 19.5 feet BCB.<sup>6</sup> According to the NPC/DEIR, the site is not likely to be impacted by either the 1- or the 10% annual chance flood prior to the 2070/36 inches-of-SLR scenario. While the NPC/DEIR

---

<sup>6</sup> While this analysis assumes 36 inches of SLR, the Proponent has indicated that this is equivalent to the 40 inches of SLR recommended by the BPDA minus local subsidence. The BPDA checklist indicates that "BCB" (Boston City Base) is a City-wide elevation measure that can be converted to NAVD88 by subtracting 6.46 feet from BCB.



does not explain why 2070 is an appropriate design horizon when considering the criticality and design life of the project, it indicates that the analysis is compliant with the recommended approach set forth in the BPDA Climate Change Preparedness and Resiliency Checklist.

The BPDA recommends a Sea Level Rise-Design Flood Elevation (SLR-DFE) for the year 2070 as the minimum performance target for new construction. The SLR-BFE is based on the Boston Harbor Flood Risk Model (BH-FRM), which assumes 40-inches of SLR, 2.5 inches of local subsidence, and the 1% annual chance coastal flood event in 2070. Freeboard, an added measure of protection, is achieved by raising the first floor an additional amount above the SLR-BFE. The BPDA recommends setting the SLR-DFE using 12-inches of freeboard for non-critical, non-residential uses and 24-inches for critical buildings, infrastructure and ground floor residential. Based on the analysis described above, the BFE at the site for 2070 (meaning the elevation at which the 1% annual chance flood event will impact the site in 2070, assuming 36 inches of SLR) was estimated to be 19.5 feet BCB. Thus, the NPC/DEIR, using BPDA's current recommendations, estimates that the SLR-DFE should be 20.5 feet BCB for non-residential uses and 21.5 feet BCB for residential uses and critical infrastructure.

The NPC/DEIR states that the first floor of all residential units and critical infrastructure will be elevated to 21.5 feet or higher at the site. In Phase 1, Building M is expected to be impacted by the 1% annual chance storm / 36 inches of SLR scenario by 2070, and, thus, first floor residences and critical infrastructure will be elevated in this building. The NPC/DEIR also notes that the lowest elevations of several street intersections within the surrounding area are well below the recommended SLR-BFE. Because raising such street elevations will be extremely difficult, the Proponent notes that district-scale flood protection measures may be a more effective means of addressing flooding and resiliency for the surrounding area. For instance, it would be preferable to block flood pathways closer to their sources, including the Little Mystic Channel and the Charlestown Navy Yard waterfront, in order to protect larger areas. The NPC/DEIR indicates a commitment to explore such solutions with the City, and to consider anticipated 2100 storm events in future design to improve resiliency. Additional information regarding climate change resiliency and adaptation measures is required in the Scope for the FEIR.

### Extreme Heat

The 2016 Climate Ready Boston Report and the BPDA's Climate Resiliency Guidance document indicate that the annual average temperature in Boston increased by about 2°F in the past hundred years and will continue to rise due to climate change. By the end of the century the average annual temperature could increase to 56°F (compared to the current average of 46°F) and the number of days with temperatures above 90°F could rise to 90 days per year (compared to the current count of approximately 10 days per year). BPDA recommends the new buildings consider these minimum temperature conditions in their design.

The NPC/DEIR indicates that resiliency to extreme temperatures will be achieved through the Passive House residential design, which will create high-performance building envelopes that significantly lower their heating and cooling needs and reduce reliance on mechanical systems to maintain interior thermal comfort. Based on worst case modeling conducted by the project's engineer, residential units are expected to stay above 55 degrees for twice as long as comparable code-compliant units during winter power outages; during summer outages, Passive House units are expected to be warmer than comparable units but only by a minimal amount (four degrees by Day 6 of the outage).

Additional measures to be taken at the project site to counter the “urban heat island effect” include minimizing impervious land cover in favor of green space, which will be densely vegetated wherever possible. Planting beds will be layered with hardy native and adapted tree canopies, shrubs, and perennial plantings in order to increase biomass, which will in turn allow for more efficient cooling of the air through evapotranspiration. Trees will be planted through the site, particularly to the south to ensure shade during peak summer hours.

### Extreme Precipitation

According to the NPC/DEIR, the 10-year, 24-hour design storm precipitation level is currently expected to be 5.25 inches. There is a significant probability that this will increase to at least 6.0 inches by the end of the century. Larger but less frequent storms are likely to occur, along with more frequent droughts. According to the Climate Ready Boston Map Explorer, portions of the site adjacent to Bunker Hill Street, Tufts Street, Corey Street, Moulton Street, Samuel Morse Way, Walford Way, and Medford Street may be subject to stormwater flooding by 2030 with 9 inches of SLR.

The NPC/DEIR indicates that the project will include a stormwater management system designed to meet or reduce the rates and volumes of stormwater runoff from the site compared to existing conditions for the 2-, 10-, 25- and 100-year, 24-hour storms. These storms events are 3.23-inches, 5.10-inches, 6.27-inches, 8.08-inches, respectively, based on NOAA Atlas 14 rainfall data. The BWSC recommends designing for the 6-inch storm event (representing a 2100 10-year storm depth) and the 8.8-inch storm event (representing a 2100 100-year storm depth under the medium emissions scenario). The NPC/DEIR indicates that anticipated 2100 storm events will be reviewed as the designs progress to look for opportunities to mitigate effects from those greater future storm events.

Flood resilience will be a consideration in the design of all open spaces and streetscapes, and in particular Tufts Street, Corey Street, and blocks F, M, and N, which lie in the region identified in Climate Ready Boston as susceptible to future flooding. Nature-based solutions will also be strategically located in low-lying areas in order to intercept and filter stormwater, buffering areas of higher use and lower resilience, like critical circulation paths.

### *Stormwater*

A total of 23.5 acres of new impervious area will be added at full buildout of the project. Existing conditions relative to stormwater management consist of a series of drainage systems for the 42 existing buildings and in surrounding roadways, which are directed to BWSC combined sewer or storm drain mains. The NPC/DEIR indicates that stormwater infiltration systems will be designed to capture 1.25- inches of stormwater from building roof and impervious site areas to the maximum extent practicable to meet BWSC and BPDA requirements. The NPC/DEIR notes, however, that the project may require new storm drain mains in Moulton Street and Samuel Morse Way for roadway drainage and that building overflow drain connections (for stormwater flows over 1.25-inches) may connect to these mains. Different approaches to stormwater recharge will be assessed and may vary on a block-by-block basis; these approaches could include collection of stormwater via deep sump and hooded catch basins, to be directed to underground recharge systems; green roofs; landscape areas with vegetative features to encourage infiltration and minimize runoff; and sidewalks with porous paver strips that promote

stormwater infiltration. Any improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process.

The NPC/DEIR reviewed compliance of the proposed stormwater management system with MassDEP's Stormwater Management Standards (SMS). The standards for redevelopment would apply to this project. In particular, there will be no *new* untreated stormwater that will be directly discharged to, nor will erosion be caused to, wetlands or waters of the Commonwealth as a result of the project. The project will meet or reduce the existing peak rate of stormwater discharge and volumes of stormwater runoff from the site and promote infiltration to promote groundwater recharge to the greatest extent possible. Runoff from paved private areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected and conveyed through groundwater recharge systems before discharging into the BWSC system.

#### *Water and Wastewater*

The project will generate 240,768 gpd of new water use (reduced from 391,113 gpd in the ENF), and 218,880 gpd of wastewater (reduced from 355,557 in the ENF). The expected average water demand was calculating using the project's estimated sewage generation, based on a factor of 1.1 (10%) to account for consumption and system losses.

Water for the project site will be supplied by the BWSC by the existing BWSC systems in Medford Street, Decatur Street, Bunker Hill Street, Polk Street, Tufts Street, and/or Corey Street. The NPC/DEIR notes that the project may require new water mains in the new Concord Street, Lexington Street, O'Reilly Way, McNulty Court, Walford Way, O'Brien Court, and Samuel Morse Way to accommodate increased water needs. All new connections will be reviewed through the BWSC site review process, and efforts to reduce water consumption will be made. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed. All units will be individually metered, which can result in a reduction in water use.

Wastewater collection for the project is owned and operated by BWSC. The system conveys wastewater to the Massachusetts Water Resources Authority (MWRA) system, which flows to the MWRA Deer Island Wastewater Treatment Plant. There are existing BHA mains that run through the project site and connect to BWSC storm drain mains. Conveying wastewater from the project will require multiple connections to existing and proposed BWSC sewer mains in Medford Street, Decatur Street, Bunker Hill Street, Polk Street, Monument Street, Tufts Street, or Corey Street. Based on this assumption and an average increase in daily flow estimate for the project, no sewer capacity problems are expected within the proposed project. The Proponent will coordinate with BWSC to reach an agreement regarding the requirement for 4:1 Inflow and Infiltration (I/I) mitigation. The NPC/DEIR states that the project will be serviced by separate sanitary and storm drain systems, and not combined sewers, and that the I/I impact from the project site is therefore expected to be minimal. However, I refer the Proponent to comments from the MWRA, which request confirmation as to whether any stormwater currently generated on the project site enters the BWSC and MWRA sewer systems, including through the BHA connections to BWSC mains. MWRA also requests clarification on mitigation measures that may be needed, particularly in light of the anticipated increase in stormwater flows and the need for additional drainage capacity. I encourage the Proponent to consult with MWRA and BWSC regarding

any potential impacts to existing sewer infrastructure and potential mitigation measures. The FEIR should include an update on the result of this consultation.

### *Air Quality*

The NPC/DEIR included the results of a mesoscale analysis conducted of the impact of transportation-related emissions, using the same methodology used to quantify mobile source CO<sub>2</sub> emissions. The analysis is based on guidelines established by MassDEP, which require an evaluation of the change in emissions with and without the Project: specifically, daily (24-hour period) VOCs and NOX emissions from the average daily traffic volumes and vehicle emission rates. MassDEP criteria require that projects pursue all reasonable and feasible emission reduction mitigation measures if these ozone emissions from the Build Condition are greater than the No-Build Condition.

The mesoscale analysis showed that emissions of VOCs and NOX (and CO<sub>2</sub>) would decrease from 2019 Existing Conditions to 2026 No Build Conditions due to anticipated improvements in vehicle engine and emissions technologies. The decreases are as follows: 10.25 tpy to 7.71 for VOCs; 5.84 tpy to 2.53 tpy for NOX; and 5,383 tpy to 4,702 tpy for CO<sub>2</sub>. Project-related traffic under the 2026 Build Condition were shown to increase emissions as compared to the 2026 No Build scenario as follows: 1.58 tpy for VOCs (total increased to 9.29 tpy); 0.49 tpy for NOX (total increased to 3.02 tpy); and 949 tpy for CO<sub>2</sub> (total increased to 5,651 tpy). With mitigation measures, which include TDM programming and roadway improvements, project-related emissions in the 2026 Build Condition would be reduced as follows: 1.25 tpy for VOCs; 0.38 tpy for NOX; and 440 tpy for CO<sub>2</sub>. The NPC/DEIR indicates that compliance with the City's 25% EV policy will further reduce emissions by incentivizing the increased electrification of vehicles.

The NPC/DEIR also contained the results of a microscale air quality assessment conducted of localized CO (carbon monoxide) concentrations to verify compliance with state and federal clean air regulations. The microscale analysis evaluated CO concentrations from vehicles traveling through congested intersections in the area under the future conditions. The results from this evaluation were compared to the NAAQS (National Ambient Air Quality Standards). The project is located in the City of Boston, which under the EPA designation, is a CO "maintenance area," meaning that it previously was in nonattainment of the NAAQS but must engage in ongoing monitoring.

The analysis chose three intersections to evaluate based on criteria set forth in the BPDA Development Review Guidelines, namely, Austin Street at Green Street and Main Street (LOS D); Bunker Hill Street at Vine Street and Tufts Street (volume increase above 10 percent); and Main Street at Medford Street and Bunker Hill Street (highest volume and worst delays). The analysis showed only minimal increases in 1-hour and 8-hour CO concentrations between the No Build and Build conditions due to the traffic volume increase and intersection delays experienced at the study intersections. The CO concentrations under the build condition remained well below the numerical limits set by the NAAQS (*i.e.*, 1-hour concentration of 2.5-2.6 parts per million (ppm), as compared to 35 ppm NAAQS; 8-hour concentration of 1.4 ppm, as compared to 9 ppm NAAQS).

### *Landlocked Tidelands*

A portion of the project site (approximately 6,600 sf) is located within landlocked filled tidelands, exempt from licensing under M.G.L. c. 91. Approximately 0.09 acres (4,000 sf) of this area are located within the Phase 1 Site (at building M). As the project is subject to EIR review, it requires a Public Benefit Determination under M.G.L. c. 18B(b)(ii) and 301 CMR 13.00. The NPC/DEIR lists the following public benefits of the project:

- Purpose and effect of the development;
- The impact on abutters and the surrounding community;
- Enhancement of the property;
- Benefits to the public trust rights in tidelands or other associated rights;
- Community activities on the development site;
- Environmental protection and preservation;
- Public health and safety; and
- General welfare

The Scope provided in the ENF required that the NPC/DEIR describe the nature of the tidelands affected and a detailed explanation of the public benefits provided, including impacts on abutters, enhancements to the property, community activities on the site, environmental protection and preservation, public health and safety, and benefits to the general welfare. I will issue a separate PBD for the Phase 1 project within 30 days of the issuance of the Final Record of Decision (FROD). I will issue a separate PBD for the Master Plan project in accordance with the regulations at 301 CMR 13.00 within 30 days of the issuance of the Certificate on the FEIR.

### *Hazardous Materials*

As required by the Scope provided in the ENF certificate, the NPC/DEIR provided details regarding two documented M.G.L. c. 21E releases at the site. These were associated with leaking USTs (underground storage tanks) that were present at the site listed with MassDEP under Release Tracking Numbers (RTNs) 3-13392 and 3-16862, and a third release associated with a surficial release of 20 gallons of non-PCB containing mineral oil dielectric fluid from a pad-mounted transformer listed with MassDEP under RTN 3-20970. Remedial response actions were completed for each of these releases, which included cleaning and removal of the tanks and excavation and off-site reuse of contaminated soil. A RAO (Response Action Outcome) Statement was filed with the MassDEP confirming that a Permanent Solution was achieved, a Condition of No Significant Risk exists for current and future conditions, and that the implementation of an Activity and Use Limitation (AUL) was not required to maintain that condition.

The NPC/DEIR indicates that a Phase I Environmental Site Assessment (ESA) report was completed in June 2016, which documented prior uses by a large gas holder, possibly associated with a nearby former coal and oil works facility, on the northeastern portion of the site, and an asbestos rope and asbestos cement manufacturing facility on the northwestern portion. The Phase I report identified records of five 18,000-gallon capacity fuel oil underground storage tanks (USTs) at the site, which were all removed in 1999. At the site of the former rope and cement manufacturing facility, a certified asbestos inspector conducted testing and identified no evidence of suspect asbestos-containing material

in six excavated test pits and no detections of airborne asbestos fibers. At the site of the former coal and oil works facility, elevated concentrations of the extractable petroleum hydrocarbon (EPH) fraction C11-C22 aromatics, as well as benzene and naphthalene were identified in soil, and benzene was also identified in groundwater, at levels that exceeded reportable concentrations. Results of November and December 2016 sampling and testing identified the presence of EPH and volatile petroleum hydrocarbons (VPH) in soil adjacent to the location of the former UST that was removed and remediated under RTN 3-1339. The Proponent will be required to submit a Release Notification Form if any further releases are identified during construction, and submit a Release Abatement Management (RAM) Plan prior to conducting any excavation. The Proponent is directed to consult with MassDEP regarding its M.G.L. c. 21E obligations and to comply with all applicable requirements.

### *Historic Structures*

The NPC/DEIR indicates that the project site does not contain any property listed on the MHC Inventory of Historic and Archaeological Assets of the Commonwealth, though several historic structures exist within a quarter-mile of the site. The MHC, in consultation with the Boston Department of Neighborhood Development, determined in 2016 that the existing Bunker Hill Public Housing development is not eligible for the National Register. Nevertheless, demolition of the development will be reviewed by the Boston Landmarks Commission (BLC), pursuant to Article 85 of the Boston Zoning Code requiring such review for demolition of buildings over 50 years old. Based on a review of MHC's Massachusetts Cultural Resource Information System (MACRIS) database, the Proponent indicates that there are no previously identified archaeological sites or districts within the project site or immediately adjoining areas. The NPC/DEIR indicated that the likelihood of encountering intact, significant archaeological features or deposits during construction is considered low because of prior disturbance of the project site.

I note the comments received from the John F. Kennedy, Jr. Family Service Center, which abuts the project site and is located 100 feet away from the access point for Phase 1 construction. While the Center indicates that the project will have adverse impacts on the historic building that it occupies (which was designated a Boston landmark by the BLC), the substantive concerns raised in the letter focus on construction period impacts such as truck traffic, air quality, rodents and hazardous materials. As discussed herein, these impacts have been disclosed in the NPC/DEIR and mitigation measures identified; construction period operations appear designed to comply with all applicable legal requirements. I understand that the Proponent has recently met with the Center to discuss its concerns, and encourage the Proponent to continue to engage with community stakeholders throughout design, permitting and construction of the project.

### *Wind, Shadow, Daylight Effects and Noise*

The NPC/DEIR reviewed the impact of the project relative to other ambient factors, including wind, shadow, daylight effects and noise, in accordance with BPDA Article 80 requirements. The analysis concluded that wind and shadow effects would be minimal and would not affect pedestrian or resident comfort levels. As for daylight effects, the analysis showed that viewpoints along all roadways will experience an increase in "skydome obstruction," as is expected when increasing the height and massing on an urban site. These impacts are mitigated by the fact that a portion of the proposed building

massing will be set back further than existing conditions. In addition, Proposed Building M (in Phase 1) along Corey Street will experience a decrease in skydome obstruction.

The NPC/DEIR also evaluated the potential noise impacts associated with the project's operations, which include mechanical equipment and loading/service activities. The analysis showed that sensitive receptor locations in the vicinity of the project site currently experience sound levels exceeding the City of Boston's nighttime noise criteria. Sound levels associated with the project's mechanical equipment will be mitigated by placement of the equipment on building rooftops. Subsequent MassDEP permitting processes will allow further review of these impacts. The proposed residential buildings abutting major roadways will experience unacceptable exterior sound levels, according to HUD's goals; however, with the appropriate acoustical material, the project is expected to meet the HUD indoor noise goals. The FEIR should include any additional considerations made regarding noise impacts and mitigation measures, including specific measures that are planned to comply with applicable regulatory requirements.

### *Construction Period*

The NPC/DEIR reviewed potential impacts and proposed mitigation measures associated with construction of the project, including mitigation measures likely to be included in the Construction Management Plan (CMP) to be filed with the City of Boston. The NPC/DEIR outlined applicable local, state and federal regulatory requirements, and reviewed measures that will be implemented during the construction period to minimize impacts associated with noise and vibration, air emissions, fugitive dust, soils management, including contaminated material, sedimentation and erosion, and access to the site by trucks and other construction vehicles.

The NPC/DEIR also provided an overview of the expected phasing of construction, including Phase 1 construction plans for Buildings F and M, associated parking and interim parking planned for October 2020. Typical hours of construction will be from 7:00 AM to 6:00 PM, Monday through Friday. No substantial sound-generating activity will occur before 7:00 AM, though some activities may run past 6:00 PM to ensure the structural integrity of work completed. Weekly updates of construction activity and off-hour work will be provided to the City of Boston Inspectional Service Department, and approvals will be obtained for longer hours or additional shifts.

Construction-period mitigation measures will include the following:

- Implementation of construction traffic management measures to minimize impacts to the community, including designated truck routes and "No idling" signs at loading, deliver, pick-up and drop-off areas;
- Maintenance of pedestrian and bicycle access on streets adjacent to the project site, including temporary sidewalks and bike accommodations, covered walkways, signage and lighting;
- Compliance with MassDEP's Solid Waste regulations and implementation of measures to reuse and recycle construction and demolition (C&D) debris and appropriately handle and dispose of asbestos;
- Minimizing air quality impacts by using wetting agents on exposed soil, using covered trucks, minimizing spoils on the construction site, monitoring of transfers of loose materials, minimizing storage of debris, periodic street and sidewalk cleaning, compliance with anti-

idling regulations, participation in MassDEP's Diesel Retrofit Program, and ensuring that trucks leaving the site are clean;

- Monitoring of soil and groundwater by a Licensed Site Professional (LSP);
- Using sedimentation and erosion controls in compliance with the requirements of the SMS and the NPDES General Permit for Construction Activities;
- Minimizing noise and vibration impacts by complying with the City of Boston's noise limitation policy, using mufflers on construction equipment, using muffling enclosures around continuously-running equipment, use less noisy construction operations and techniques where feasible, scheduling construction activities during periods of high ambient noise levels, turning off idling equipment, locating noisy equipment in areas that protect sensitive locations and monitoring vibration impacts; and
- Preparation of a rodent extermination program, in accordance with City of Boston requirements for permits for demolition, excavation, foundation, and basement rehabilitation.

Phase 1 of the project will involve the demolition of six existing buildings and construction of Buildings F and M, in addition to associated parking infrastructure. In addition to the above measures, the Proponent intends to use prefabricated components, such as precast foundation elements, structural wall panels and floor plates, as the off-site production of these elements will minimize material waste, reduce truck traffic and condense overall construction durations.

### Conclusion

The NPC/DEIR described the project, including revisions to the project design since the ENF and the environmental impacts and mitigation associated with the project consistent with the. Scope included in the ENF Certificate. The Proponent should submit an FEIR that provides updated project information and additional analyses as specified in the limited Scope below.

Based on a review of the NPC/DEIR, consultation with State Agencies and a review of comment letters, I have determined that the NPC/DEIR is adequate and properly complies with MEPA and its implementing regulations. The Proponent may proceed to filing of an FEIR in accordance with the limited Scope below.

### SCOPE

#### General

The FEIR should follow Section 11.07 of the MEPA regulations for outline and content and additional information and analyses required by this Scope. The FEIR should clearly demonstrate that the Preferred Alternative includes all feasible measures to avoid Damage to the Environment, or, to the extent it cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable.

#### Project Description and Permitting

The FEIR should describe any changes to the project since the filing of the NPC/DEIR. The FEIR should include updated plans for existing and post-development conditions at a legible scale,



including the building design, uses within each building, pedestrian and bicycle access improvements, vehicular circulation, open space and the stormwater management system. It should provide plans and sections of existing and proposed site grades. It should identify mitigation to offset construction-period and long-term environmental impacts. The FEIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards. The FEIR 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.

### Transportation

The FEIR should provide the information and analyses identified in MassDOT's and MassPort's comment letters. It should include an update on discussions with BTD and BPDA regarding roadway mitigation measures, and discussions with MassPort regarding mitigation for truck traffic impacts. The FEIR should also provide an update on discussions with the City, MBTA and MassDOT regarding transit mitigation measures, and should provide an analysis of the project's impacts without assuming an expansion in Orange Line capacity which does not appear to be guaranteed at this time. The FEIR should provide an update on discussions with MassDOT regarding the potential lease of property underneath the Tobin Bridge, including a clarification on whether this Agency Action would take the form of an Access Permit or Land Transfer (lease). FEIR should identify specific mitigation commitments by the Proponent and identify parties responsible for implementation and a schedule for completion. These items should be incorporated into draft Section 61 findings.

The FEIR should review the TDM measures to which the project will commit, based on discussions with BTD and MassDOT. The FEIR should consider additional measures that could prove effective in reducing VMTs and SOV trips, including provision of subsidized transit passes for employees and residents who access the site by walking or bicycling and a cash-out program for residents and employees who will not be using a private vehicle. The FEIR should include a commitment to conduct a robust TDM monitoring program, including specific measures to be taken to quantify progress made towards VMT and CO<sub>2</sub> reductions. The FEIR should discuss how the Proponent intends to support efforts to form a TMA for the Charlestown area, as the existing TMA for Boston does not appear to cover this area. The FEIR should discuss the timing of the anticipated TAPA with the City and TDM measures relative to each phase of the buildout to ensure that mitigation measures are in place to address the project's impacts as they arise.

### Climate Change

The FEIR should provide responses to DOER's comment letter, including its recommendation to continue to evaluate solar PV and all-electric building design for water heating. The FEIR should specifically respond to the recommendation that one pilot building be designed as all-electric, and, if such pilot is deemed infeasible, include an explanation of why such pilot would be cost-prohibitive even when considering available incentives.

The FEIR should review additional resiliency measures for the project, including sizing the stormwater management system to accommodate flows from larger storms, evaluating the need for backup generators and fuel supplies and use of light-colored pavement to reduce the urban heat island effect. The FEIR should explain how modeling and data would differ if a planning horizon of 2100 were

chosen for SLR projections, and describe how the project will update resiliency analyses and mitigation for future phases as new or updated climate data may become available. The FEIR should clarify what planning horizon and storm depth were used to evaluate precipitation effects, and whether it will comply with the BWSC's recommended design standards. If the project is not yet compliant with the recommended standards, the FEIR should discuss what measures and planning will be taken to continue to evaluate climate change impacts through future phases of the buildout.

#### Landlocked Tidelands

The NPC/DEIR did not respond to the section of the Scope in the ENF requesting detailed analysis of public benefits flowing from the project. The FEIR should provide a clear and detailed explanation of such benefits, even if previously included in the ENF. This discussion should address each of the considerations identified in the legislation (2007 Mass. Acts ch.168) and provide information to support this review. I will issue a PBD within 30 days of the issuance of the final Certificate.

#### Wastewater / Stormwater

The FEIR should respond to comments from MWRA, requesting clarification as to whether any stormwater flows from the project site have potential to enter MWRA's or BWSC's sewer system. The FEIR should also provide an update on consultations with MWRA and BWSC regarding system design and I/I mitigation, and provide a clear list of mitigation commitments for the project. The FEIR should clarify whether stormwater systems will have to be resized for the project, and if so, how such upgrades will be designed and achieved. The FEIR should address what additional measures and BMPs will be taken to infiltrate and manage stormwater flows from the project site.

#### Mitigation and Draft Section 61 Findings

The FEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each permit or other approval to be issued by State Agencies. The FEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and a schedule for implementation. It should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing, either tying mitigation commitments to overall project square footage/phase or environmental impact thresholds, to ensure that measures are in place to mitigate the anticipated impact associated with each development phase. The FEIR should contain a commitment to submit GHG self-certifications in accordance with the MEPA GHG Policy, including a commitment to deliver equal or better GHG reductions through alternative means should the planned reduction measures (for both stationary and mobile sources) prove less effective than anticipated. Where equivalent means are provided, the Proponent should commit to achieving the same GHG reductions expressed as a volumetric measure (tpy) rather than a percentage.

#### Responses to Comments

The FEIR should contain a copy of this Certificate and a copy of each comment letter received. It should include a separate chapter that fully and specifically responds to each NPC/DEIR comment letter without merely referencing a chapter of the FEIR. Failure to provide substantive responses may result in

a supplemental review. In order to ensure that the issues raised by commenters are addressed, the FEIR should include direct responses to comments. This directive is not intended to, and shall not be construed to, enlarge the Scope of the FEIR beyond what has been expressly identified in this certificate.

### Circulation

The Proponent should circulate the FEIR to those parties who commented on the ENF and/or NPC/DEIR, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. Per 301 CMR 11.16(5), the Proponent may circulate copies of the EIR to commenters in CD-ROM format or by directing commenters to a project website address. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The FEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the FEIR should be made available for review at the Charlestown branch of the Boston Public Library.<sup>7</sup>

May 1, 2020

Date



Kathleen A. Theoharides

### Comments received:

03/18/2020 John F. Kennedy Family Service Center, Inc.  
 03/27/2020 Lydia Edwards, Boston City Councilor, District One  
 04/10/2020 Massachusetts Department of Transportation (MassDOT)  
 04/10/2020 Massachusetts Port Authority (MassPort)  
 04/10/2020 Massachusetts Water Resources Authority (MWRA)  
 04/14/2020 Massachusetts Department of Energy Resources (DOER)

KAT/TTK/ttk

<sup>7</sup> 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>.



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



April 10, 2020

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

RE: Boston: Bunker Hill Redevelopment – NPC\DEIR  
(EEA #15584)

ATTN: MEPA Unit  
Anne Canaday

Dear Secretary Theoharides:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the Notice of Project Change/Draft Environmental Impact Report for the Bunker Hill Redevelopment project in Boston, 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

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  
Boston Planning and Development Agency  
Boston Region Metropolitan Planning Organization



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



## MEMORANDUM

TO: David Mohler, Executive Director  
Office of Transportation Planning

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

DATE: April 10, 2020

RE: Boston: Bunker Hill Housing Redevelopment – NPC/DEIR  
(EEA #15584)

The Public/Private Development Unit has reviewed the Notice of Project Change (NPC)/Draft Environmental Impact Report (DEIR) for the Bunker Hill Housing Redevelopment project in Boston (Charlestown). The Project has been re-designed since the ENF submission to address community concerns. The Project has been reduced from the original 3,200 units, and the height of the tallest buildings decreased by more than 50 percent from 21 stories to 10 stories. The massing along Bunker Hill Avenue and Monument Street has also been scaled back. The Project now consists of the construction of a new mixed income housing development that would replace the existing 1,100 affordable housing units with a mix of affordable and market rate units totaling 2,699. The Project would also be supported by approximately 62,500 square feet of street-level local retail and community uses. The Project will be constructed in multiple phases over an approximately 8 to 10-year period.

For the purposes of this DEIR-NPC, the Project is broken down into two phases. Phase 1 proposes the demolition of 111 existing affordable units and construction of 358 residential units. The Full Build Master Plan includes the demolition of 999 units and construction of 856 affordable units plus 1,489 market rate units.

Based on information included in the DEIR, the Master Plan Project at full build is expected to generate approximately 9,866 new unadjusted vehicle trips on an average weekday. The project is categorically included for the preparation of an Environmental Impact Report (EIR). The project requires a Non-Vehicular Access Permit because of a potential request to use part of a MassDOT facility under the Tobin Bridge as residential parking space for the project.

### **Phase 1 Project**

Phase 1 of the Project includes the demolition of 111 existing affordable residential units and the construction of 358 new residential units. Phase 1 is proposed to be located at the intersection of Decatur Street and Moulton Street and provides approximately 63 podium

parking spaces in Building F along with approximately 23 parking spaces in a surface lot for a total of approximately 86 spaces.

The DEIR includes a Phase 1 transportation study that generally conforms to the latest *MassDOT/EEA Transportation Impact Assessment (TIA) Guidelines*. The study provides a detailed description of the Phase 1 project's transportation impacts and identifies transportation infrastructure to accommodate the Phase 1 future build conditions.

### Trip Generation

Based on the information presented in the DEIR, Phase 1 would generate 1,343 unadjusted vehicle trips with 84 vehicle trips in the morning peak hour and 108 vehicle trips in the afternoon peak hour. The trip generation was refined using mode share splits from Census Transportation Planning Products and then reduced to account for existing site traffic based on traffic counts at the site. When adjusted, the Phase 1 Project is expected to generate a net increase of approximately 702 new daily vehicle trips, with approximately 58 net new vehicle trips during the morning peak hour and 82 net new vehicle trips during the evening peak hour. Similarly, the Phase 1 Project is projected to generate a net increase of approximately 476 new daily transit trips, with approximately 40 new transit trips during the morning peak hour and 55 new transit trips occurring during the evening peak hours. MassDOT finds the methodology used and the resulting mode share splits reasonable.

The project site is located in proximity to transit, bicycle, and pedestrian accommodations, and it is expected that a majority of the residents and visitors would arrive via these modes. The trip generation associated with Phase 1 is expected to have insignificant impacts to the existing transportation infrastructure. The Proponent has committed to a comprehensive mitigation program consisting of the following components: on-site roadway improvements, bicycle and pedestrian improvements to facilitate access to the site, and a Transportation Demand Management program,

MassDOT therefore believes that the waiver request has merit, and that the Proponent has satisfactorily documented the Phase I project's transportation impacts and provided acceptable mitigation measures to minimize these impacts.

### Master Plan Project

The Master Plan Project (MPP) would include construction of 856 affordable units plus 1,489 market rate units. The DEIR includes a transportation study that generally conforms to the latest *MassDOT/EOEEA Transportation Impact Assessment (TIA) Guidelines* for the MPP. The TIA includes a comprehensive analysis for the different modes of transportation that are expected to provide access to the site. A tabular summary of resultant intersection operations analysis information (i.e., level-of-service [LOS], volume-to-capacity ratio [V/C], and average delays) is provided for existing, No-Build, and future Build for weekday peak hour conditions. The TIA also includes a transit analysis for the MBTA Orange Line and the MBTA bus lines, which provide transit services in close proximity to the site.

Finally, a pedestrian and bicycle analysis along with a comprehensive evaluation of the infrastructure is also provided.

### Trip Generation

The project site is located in close proximity to transit, bicycle, and pedestrian accommodations, and it is expected that residents and visitors would arrive via these modes. Based on the information presented in the DEIR, the MPP trip generation was refined also using mode share splits based on Census Transportation Planning Products and trip reduction estimates resulting from pass-by and/or internal capture trips using applicable methodologies from the most recent editions of ITE's Trip Generation Manual and Trip Generation Handbook. When adjusted, the project is expected to generate 5,006 net vehicle trips; 4,334 transit trips; and 4,264 other trips on an average weekday. During the weekday AM peak hour, the project is estimated to generate 382 net vehicle trips, 578 transit trips, and 365 other trips. During the weekday PM peak hour, the project is expected to generate 533 net vehicle trips, 766 transit trips, and 365 other trips.

### Traffic Operations

The TIA presents capacity analyses and a summary of average and 95th percentile vehicle queues for each intersection within the study area. According to the traffic analysis, a few intersections are expected to operate at close or at levels of service F during the weekday morning and afternoon peak hours and would create congested conditions within the study area. Most of these impacted intersections are within the jurisdiction of the City of Boston. The Proponent has identified proposed improvements for these intersections and committed to work with the City of Boston to address implementation.

### Public Transportation

The area of the project site is well served by public transportation: Sullivan Square Station and Community College stations on the Orange Line are within walking distance from the site. The project site is also served by the MBTA Bus lines #92 and #93, and ferry service. In addition, there are a number of customized shuttle services serving several area businesses that currently connect to the site.

The DEIR includes a comprehensive transit analysis of the different transit services that surround the site. The TIA includes a detailed presentation of the impact to the transit system with summary tables for the anticipated demand in terms of MBTA Service Standards for transit and bus services. The TIA has also identified future plans to increase capacity on the Orange Line with the acquisition of new vehicles. According to the analysis, both the transit lines and the bus routes surrounding the site are expected to have sufficient capacity in the future to accommodate the additional transit trips generated by the project. The Proponent has noted that the Bus #93 operates with travel delay due to congested conditions along its route. The DEIR includes a number of suggestions for transit enhancement that are consistent with the MBTA Better Bus Project. The Proponent has indicated its willingness to work with



BTD and the MBTA to implement some of these measures. The Proponent should vet these enhancements with the MBTA and provide the outcomes of these discussions in the FEIR with a more detailed plan and timeline for implementation.

### Pedestrian and Bicycle Access

The Proponent has adequately addressed how the site would be made accessible and friendly to bicycles and pedestrians. The site design includes a continuous network of sidewalks connecting the various uses on site. The proposed pedestrian infrastructure will facilitate pedestrian travel for residents and visitors between the proposed and existing buildings while minimizing the number of single-occupant vehicle trips. Additionally, the Proponent would provide bicycle accommodations both on and off site to facilitate travel to and from the site by bicyclists.

The DEIR includes a complete inventory of pedestrian and bicycle accommodations throughout the study area as well as those planned by the Proponent. The DEIR includes a pedestrian LOS analysis and for the most part all movements are expected to operate at acceptable LOS, except for a few movements that would continue to operate at LOS F in the future Build conditions.

### Transportation Demand Management (TDM)

The Proponent has outlined and committed to a comprehensive TDM plan in the DEIR, which at a minimum will include the following measures:

- Join a Transportation Management Association (TMA) established for the Charlestown Area;
- Designate a Transportation Coordinator to oversee all transportation related operational matters at each Project component, including vehicular operations, servicing and loading, parking and implementation of the TDM Plan. The Transportation Coordinator will act as the contact and liaison for the City, local Transportation Management Association (if/when it's established) and tenants/residents of the Project;
- Post and make available transit maps, schedules and other information relevant to commuting residential building lobbies;
- Assign Car Sharing spaces in garages, subject to demand;
- Install electric vehicle charging stations for up to 25% of parking capacity and EV-ready parking for balance of parking capacity;
- Provide long-term covered secure and short-term public realm bicycle spaces (number of spaces to be determined based on demand and in collaboration with BTD).
- Provide an on-site "Fix-it" bike station;
- Charge for residential parking separately from rental fees; and
- Add other project components to decrease convenience trips such as: dry cleaning valet, grocery delivery cold storage, package lockers, etc.

The project proponent has committed to conduct and expand the transportation monitoring program as needed. The goal of the traffic monitoring program will be to evaluate the assumptions made in the DEIR and the adequacy of the transportation mitigation measures, as well as to determine the effectiveness of the TDM program.

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 FEIR for the project. If you have any questions regarding these comments, please contact me at (857) 368-8862.



Massachusetts Port Authority  
One Harborside Drive, Suite 200S  
East Boston, MA 02128-2090  
Telephone (617) 568-5950  
www.massport.com

---

April 10, 2020

Secretary Kathleen A. Theoharides  
**Executive Office of Energy & Environmental Affairs**  
Attn: MEPA Office  
Anne Canaday, EEA #15584  
100 Cambridge Street, Suite 900  
Boston, MA 02114

**Subject: Bunker Hill Housing Redevelopment Draft EIR/NPC (EEA #15584)**

Dear Secretary Theoharides:

On behalf of the Massachusetts Port Authority (Massport), we welcome the opportunity to submit comments on the *Draft Environmental Impact Report/Notice of Project Change* (DEIR/NPC) for the Bunker Hill Housing Redevelopment project. The proposed project includes redevelopment of the Boston Housing Authority's existing public housing development by constructing 2,699 residential units and 73,000 sf of retail/community space with buildings ranging in height from 6-10 stories. The Project also includes an on-site community center, off-street parking, and open space amenities. In the DEIR/NPC, Bunker Hill Redevelopment Company, LLC ("Proponent") has requested a Phase I MEPA Waiver to allow the construction of Buildings F and M to proceed prior to the completion of the Final EIR for the remainder of the project. The project modifications documented in the DEIR/NPC represent a reduction of 501 residential units and approximately 27,000 sf of retail/community space from what was proposed in the *Environmental Notification Form* (ENF). The proposed density and unit reductions result in 9,866 average daily trips, which is approximately 4,134 fewer trips per day.

As discussed in our October 11, 2016 comment letter on the ENF, the Boston Autoport operates nearby on approximately 80 acres of Massport property in the Mystic River Designated Port Area and is a critical component of the local and regional economy. The Autoport operates a dynamic maritime industrial facility that serves as the Port's only automobile import/export terminal, imports road salt for distribution to municipalities through the region, supports more than a dozen sub-tenants and provides several hundred local jobs. The Autoport operations depend on unencumbered truck route access to and from the interstate highway system via City Square. Today, to minimize impacts on the residential areas of Charlestown, the Autoport limits its use of Medford Street and relies on Chelsea Street.

The DEIR/NPC states that Bunker Hill Housing Redevelopment project would impact several of the project area intersections and has the potential to reduce the functionality of the Chelsea Street corridor which we believe could potentially impact Autoport operations.

The DEIR/NPC presents existing Levels of Service (LOS) for the intersections analyzed in the project area and recommends several roadway improvement concepts intended to address existing operational deficiencies and mitigate potential impacts of the proposed project on the neighboring roadway network. Under the build condition, the DEIR/NPC shows either static or improved LOS with the recommended mitigation, including new traffic signals, improvements to existing signal timing, new striping and lane configurations, as well as improvements to area transit and pedestrian accommodations. The Proponent states that these traffic mitigation strategies are being considered and reviewed in collaboration with the Boston Transportation Department and the Boston Planning and Development Agency. As traffic mitigation strategies are further developed and refined, it is important the Proponent consult directly with Massport and the Boston Autoport and its sub-tenants to ensure traffic impacts to the Autoport are considered and adequately mitigated.

In our October 11, 2016 comment letter on the ENF, we encouraged the Proponent to coordinate closely with the FAA and Massport during the permitting and design process to ensure the project does not exceed airspace limits as depicted in the Logan Airspace Map (see attached), which defines the critical airspace around Boston Logan International Airport. Although the DEIR/NPC proposes to reduce overall building heights from a maximum of 21 stories to 10 stories, the Proponent must still submit Form 7460 to the FAA for the individual buildings as well as separate filings for the construction cranes. This does not appear to be addressed in the DEIR/NPC, and we therefore again encourage the Proponent to coordinate with FAA and Massport to minimize permanent and temporary airspace impacts and avoid potential delays in the review and approval process.

Thank you for your consideration of our comments. Please do not hesitate to contact me at (617) 568-3524 or at [sdalzell@massport.com](mailto:sdalzell@massport.com) if you wish to discuss any of our comments.

Sincerely,

**Massachusetts Port Authority**



Stewart Dalzell, Deputy Director  
Environmental Planning and Permitting

Cc: J. Barrera, A. Hargens, M. Meyren, H. Morrison, B. Washburn/Massport  
Adelaide Grady/Leggat McCall Properties  
Administrator Jonathan Gulliver, David J. Mohler/MassDOT  
Acting Commissioner Gregory Rooney/Boston Transportation Department  
Raul Duverge/Boston Planning and Development Agency  
S. Krue/VHB



# 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 10, 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 #15584 – Draft Environmental Impact Report-Notice of Project Change  
Bunker Hill Housing Redevelopment, Charlestown, MA

Dear Secretary Theoharides:

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Draft Environmental Impact Report-Notice of Project Change (DEIR-NPC) submitted by Bunker Hill Redevelopment Company LLC, (a joint ventures between Leggat McCall Properties and the Joseph J Corcoran Company) (the “Proponent”) for a new mixed income residential project called Bunker Hill Housing Redevelopment (the “Project”), formerly known as One Charlestown. The Project will be located in the Charlestown neighborhood on a 27.24 acre site bounded by Medford Street, Decatur Street, Vine Street, Bunker Hill Street and Polk Street. The 3.3 million gross square-foot Project will include 2,699 new residential units, 1,100 of which will be replacement units for the existing public housing located on the Project site. The Project also includes community and retail space, new off-street parking, and open space. The Proponent is requesting a Phase 1 Wavier to be issued to allow for the immediate construction of two buildings and the associated infrastructure.

MWRA previously commented on the Project Environmental Notification Form (ENF) on October 11, 2016. MWRA’s comments on the DEIR-NPC continue to focus on issues related to stormwater, wastewater flows and the need for infiltration and inflow (“I/I”) removal, and discharge permitting from the Toxic Reduction and Control (TRAC) Department. These comments also include additional information related to the need for Section 8 (m) permitting.

## Stormwater and Wastewater

As reported in the DEIR-NPC, wastewater flow generated by the Project is estimated to be approximately 218,880 gallons per day (gpd). The Proponent reports this as a reduction of 136,677 gpd from the previously reviewed Project flow of 355,557 gpd in the ENF.

MWRA’s comments on the Project ENF noted the following:

- The Proponent should ensure that no separate stormwater generated on the Project site enters a Boston Water and Sewer Commission (BWSC) sanitary sewer, and that it removes any stormwater flows that may currently enter the BWSC sewer system.
- To ensure the Project's new wastewater flow does not increase surcharging and overflows in large storms, the Proponent should fully offset the Project's flows with infiltration/inflow (I/I) removal or sewer separation in compliance with MassDEP regulation – which requires the removal of at least 4 gallons of I/I or stormwater from the sewer system for every gallon of new wastewater flow – and in accordance with BWSC policy. If not offset with I/I or stormwater removal from sewer systems tributary to the Charlestown Branch Sewer, the Project's increase in wastewater flow could compromise the environmental benefits of MWRA's region-wide CSO Control Plan, including the intended water quality benefits in the CSO affected waters. (Waters affected by overflows from Charlestown Branch Sewer include the Little Mystic Channel (CSO Outfall BOS019) and the Upper Inner Harbor (MWRA's Prison Point CSO Facility)).
- The Proponent should present its wastewater offset plan in the DEIR.
- The Proponent should consult with MWRA and present in the DEIR the hydraulic capacities, existing dry weather flows and dry weather flows with the Project, for each section of the Charlestown Branch Sewer (to ensure adequate capacity for the Project's sanitary flow).

The DEIR-NPC states that there are existing BWSC storm drains and combined sewer mains in Medford Street, Decatur Street, Bunker Hill Street, Polk Street, Monument Street, Tufts Street, Corey Street, Walford Way and Moulton Street both adjacent to and within the Project site. Also, there are BHA storm drains within the Project site. The existing storm drain mains in these streets and private roadways carry storm flows to multiple storm drain outfalls in the Little Mystic Channel and Charles River. The existing combined sewer mains carry the Project site's sanitary flow to the Charlestown Branch Sewer, which is part of the system that conveys flows to the MWRA Deer Island Treatment Plant. Site areas, including building roof runoff, paved parking lot, private paved roads and driveways, and landscape areas appear to be collected by existing catch basins and directed to the various BWSC and BHA-owned storm drain mains.

The DEIR-NPC states that the Proponent will coordinate BWSC to reach an agreement regarding the requirement for 4:1 I/I mitigation. Specifically, the Proponent will work with BWSC to develop I/I mitigation agreements block by block within the Project site, as the design progresses. Because the Project will be served by separate sanitary and storm drain systems, rather than combined sewers, I/I impact from the post-development Project Site is minimal.

In a next MEPA filing, MWRA urges the Proponent to confirm whether any stormwater currently generated on the Project Site enters the BWSC and MWRA sewer systems. If any stormwater is found to enter these systems, removal could contribute in part to achieving the Project's I/I mitigation requirements. Otherwise, because all or most of the stormwater currently generated on the Project Site appears to be collected by separate storm drain systems which discharge to the harbor and therefore does not enter the sewer system, I/I mitigation will need to be accomplished off-site. To avoid increasing both

surcharging from and overflows within the Charlestown Branch Sewer, I/I should be removed from tributary sewer systems in Charlestown. The next MEPA filing should describe plans for accomplishing this mitigation.

As previously noted in comments on the ENF, MWRA requests that the Proponent evaluate the impact of the Project's increase in wastewater flow on MWRA's Charlestown Branch Sewer and offers assistance on this matter. The Proponent should contact David Kubiak, Sr. Program Manager, Wastewater Engineering, at (617) 570-5460 or david.kubiak@mwra.com.

#### TRAC Discharge Permitting

MWRA prohibits the discharge of stormwater and groundwater to the sanitary sewer system, pursuant to 360 CMR. 10.023(1) except in a combined sewer area when permitted by the Authority and the local community. The Project site has access to storm drains and it is not located in a combined sewer area. Therefore, the discharge of groundwater to the sanitary sewer system associated with construction of the Project is prohibited.

Any gas/oil separators in parking garages associated with the Project must comply with 360 C.M.R. 10.016 and the State Plumbing Code. Installation of the proposed gas/oil separator(s) may not be back filled until inspected and approved by the MWRA and the Local Plumbing Inspector. For assistance in obtaining an inspection, the Proponent should contact John Feeney, Source Coordinator, at (617) 305-5631.

#### Section 8 (m) Permitting

Section 8 (m) of Chapter 372 of the Acts of 1984, MWRA's Enabling Legislation, allows 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 close proximity of MWRA wastewater infrastructure to the Project site, an 8 (m) permit may be required. The Proponent should contact Kevin McKenna, Waterwater Permitting, at 617-305-5956 for assistance related to this matter.

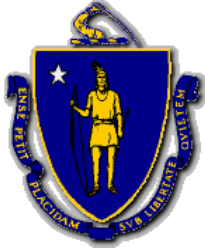
On behalf of the MWRA, thank you for the opportunity to provide comments on this Project. Please do not hesitate to contact me at (617) 788-4958 with any questions or concerns.

Sincerely,



Beth Card  
Director  
Environmental and Regulatory Affairs

cc: Adam Horst, BWSC  
John Viola, MassDEP



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF  
ENERGY AND ENVIRONMENTAL AFFAIRS  
**DEPARTMENT OF ENERGY RESOURCES**  
100 CAMBRIDGE ST., SUITE 1020  
BOSTON, MA 02114  
Telephone: 617-626-7300  
Facsimile: 617-727-0030

**Charles D. Baker**  
Governor

**Karyn E. Polito**  
Lt. Governor

**Kathleen A. Theoharides**  
Secretary

**Patrick C. Woodcock**  
Commissioner

14 April 2020

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

RE: Bunker Hill Housing Redevelopment, Charlestown, Massachusetts, EEA #15584

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

Dear Secretary Theoharides:

We've reviewed the Notice of Project Change/Draft Environmental Impact Report (NPC/DEIR) for the above project. The proposed project consists of about 3.3 million square feet of new residential development (total of 2,699 residential units) plus some retail space and parking garages.

### **Executive Summary**

- The project is taking **exemplary measures** to avoid emissions, including committing to Passivehouse for all 2,699 residential units and committing to efficient electrification of all space heating.
- In addition, the project is committed to be PV ready for 1.1 MW of rooftop PV.
- Addition of efficient electrification of domestic water heating could increase emissions reduction. The project is committing to arrange water heating systems to be able to accommodate efficient heat pump electric water heating systems in the future.

In summary, this project **sets a new standard** for achieving emissions reduction and provides an example of how projects can help achieve Massachusetts' Global Warming Solutions Act (GWSA) goals.

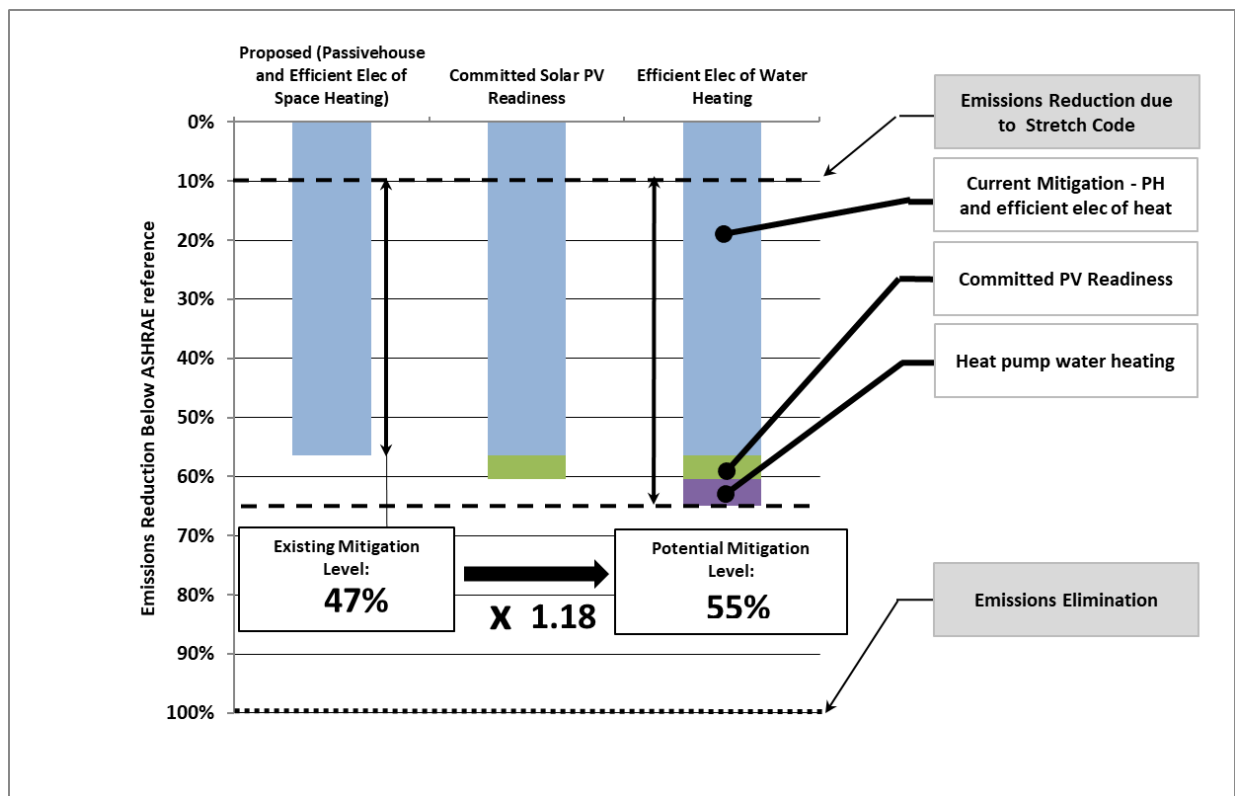


Notably, it appears that this project will be, by far, the largest Passivehouse project in North America and close to the largest in the world, just behind the Gaobeidian Railway City project in China (which is 3.5 million square feet of Passivehouse).

### Pathway to 55% Mitigation Level

The building is currently-proposed to have a Mitigation Level<sup>1</sup> of 47%. This can be improved by about x1.18 to 55%. In summary:

- The currently-committed efficiency strategies deliver a Mitigation Level (ML) of 47%. This is accomplished with Passivehouse and efficient electrification of space heating.
- Mitigation Level can be improved to 55% as follows:
  - Installation of 1.1 MW of PV installed on the solar ready roof set-aside improves ML to 50%
  - Efficient electrification of domestic hot water improves ML to 55%



<sup>1</sup> 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.

## **Building Envelope Performance**

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

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

Note that 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.

The project is committing to about 21% fenestration ratio (code level for multifamily), high-performance windows ( $U=0.38$ , about 30% higher-performing than code), 16% higher-performing walls, and avoiding curtain walls and spandrel assemblies. In aggregate, the proposed vertical UA performance is  $U=0.114$  which is 13% higher-performing than code standard vertical UA.

Roof insulation is about 6% higher-performing than code. Floor assemblies also exceed code minimum.

Notably, the project is also committing to very low air-infiltration as required by Passivehouse. Current Passivehouse air-infiltration rate is 0.08 cfm/sf at 75 Pa which is x5 higher performing than ASHRAE code standard.

In summary, the project is committing to an ultra high-performance envelope consistent with Passivehouse standards.

## **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.)

### **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 electric heat pumps and VRF systems.

Currently, the project is committing to efficient electrification of all space heating with VRF systems.

For domestic water heating, the project is planning to use condensing natural gas boilers. Hot water heating boilers will be centrally located, one system per building on the roof, such that the boilers can be swapped with air-source heat pumps in the future.

The proponent was responsive to DOER recommendations to examine other water heating options including: electric resistance, in-unit electric heat pump water heaters, and centrally-located heat pump water heaters and found all to be infeasible at this time.

### **Passivehouse**

The project is committing to Passivehouse for all 2,699 residential dwelling units and will be pursuing all applicable MassSave<sup>®</sup> and other incentives.

### **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 1.1 MW of PV when applied across all buildings. Further, the project is committing to this amount of rooftop PV solar readiness.

### **Recommendations for Subsequent Submissions**

The DOER commends the proponent and can affirm that this project is taking all feasible measures to avoid, reduce, and mitigation GHG emissions based on current commitments.

Recommendations are as follows:

1. For the two prototype buildings, examine effect of targeted SHGC and external shading considering variability of exposure to sun, building self-shading, and shadows from other buildings. This will provide some insights into these issues which can help inform other buildings.
2. Consider committing to having one (1) building with central air source heat pump for domestic hot water production, potentially in tandem with planned natural gas system. Consider pursuing a research grant with Massachusetts Clean Energy Center (MCEC) and/or MassSave®.

Sincerely,



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



Brendan Place  
Clean Energy Engineer  
Massachusetts Department of Energy Resources

**March 27rd, 2020**

Tori Kim  
Director  
Massachusetts Environmental Policy Act Office  
100 Cambridge St., Suite 900  
Boston, MA 02114

Anne Canaday  
MEPA Analyst  
Massachusetts Environmental Policy Act Office  
100 Cambridge St., Suite 900  
Boston, MA 02114

**Dear Director Kim, Ms. Canaday:**

I write in regards to the Bunker Hill Housing Redevelopment, for which the Bunker Hill Redevelopment Company, LLC, has recently submitted a Notice of Project Change, Draft Environmental Impact Report and Phase I Waiver Request.

The Bunker Hill Housing Redevelopment project is critical for ensuring affordable, healthy, quality housing for residents of Boston. More specifically, it is critical for ensuring the rehabilitation and reconstruction of over 1000 deeply affordable units in the largest public housing complex in the region, through a mixed-use redevelopment with 1:1 replacement of affordable units.

The proponent is working in partnership with the City, Boston Housing Authority (BHA) and Charlestown Residents Alliance (CRA) to plan an inclusive and sustainable community, and to limit residential displacement during construction. The phased nature of the development will allow the proponent and BHA to minimize off-site relocation. Proceeding with Phase I imminently is critical for construction of affordable units on-site that will allow plans for existing residents, negotiated with the CRA, to move forward.

As such, I am supportive of the request for a Phase I Waiver. The project merits a Phase I Waiver for several reasons: the potential environmental impact of Phase I is low; the need to begin the project is great; and the project as a whole seeks to model sustainable building types and Passive House construction.

Looking forward from Phase I, review of the remainder of the project will be valuable to determine opportunities for partnership with the Commonwealth on meeting environmental goals, and to engage in further deliberation on the interactions of the project's transportation plans with services provided by the MBTA. It is critical that the redevelopment, in conjunction with public infrastructure planning and investment, facilitate the improvement of transportation

connections for low-income residents in a portion of the neighborhood less proximate to subway or ferry service.

**Lydia Edwards**  
**Boston City Councilor**  
**District One**



*The Kennedy Center's mission is to provide individuals and families in need with services, opportunities, and the tools they require to lead productive and fulfilling lives.*

---

**President**

Eileen Ward March 18, 2020

**Vice President**

Tom Cunha Kathleen Theoharides, Secretary

**Treasurers**

Eric Philippi Executive Office of Energy and Environmental Affairs

Carol Bratley 100 Cambridge Street, Suite 900

**Secretary**

Lorrie Morton Boston, MA 022114

**Directors**

Re: Draft Environmental Impact Report-Notice of Project Change

James Collins EEA No. 15584

David Flanagan Bunker Hill Housing Redevelopment, Charlestown MA

Ed Katz

Irene Kershaw

Phyllis Hickey Dear Secretary Theoharides,

Jim Henry

Gina Powsers, Esq.

John Tobin, Esq.

**Executive Director**

Thara Fuller

We are writing to express serious concerns about the application of the Bunker Hill Redevelopment project's request for a Phase 1 Waiver in order to proceed with two of the proposed buildings prior to preparing a Final EIR for the Master Plan Project. The Draft Environmental Impact Report released in February of this year does not mention that the 9 story building proposed for Phase 1 (see Building F on enclosed rendering) would be built approximately 100 feet away from our Early Childhood school building. The John F. Kennedy Family Services Center operates one of the oldest Head Start programs in the former Kent elementary school, situated at the intersection of Moulton Street and Moulton Way, which is a main access road for Phase 1 construction.

We have made requests for a pre-construction mitigation meeting with the Bunker Hill redevelopment team, but such a meeting has not been finalized as of today.

The 1894 school building, designed by Edmund March Wheelwright, was designated a Boston City Landmark in the fall of 2019 and was recommended for funding by the Community Preservation Act grant committee in the 2020 funding cycle.

The only mention of our building in the DIPR is the following passage from section 1.18.

John F. Kennedy Family Service Center, Inc.  
23 A Moulton Street, Charlestown, MA 02129  
(P) 617-241-8866 (F) 617-241-7021  
[Info@KennedyCenter.org](mailto:Info@KennedyCenter.org) [www.KennedyCenter.org](http://www.KennedyCenter.org)



*The Kennedy Center's mission is to provide individuals and families in need with services, opportunities, and the tools they require to lead productive and fulfilling lives.*

---

*Construction of the Phase 1 Project will not create an adverse effect on any historic resources listed in the National or State Registers of Historic Places. As described in ENF/EPNF Chapter 4, Historic Resources, and reiterated in Section 7.12 of this filing, there are no historic resources within the Project Site. Within a one-quarter-mile radius of the Project are five National Register Bunker Hill Housing Redevelopment and/or State Register-listed districts and properties and 12 inventoried areas. An additional individually inventoried property is located adjacent to the Project Site. The likelihood of encountering intact, significant archaeological features or deposits in the Project is low. The Massachusetts Historical Commission (MHC) has determined that neither the Site nor its structures are listed in the National Register of Historic Places and do not appear to meet the criteria of eligibility for listing in the National Register. Finally, demolition of the existing Bunker Hill Public Housing development will not have any direct impacts on historic resources.*

We respectfully disagree with the assertion of the redevelopment team (the Proponent) that there will be no direct impacts on historic resources. Without a commitment from the Proponent to a full range of protective measures during construction, we have reason to believe that the impact to our building and the safety of our staff and children could be highly detrimental.

The following is a preliminary list of our concerns.

- 1) Construction vibrations and debris that could cause further deterioration of an already compromised 124 year old slate roof. The danger of dislodging slates is quite high.
- 2) Truck traffic in a narrow piece of road where young children are being dropped off and picked up, some coming on foot and in strollers from neighboring apartments. The DIPR passages addressing transportation mitigation completely disregard this fact. On page 836 there is a set of truck routes showing the use of major highways but each route ends with a turn onto Decatur Street and then a "turn left onto the project site." In fact the first site entered from Decatur is the Kennedy Center play yard and parking area.
- 3) Compromised air quality, particularly given the outdoor play yard in front of the school.
- 4) The potential for discovery of additional hazardous material specifically in the region of Phase 1. Given the proximity to a school, the standard for investigation of soil samples should be especially high.
- 5) Rodent activity. We have already invested thousands of dollars in a rodent barrier around the play yard after finding rats harboring in the area of overflowing dumpsters in land adjacent to ours and owned by the housing authority. Construction activity around sewer lines and the disruption of digging are likely to drive rats toward shelter under or in our school building.
- 6) The lasting effect of additional traffic to serve tenants in a building with 256 units and 86 parking spaces-- this is at least a tenfold increase of existing conditions.





*The Kennedy Center's mission is to provide individuals and families in need with services, opportunities, and the tools they require to lead productive and fulfilling lives.*

---

On behalf of the 100 children in our school, their families, our staff, and our Board of Directors, we respectfully submit this request for consideration of our concerns in relation to the request for a MEPA waiver for Phase I. We ask that you defer or deny a decision on the waiver until such time as the development team fully addresses our concerns.

Sincerely,

A handwritten signature in cursive script that reads "Eileen Ward".

Eileen Ward, President

A handwritten signature in cursive script that reads "Tom Cunha".

Tom Cunha, Vice President

A handwritten signature in cursive script that reads "Eric Philippi".

Eric Philippi, Treasurer

A handwritten signature in cursive script that reads "Thara Fuller".

Thara Fuller, Executive Director