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

PROJECT NAME	: 323 – 365 Dorchester Avenue
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Charles River
EEA NUMBER	: 16368
PROJECT PROPONENT	: SB Gateway I LLC and SB Gateway IIA LLC, Affiliates of National Development
DATE NOTICED IN MONITOR	: April 23, 2021

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** an Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF)[1], the project consists of a multi-phase mixed-use transit-oriented development (TOD) at 323-365 Dorchester Avenue in Boston. The project proposes construction of four new buildings totaling approximately 1.15 million square feet (sf); new infrastructure and public realm upgrades, including a new network of privately maintained streets open to public travel, and approximately 1.1 acres of publicly accessible open space; below grade parking; and associated stormwater management systems, utilities, landscaping, and other site development features. Proposed uses include office, life science, residential (345 units, of which 17 percent will be affordable) and ground floor retail uses. The project will be served by municipal water and wastewater.

[1] The Proponent filed a joint ENF and Project Notification Form (PNF) to comply with the requirements of both MEPA and Article 80B Large Project Review administered by the Boston Planning and Development Agency (BPDA).

The four buildings will be known as 333 Dorchester Avenue (northeast quadrant), 345 Dorchester Avenue (southeast quadrant), West – Residential (southwest quadrant), and West Commercial (northwest quadrant). Supplemental information provided on May 5, 2021 describes anticipated phasing and includes a phasing plan. Phase 1 will likely be located on the eastern part of the site and include one or both of the buildings adjacent to Dorchester Avenue (333 and 345 Dorchester Avenue). Based on market demand, 345 Dorchester Avenue (a commercial building) is likely to begin construction first (Phase 1A); 333 Dorchester Avenue may also be included (Phase 1B). Phase 1 will also include construction of open space and landscaping on the Phase 1 site, the full length of Ellery Street, and streetscapes, including trees, bike lane(s) and landscaping, immediately adjacent to the Phase 1 site. Subsequent phases are expected to occur on the western part of the site. All four buildings were analyzed conceptually in this ENF. The project will comply with the City of Boston's Complete Streets guidelines, Smart Utilities Policy, Article 37 Green Building Guidelines, the Affirmatively Furthering Fair Housing (AFFH) Policy and Imagine Boston 2030. The Proponent anticipates the project will obtain zoning relief through approval of a Planned Development Area (PDA) Development Plan. The proposed project is identified in Table 1-1 of the ENF.

Project Site

The 5.4-acre project site is located off Dorchester Avenue in the South Boston neighborhood of Boston. It is comprised of properties at 323, 345, and 363-365 Dorchester Avenue and is currently zoned for industrial use. It is bounded by 307 Dorchester Avenue to the north, Dorchester Avenue to the east, 371-393 Dorchester Avenue to the south and a Massachusetts Bay Transportation Authority (MBTA) right-of-way (ROW) to the west. The project site is located 0.4 miles from two MBTA Red Line stations (Andrew and Broadway) which are served by nine MBTA bus routes. It is also located approximately 0.4 miles from the West Broadway shopping district, 0.7 miles from DCR's Moakley Park, 1.1 miles from Carson Beach, and 1.3 miles from the Boston Convention and Exhibition Center. The site is almost entirely impervious and contains asphalt parking lots and circulation areas, a 18,070-sf fitness building, a 18,270-sf warehouse, and a 53,560-sf warehouse. The South Boston area covering the project site consists of former tidelands that were historically filled. The project site is located wholly within landlocked tidelands.

The project site is within the study area for "PLAN: South Boston Dorchester Avenue" (hereinafter "PLAN: Dot Ave"), which is a planning initiative completed by the Boston Planning and Development Agency (BPDA) in 2016. The initiative is a framework for revitalizing a corridor comprised of low density, primarily industrial uses into an urban mixed-use neighborhood with an accessible and inclusive public realm including walkable streets and connected open spaces.

Environmental Impacts and Mitigation

Potential environmental impacts of the project include generation of 9,718 new unadjusted average daily trips (adt) (total of 10,438 adt when considering existing uses); construction of 444 new parking spaces (total of 670 spaces); new water use of 135,046 gallons per day (gpd) (total of 140,206 gpd); new wastewater generation of 122,769 gpd (total of 127,460 gpd); and construction of 0.28 miles and 0.06 miles of water and wastewater main, respectively. Measures to avoid, minimize, and mitigate environmental impacts include removal of 0.19 acres of impervious area; reuse of an existing developed

site; implementation of a transportation demand management (TDM) program; construction of a stormwater management system; and implementation of construction period best management practices (BMPs).

Jurisdiction and Permitting

This project is undergoing MEPA review and requires an ENF pursuant to 301 CMR 11.03(5)(b)(4)(a), 11.03(6)(b)(13), and 11.03(6)(b)(15) because it requires an Agency Action and will involve: New discharge or Expansion in discharge to a sewer system of 100,000 or more gpd of sewage, industrial wastewater or untreated stormwater; generation of 2,000 or more New adt on roadways providing access to a single location; and construction of 300 or more New parking spaces at a single location, respectively. The project requires a Project Development Group (PDG) Zone of Influence (ZOI) Design Review from MBTA.[2] The ENF notes that the project may require a Sewer Use Discharge Permit (if applicable) from the Massachusetts Water Resources Authority (MWRA) and an Air Quality Permit from the Massachusetts Department of Environmental Protection (MassDEP).

I note that the project also exceeds the Mandatory EIR review threshold for transportation at 301 CMR 11.03(6)(a)(6) because it will generate 3,000 or more New adt on roadways providing access to a single location. Under 301 CMR 11.01(2)(a)(3), MEPA jurisdiction is limited when a project is undertaken by a Person and requires one or more Permits or involves a Land Transfer but does not involve Financial Assistance. Limited, or subject matter, jurisdiction means that the Scope, if an EIR is required, shall be limited to those aspects of the Project within the subject matter of any required Permit that are likely, directly or indirectly, to cause Damage to the Environment. The Proponent asserts in the ENF that, while the MBTA's ZOI Review was identified as a Permit needed for the project, the subject matter of this licensing process cannot be said to be related to any impacts of this particular project since ZOI licensing focuses exclusively on construction design and methods to ensure that the project is constructed in a way that will not compromise the physical integrity of the adjacent MBTA infrastructure. The Proponent further argues that the traffic impacts of this project would not be considered during ZOI licensing. I did not receive any comments from MassDOT or other sources disagreeing with this characterization of the ZOI licensing process. Based on the description provided in the ENF, it therefore appears that the traffic impacts from this particular project are not related to the subject matter of the required Agency Actions. Accordingly, I cannot issue a Scope for the project based on the mandatory EIR threshold related to transportation.[3]

[2] Although the ENF indicates that the project may require consent from the Massachusetts Department of Transportation (MassDOT) under M.G.L. Chapter 40 Section 54A for issuance of a local permit to build on lands formerly used as railroad right-of-way, the Proponent submitted supplemental information on May 18, 2021 indicating that there is no evidence in historical land records showing any portion of the project site on which any structures requiring a building permit are to be constructed as being previously owned by a railroad company, nor any portion of the project site being subject to an easement previously held by a railroad company. Accordingly, no consent is required under M.G.L. Chapter 40 Section 54A. If MassDOT later determines that consent is required based on its own review of historical land records, the Proponent is directed to consult with the MEPA Office to determine the need for further review of this project.

[3] I note, however, that this project is located in close proximity to Environmental Justice (EJ) communities in and around South Boston. Under new requirements imposed by Sections 56-58 of Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy*, similar future projects will be required to undergo an EIR review process once regulations are in place to implement such requirements.

The project requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) from the U.S. Environmental Protection Agency (EPA), and review from the Federal Aviation Administration (FAA). It requires numerous permits and approvals from the City of Boston (City) including Article 80 Large Project Review by the BPDA and a Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP) approval from the Boston Transportation Department (BTD).

Because the Proponent is not seeking Financial Assistance from the Commonwealth for the project, and as noted above, MEPA jurisdiction for any future reviews would extend to those aspects of the project that are within the subject matter of required or potentially required Agency Actions and that may cause Damage to the Environment as defined in the MEPA regulations.

Review of the ENF

The ENF provides a description of existing and proposed conditions, preliminary project plans, a summary of community outreach, and an analysis of alternatives. It identifies measures to avoid, minimize and mitigate project impacts. I refer the Proponent to the detailed comments from the Boston Water and Sewer Commission (BWSC) regarding coordination, review and permitting associated with its water, sewer, and drainage infrastructure.

Alternatives Analysis

The ENF includes analysis of the following alternatives: No Build; PLAN: Dot Ave Compliant; and the Preferred Alternative. It includes conceptual plans and a tabular comparison of impacts for the two build alternatives including consistency with six identified project goals. The No Build alternative would leave the site in its current condition. This alternative was dismissed because it would not further the goals of Imagine Boston 2030 or PLAN: Dot Ave, nor provide public open space, multimodal infrastructure, TOD, impervious area reductions, or site remediation.

The PLAN: Dot Ave-Compliant Alternative would consist of four buildings (totaling 1.56 million sf) with 300-foot towers and limited massing variety. In this alternative, buildings do not conform with market-based planning dimensions, and residential and commercial uses are segregated on the east and west sides of the site. While both build alternatives would be consistent with Imagine Boston 2030 and PLAN: Dot Ave, the PLAN: Dot Ave-Compliant Alternative is more impactful than the Preferred Alternative and would include greater unadjusted adt (2,884 adt), parking spaces (460 spaces), water use (56,603 gpd), and wastewater generation (51,457 gpd); while it would provide 0.5 acres more pervious area, this would be entirely underlain by underground parking.

According to the ENF, the Preferred Alternative, as described herein, would meet all six project goals which include establishing mixed uses; transforming existing streets into Complete Streets; creating open space; providing multimodal infrastructure; providing a mix of scales, heights, and massing forms; and designing for resilience and sustainability. The Preferred Alternative incorporates additional community feedback expressing a desire for a project that does not maximize the full building envelope allowed by the PLAN: Dot Ave.

Transportation

The ENF indicates that the project will not impact state-controlled roadways as all roadways adjacent to the project site are municipal streets. The project site is approximately 0.4 miles from MBTA's Broadway Station to the north and MBTA's Andrew Station to the south. Both stations serve the MBTA red line as well as many bus routes including the MBTA Routes 9, 11, and 47 at Broadway Station and the MBTA Routes CT3, 5, 10, 16, 17, 18, and 171 at Andrew Station. The site is adjacent to the MBTA commuter rail right-of-way and the underground tunnel for the Red Line.

The ENF presents a summary of the project's transportation impacts including site access, parking, public transportation, bicycle and pedestrian facilities, trip generation, loading and service, and TDM measures. It does not provide an operational analysis of study area intersections for existing or future conditions. Instead, the ENF indicates that a complete transportation analysis that complies with the BTD Transportation Access Plan Guidelines and BPDA Article 80 Large Project Review process will be included in the Draft Project Impact Report (DPIR), which will be developed in cooperation with the BPDA and the community.

The ENF identifies 18 study area intersections and reviews existing conditions in the vicinity of the project site. The No-Build Condition will reflect a future scenario that incorporates anticipated traffic volume changes based on background traffic growth and traffic associated with other planned specific developments. The No-Build Condition will include any specific developments in the area that are within the Article 80 review process at the time of the completion of the DPIR for this project. The No-Build Condition will also incorporate any known transportation infrastructure projects that are planned for the study area.

As requested by the City, the project mode share rates will be the same as those outlined in the PLAN: Dot Ave study, which were developed using the Go-Boston 2030 transportation mode goals, as well as other City efforts in proximity to the planning study area. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA). Residential and office/life science uses will have a vehicle occupancy rate of 1.18 and modes shares of 30 percent for walking/biking, 50 percent for transit, and 20 percent for vehicles. Retail uses will have a vehicle occupancy rate of 1.82 and modes shares of 50 percent for walking/biking, 30 percent for transit, and 20 percent for vehicles.

Based on Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition) Land Use Codes (LUCs) 222 (Multifamily Housing High-Rise), 710 (General Office Building), 760 (Research and Development Center), and 820 (Shopping Center), the project is estimated to generate 9,718 new unadjusted adt (total of 10,438 unadjusted adt). According to the ENF, during the weekday morning peak hour, the project will generate approximately 181 new vehicle trips (130 entering and 51 exiting), 295 new transit trips (209 entering and 86 exiting), and 230 new walk/bicycle trips (165 entering and 65 exiting). During the weekday evening peak hour, the project will generate approximately 210 new vehicle trips (60 entering and 150 exiting), 361 new transit trips (103 entering and 258 exiting), and 350 new walk/bicycle trips (117 entering and 233 exiting). When adjusted based on mode share, net new vehicular trips are projected to be 2,858 adt (total of 3,578 adjusted adt).

The project includes implementation of a TDM program. The goal of the TDM program focuses

on increasing use of public transit as well as bicycle and pedestrian infrastructure to and from the site and includes the following measures:

- Designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries
- Join and participate in the local transportation management association (TMA) on behalf of commercial tenants and residents.
- Provide orientation packets to new tenants/residents on multi-modal options
- Provide newsletter or bulletin (at least annually) summarizing transit, ridesharing, bicycling, alternative work schedules, and other travel options
- Posting information about public transportation in building lobbies and on project website
- Providing one free annual MBTA subway pass per residential unit during first year of operation
- Encouraging employers to subsidize on-site full-time employees' purchase of monthly transit passes
- Promoting to commercial tenants potential savings on payroll-related taxes and provision of employee benefits by offering transportation benefits such as subsidized public transportation
- Encouraging employers to arrange to provide Guaranteed Ride Home (GRH) when public transit service is no longer available to employee's home
- Providing bike and pedestrian access information on the project website
- Providing covered, secure bicycle storage for building occupants
- Providing on-site external bike racks for visitors
- Installing a Bluebikes bike sharing station on-site
- Through the local TMA, provide a GRH for those commuting on foot or by bike
- Provide electric vehicle (EV) charging stations to accommodate 25 percent of total parking and sufficient infrastructure capacity for future accommodation of 100 percent of total parking spaces
- Designate up to five percent of parking spaces as preferred parking for low emission vehicles
- Explore feasibility of providing spaces for a car sharing service (e.g., Zipcar)

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, TDM measures, and any other responsibilities that are agreed to by both parties. Because the TAPA must incorporate the results of the technical analysis, it will be executed after these other processes have been completed.

Stormwater

The project will remove approximately 0.19 acres of impervious area. The site is primarily comprised of pavement currently and provides minimal natural attenuation of stormwater runoff, groundwater recharge and/or water quality enhancement of existing runoff prior to discharge to the BWSC system. The project will comply with the MassDEP Stormwater Management Policy and Standards for redevelopments to the maximum extent practicable and incorporate on-site stormwater management and treatment systems which will collectively improve water quality, reduce runoff

volume, and attenuate peak rates of runoff in comparison to existing conditions. Proposed open space areas and corresponding reduction in impervious area combined with new subsurface infiltration systems will benefit the municipal system by promoting additional groundwater recharge, and removal of sediment and phosphorus from stormwater runoff.

Public Benefit Determination

The project site is comprised of tidelands and subject to the provisions of An Act Relative to Licensing Requirements for Certain Tidelands (2007 Mass. Acts ch. 168) (the "Act) and the Public Benefit Determination regulations (301 CMR 13.00). The project is a non-water-dependent project and not subject to M.G.L. Chapter 91 (c. 91) licensing by MassDEP because the site is composed entirely of landlocked tidelands. The Act requires me to issue a Public Benefit Determination (PBD) for projects that require an Environmental Impact Report (EIR), and accords me discretion to issue a PBD for others that do not require an EIR. As noted above, this project exceeds mandatory EIR thresholds for transportation, but such impacts cannot be deemed related to required Permits and, therefore, cannot be included in a Scope for an EIR.

Supplemental information provided on May 18, 2021 discusses the consistency of the project with the Act including the purpose and effect of the development; the impacts on abutters and the surrounding community; enhancement to the property; benefits to the public trust rights in tidelands or other associated rights; and community activities on the development site. In particular, the project proposes to revitalize the neighborhood by converting an almost entirely impervious urban site into a TOD that provides 1.1 acres of publicly accessible open space, and opportunities for community engagement. In addition to publicly accessible open space, the project will add new streets, sidewalks, and bicycle facilities to the area containing filled tidelands to encourage public use at a location currently closed to the public. Based on the information provided and pursuant to 301 CMR 13.02(2), I do not find it necessary to conduct an additional Public Benefit Review for the project.

Wastewater

The ENF identifies the potential for a future tenant to require a Sewer Use Discharge Permit from MWRA pursuant to 360 CMR 10.00 prior to discharging laboratory wastewater, research and development (R&D) wastewater, photo-processing and/or industrial process wastewater from laboratory or commercial space associated with the project into the MWRA sanitary sewer system. I refer the Proponent to MWRA comments regarding wastewater, requirements for removal of Infiltration/Inflow (I/I) and permitting associated with Toxic Reduction and Control (TRAC) discharges.

The project will generate 127,460 gpd of wastewater (increase of 122,769 gpd over existing flows), which takes into account the potential for a lab/R&D tenant noted above. The ENF indicates that there is a 12-inch BWSC combined sewer along the site frontage in Dorchester Avenue, which discharges to BWSC's South Boston Interceptor – North Branch and ultimately to MWRA's Columbus Park Headworks in South Boston and the Deer Island Wastewater Treatment Plant. During larger storm events when the capacity of the BWSC combined system is exceeded, the system can overflow to Fort Point Channel via combined sewer outfall BOS070. The ENF indicates that options for potential sewer connections are being evaluated and will be coordinated with the BWSC at the current stage of the design; the ENF includes a figure which identifies proposed sewage connections.

The project is subject to MassDEP regulation and BWSC policies that require mitigation for I/I at a ratio of 4:1 relative to net new wastewater generation. MWRA comments indicate that increasing wastewater flow to the BWSC combined sewer system and the MWRA system without the required 4:1 offset may compromise the Fort Point Channel water quality benefits of MWRA's recently completed $912 million Combined Sewer Overflow (CSO) control plan, and the performance of the South Boston CSO Storage Tunnel. The Proponent should continue to work with BWSC to develop a plan that identifies removal of four gallons of stormwater and/or I/I from a hydraulically related sewer system(s) for every gallon of new wastewater flow to ensure that the project's large wastewater flow will not increase system surcharging or overflows in large storms. The ENF does not describe whether the project will contribute to mitigation associated with future BWSC sewer separation as part of its I/I mitigation requirement. The Proponent commits to working with BWSC to determine the appropriate mitigation volume and value of compensation to be paid to the I/I mitigation fund, or to provide I/I through alternative mitigation mechanisms, such as individual improvement projects. The Proponent will also work with BWSC to fulfill any supplemental requirements by BWSC.

MWRA comments indicate that planned BWSC sewer separation work may create the opportunity to discharge groundwater and/or stormwater to the Fort Point Channel during construction. The Proponent is advised that the discharge of groundwater and stormwater from the project site to the sanitary sewer system is prohibited without a permit from MWRA. If this separation work is not complete at the time of construction, a Temporary Construction Dewatering Permit will be required from MWRA prior to the discharge of groundwater or stormwater from any construction activities associated with the project into the sanitary sewer system.

Climate Change Adaptation and Resiliency

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 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 greenhouse gas (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. I note that 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.

The Climate Ready Boston report (December 2016) identifies the City's vulnerabilities to climate change and potential measures to increase its resilience and the City is currently preparing the Climate Ready South Boston plan which includes recommendations for promoting the neighborhood's resilience. The ENF discusses the project's approach to preparing for anticipated changes in climate conditions in accordance with Article 80 review and includes the Climate Change Resiliency and Preparedness Checklist (Appendix B). The most recent projections from the Climate Ready Boston report, the BPDA's current Resiliency Policy, Resiliency Checklist, and the online Sea Level Rise (SLR) Flood Mapping tool were used to identify the project site's vulnerability to projected changes in the climate. The 2018 Coastal Resilience Solutions for South Boston (CRB South Boston) was also reviewed to help identify potential resilience measures for the site.

As noted in Climate Ready Boston, the City is on track to experience both increasing average temperatures and increasing frequency, duration, and intensity of heat waves. According to the ENF, the project will incorporate reflective roof materials; landscaping; building systems to maintain safe indoor temperatures; an indoor "Urban Garden Room" in the West Commercial building to provide an indoor conditioned area; shaded structures and areas in portions of the open space; exposed thermal mass in the façade, accessible outdoor spaces available to the majority of tenant spaces and operable windows in the residential buildings; and high-performance building envelope to reduce cooling loads in the summer and heat loss in the winter. The Proponent will continue to study façade shading to minimize solar gains.

Climate Ready Boston and the BPDA's Climate Resiliency Guidance Document indicate that sea level in Boston will continue to rise throughout the century and the likelihood of the project site being flooded in the near- (by 2030), medium- (by 2050), and long-term (2070) time horizon is increasing, as storm events have been increasing in magnitude and frequency due to warming temperatures. Although the project site is not currently within the mapped one percent annual chance floodplain, according to the Climate Ready Boston Map Explorer, barring the implementation of any district scale flood protection measures, the project site is projected to be inundated by the 10 percent annual chance flood by 2070 after taking into account the anticipated effects of SLR. The CRB South Boston report indicates that the future flood pathway that would produce flooding on-site is located on the Fort Point Channel at the northern end of the MBTA's Cabot Yard and Cabot Maintenance Facility, which is located seaward of the project site. According to the ENF, the report recommends erecting a three- to six-foot barrier along that portion of Fort Point Channel to provide protection for upland areas. The MBTA facility is slated for significant improvements and it is anticipated that the flood pathway would be addressed as part of these improvements, which would result in greatly reduced flood risk to the project site. The project is not anticipated to exacerbate flooding risks to the MBTA facility due to its inland location relative to the facility. I encourage the Proponent to coordinate with MBTA regarding the timing of future improvements and to advance the project in a manner that supports proposed improvements.

The BPDA's Climate Resiliency Guidance document states that projects within the FEMA Special Flood Hazard Area or the BPDA Sea Level Rise Flood Hazard Area should use its recommended SLR-Design Flood Elevation (DFE) for the year 2070 as the minimum performance target for assessing SLR impacts and for reducing or eliminating flood risk, potential damage, and related adverse impacts. The projected SLR-DFEs are comprised of two components: the SLR base flood elevation (SLR-BFE) and freeboard. The SLR-BFE is based on the Boston Harbor Flood Risk Model (BH-FRM) results, which include 40 inches of SLR, 2.5 inches of local subsidence, and the one percent annual chance coastal flood event in 2070. 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. The BFE at the project site for 2070 is 18.5 feet Boston City Base (BCB), which would result in a SLR-DFE of 19.5 feet BCB for non-residential uses. The project will address future flood impacts by providing open space that transitions between the interior of the site, set at 19.5 feet BCB, and Dorchester Avenue's existing elevation of approximately 16 feet. The project's ground floors are primarily set at elevation 19.5 feet. Some of the retail that fronts Dorchester Avenue is set to meet the existing street elevation, promoting accessible entries from the existing grade. All building areas below elevation 19.5 feet will be designed with dry flood proofing. The project's critical mechanical equipment is located either at 19.5 feet or on pads or floors above that elevation. As the project moves through further design and permitting, I encourage the Proponent to consult the new climate tool released by EEA's Resilient MA Action Team (RMAT)

(https://resilientma.org/rmat_home/designstandards/) which incorporates up-to-date data from the Massachusetts Coastal Flood Risk Model (MC-FRM) and could result in more conservative recommendations for DFE or other design elements of the project.

Greenhouse Gas (GHG) Emissions and Sustainable Design

While the project does not exceed thresholds for application of MEPA's GHG Policy and Protocol, it involves the development of new residential and commercial uses that will add to GHG emissions from the building sector. The project is subject to the Massachusetts Stretch Code which requires a 10 percent energy performance improvement over ASHRAE 90.1-2013-Appendix G plus Massachusetts amendments. I refer the Proponent to the detailed comment letter from the Massachusetts Department of Energy Resources (DOER) which provides guidance on key mitigation strategies, energy efficiency pathways, and available incentives to reduce GHG emissions and improve resiliency. In particular, comments recommend key strategies for life science and similar "lab-office" spaces. DOER indicates that similar projects have achieved mitigation levels of 20-50 percent through incorporation of the following effective strategies at little to no cost premium:

- Passivehouse building standards (Residential Building)
- Building design and construction practices that result in low heating and cooling thermal energy demand intensity by:
  - Maintaining envelope integrity with framed, insulated walls with continuous insulation
  - Thermally-broken windows and other components to eliminate thermal bridges
  - Minimizing glass curtain wall assemblies and excessive windows
  - Low air-infiltration, confirmed with in-building air-infiltration testing
  - Energy recovery
  - Management of solar heat gains
- Efficient electrification of space and water heating
- Energy recovery
- Extensive rooftop solar PV and readiness
- EV-ready parking

Significant incentives may be available including MassSave® incentives, Alternative Energy Credits (AECs), and Solar Massachusetts Renewable Target (SMART) incentives. Given the high energy use associated with life science and lab-office uses in particular, I urge the Proponent to consider strong commitments to mitigation measures, such as electrification strategies, to maximize energy efficiency and reduce GHG emissions. This is consistent with recommendations made through the *Massachusetts 2050 Decarbonization Roadmap*[4] as well as the 2050 Net Zero emissions goal now mandated by Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy*.

The Proponent will provide a Zero Carbon Building Assessment for each building to determine the most effective solution(s) for reducing carbon emissions. The ENF provides preliminary energy modeling which estimates that the project will reduce energy use by 16 percent (6 percent above the

[4] https://www.mass.gov/info-details/ma-decarbonization-roadmap

Stretch Code) and GHG emissions by 12 percent. Energy modeling also estimates a 36 percent reduction in natural gas energy and associated GHG emissions; the project's primary energy source is electricity (66 percent) which will contribute to its pathway to carbon neutrality as the Commonwealth's electricity emissions factor continues to decline. As noted above, I strongly urge the Proponent to consider additional electrification strategies to reduce GHG emissions consistent with the *Massachusetts 2050 Decarbonization Roadmap* and 2050 net zero emissions goal.

Project buildings were grouped into two typologies: Office/Life Science typology (345 Dorchester Avenue and West Commercial buildings) and Residential typology (333 Dorchester Avenue and West Residential buildings) for the purposes of evaluating Leadership in Energy and Environmental Design (LEED) credits and creating preliminary energy models. The project will target LEED v.4 Gold certification for the Office/Life Science typology buildings and Silver certification for the Residential typology buildings. Preliminary rooftop solar photovoltaic (PV) system feasibility analyses were conducted for all buildings. The Proponent intends to explore and use applicable federal, state and utility incentives available through energy efficiency, renewable energy, and potentially alternative energy credit (AEC) programs. The Proponent intends to use the MassSave® New Construction Program. Each building will undergo its own full Article 37 review prior to construction; preliminary LEED checklists are provided in the ENF.

The ENF notes that project may require an air emissions permit from MassDEP, which could independently trigger a MEPA review threshold for air emissions at 301 CMR 11.03(8). If the project chooses to pursue that energy solution, the Proponent should consult with the MEPA Office to determine whether a Notice of Project Change (NPC) filing would be required.

Hazardous Materials

The project site is currently being regulated under M.G.L. c.21E and the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The ENF describes the status and history of the three Release Tracking Numbers (RTNs) associated with the site: 3-35370, 3-36225, and 3-36433. Contamination includes polychlorinated biphenyls (PCBs), tetrachloroethylene (PCE), metals, and polycyclic aromatic hydrocarbons (PAHs) in urban fill soils at concentrations above applicable MCP Reportable Concentrations for soil. Based on groundwater sampling on-site, contaminants of concern have not been detected above the applicable Reportable Concentrations for groundwater. All construction activities will be conducted in accordance with the MCP. Earthwork activities will be managed under a Release Abatement Measure (RAM) Plan and Soil and Groundwater Management Plan (SGMP). In addition, the soils containing elevated PCBs will also be managed in accordance with the Toxic Substance Control Act (TSCA). It is anticipated that excess soil that cannot be reused on-site during construction will be shipped to a licensed receiving facility.

Construction Period

All construction and demolition (C&D) activities should be managed in accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The Proponent will install BMPs on the project site to control erosion and sedimentation during the construction period. The project will require the preparation of a Stormwater Pollution

Prevention Plan (SWPPP) in accordance with the NPDES CGP. The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11).

I encourage the Proponents to require that their contractors use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponents should notify MassDEP in accordance with the MCP. The Proponents should develop a spills contingency plan. All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponents to reuse or recycle C&D debris to the maximum extent. The ENF indicates the Proponent will develop a waste management plan with the goal of procuring 25 percent sustainable material and diverting greater than 75 percent of waste from landfills.

Conclusion

The ENF has adequately described and analyzed the project and its alternatives, and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with State Agencies, I have determined that an EIR is not required.

K. Theoharides

June 1, 2021
Date

Kathleen A. Theoharides

Comments received:

05/05/2021 Boston Water and Sewer Commission (BWSC)
05/13/2021 Massachusetts Water Resources Authority (MWRA)
05/21/2021 Massachusetts Department of Energy Resources (DOER)

KAT/PPP/ppp

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

May 5, 2021

Secretary Kathleen A. Theoharides
Executive Office of Environmental Affairs
Attn: MEPA Office
Purvi Patel, No. 16368
100 Cambridge Street, Suite 900
Boston, MA 02114

and

Mr. Raul Duverge
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Re: 323-365 Dorchester Ave.
Environmental Notification Form

Dear Ms. Whiteside:

The Boston Water and Sewer Commission (Commission) has reviewed the Environmental Notification Form (ENF) and the Project Notification Form (PNF) for the proposed redevelopment project located at 323, 345, and 363-365 Dorchester Avenue in South Boston. This letter provides the Commission's comments on the ENF and PNF.

The proposed project is located on approximately 5.4 acres generally bounded by 307 Dorchester Avenue to the north, Dorchester Avenue to the east, MBTA right-of-way to the west and 371-393 Dorchester Avenue to the south. The site currently occupied by an approximately 18,070 square foot (sf) one-story gym/athletic facility, an approximately 82,270 sf one-story warehouse / distribution facility and an approximately 53,560 sf one storm warehouse. The project site is nearly 100 percent impervious.

The proposed project includes the redevelopment of the site with four new buildings totaling approximately 1.15 million sf, including space for office, life science, retail/restaurant/grocery, and residential uses. Parking for 670 vehicles is provided, 653 of which are below grade.

For water service, there is a 12-inch Cast Iron main in Dorchester Avenue that was installed in 1930 and lined in 2006 and is served by the Commission's Southern Low-Pressure Zone.

For sanitary sewer service, the site is served by a 12-inch combined sewer along the project site frontage in Dorchester Avenue and the South Boston Interceptor – North Branch, a 57-inch by 66-inch pipe, is also located in Dorchester Avenue. For stormwater service, the site is served by a 24-inch storm drain in Dorchester Avenue.

The ENF and PNF state that the proposed project will require approximately 140,206 gallons per day (gpd) of water, an increase of 135,046 gpd from the existing use. The ENF and PNF state that the proposed project will generate approximately 127,460 gpd of wastewater per day, an increase of 122,769 gpd from the existing amount.

The Commission has the following comments:

General

1. Prior to the initial phase of the site plan development, SB Gateway I LLC and SB Gateway IIA LLC, should meet with the Commission's Design and Engineering Customer Services to review water main, sewer and storm drainage system availability and potential upgrades that could impact the development. The Commission is in the design phase of a sewer separation contract in this part of South Boston. SB Gateway I LLC and SB Gateway IIA LLC, must coordinate all phases of this project with the Commission's work.

2. Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must complete a Cut and Cap General Services Application, available from the Commission.

3. All new or relocated water mains, sewers and storm drains must be designed and constructed at SB Gateway I LLC and SB Gateway IIA LLC's, expense. As stated in the ENF – PNF, they will be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use regulations, and Requirements for Site Plans. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections, water meter locations, as well as back flow prevention devices in the facilities that will require inspection. A General Service Application must also be submitted to the Commission with the site plan.

4. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, are implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/ inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination

System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added. The Commission supports the policy and will require proponent to develop a consistent inflow reduction plan. As stated in the ENF – PNF, SB Gateway I LLC and SB Gateway IIA LLC is aware of this requirement. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

5. The design of the project must comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

6. SB Gateway I LLC and SB Gateway IIA LLC, should be aware that the US Environmental Protection Agency issued a draft Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, the SB Gateway I LLC and SB Gateway IIA LLC, will be required to apply for a RGP to cover these discharges.

7. The Commission will require SB Gateway I LLC and SB Gateway IIA LLC to undertake all necessary precautions to prevent damage or disruption of the existing active water and sewer lines on, or adjacent to, the project site during construction. The proponent previously reported that CCTV inspections of existing sewer lines within the project site had been completed. Copies of the CCTV inspection videos must be provided to the Commission during site plan review. As a condition of the site plan approval, the Commission will require SB Gateway I LLC and SB Gateway IIA LLC to re-inspect the existing sewer lines on site by CCTV after site construction is complete, to confirm that the lines were not damaged from construction activity.

8. It is SB Gateway I LLC and SB Gateway IIA LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, SB Gateway I LLC and SB Gateway IIA LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

9. If activities within the proposed (Facility) have a Standard Industrial (SIC) Codes that the Environmental Protection Agency (EPA) has designated as requiring a Multi-Sector General Stormwater Permit for Industrial Facilities (MSGP). The project proponent or owner of the facility is responsible for determining whether a MSGP is required. If a MSGP is required the project proponent or owner is responsible for submitting to EPA a Notice of Intent (NOI) for coverage under the MSGP, and for submitting to the Commission a copy of the NOI and Pollution Prevention Plan prepared pursuant to the NOI. If the MSGP designated SIC Codes apply to the project and the project obtains "No-Exposure" Certification from EPA for the activities, a copy of the No-Exposure Certification must be provided to the Commission.

Water

1. SB Gateway I LLC and SB Gateway IIA LLC, should provide separate estimates of peak and continuous maximum water demand for commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. SB Gateway I LLC and SB Gateway IIA LLC, should also provide the methodology used to estimate water demand for the proposed project.

2. SB Gateway I LLC and SB Gateway IIA LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. SB Gateway I LLC and SB Gateway IIA LLC should consider outdoor landscaping which requires minimal use of water to maintain. If SB Gateway I LLC and SB Gateway IIA LLC plan to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

3. SB Gateway I LLC and SB Gateway IIA LLC, is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. SB Gateway I LLC and SB Gateway IIA LLC, should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

4. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, SB Gateway I LLC and SB Gateway IIA LLC, should contact the Commission's Meter Installation Department.

Sewage / Drainage

1. As stated in the ENF – PNF, in conjunction with the Site Plan and the General Service Application SB Gateway I LLC and SB Gateway IIA LLC will submit a Stormwater Pollution Prevention Plan. The plan must:

   - Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.

   - Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

2. As stated in the ENF – PNF, developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. As stated in the ENF – PNF, SB Gateway I LLC and SB Gateway IIA LLC, is responsible for obtaining such a permit is required and for obtaining the permit. The Commission requires that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above.

3. The Commission encourages SB Gateway I LLC and SB Gateway IIA LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

4. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. SB Gateway I LLC and SB Gateway IIA LLC, is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, SB Gateway I LLC and SB Gateway IIA LLC, will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

5. As stated in the ENF – PNF, SB Gateway I LLC and SB Gateway IIA LLC will fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. As stated in the ENF – PNF, the project is above 100,000 square feet of floor area and will retain, on site, a volume of runoff equal to 1.25 inches of rainfall times the impervious area. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

6. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that all existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

7. SB Gateway I LLC and SB Gateway IIA LLC, must install permanent castings stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. SB Gateway I LLC and SB Gateway IIA LLC, should contact the Commission's Operations Division for information regarding the purchase of the castings.

8. If a cafeteria or food service facility is built as part of this project, grease traps will be utilized in accordance with the Commission's Sewer Use Regulations. SB Gateway I LLC and SB Gateway IIA LLC, is advised to consult with the Commission's Operations Department with regards to grease traps.

9. The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

10. The Commission requires installation of particle separators on all new parking lots greater than 7,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans.

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/cj

c: Jeffrey Lowenberg, National Development
Stephanie Kruel, VHB
K. Pedersen, BPDA
M. Zlody, BED

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

Frederick A. Laskey
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May 13, 2021

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

Subject: EOEEA #16368 – Environmental Notification Form
323-365 Dorchester Avenue, Boston

Dear Secretary Theoharides,

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted by SB Gateway I LLC and SB Gateway IIA LLC, Affiliates of National Development (the "Proponent") for 323-365 Dorchester Avenue (the "Project") in Boston, Massachusetts. The 5.4-acre Project site is almost completely impervious and contains of existing buildings, asphalt parking lots and circulation areas. The Project involves redevelopment of the Project site to include four new buildings, totaling approximately 1.15 million square feet, with office, life science, retail, restaurant, grocery and residential uses. The Project is also proposed to include 670 parking spaces, 653 of which will be below-grade.

MWRA's comments on the ENF relate to wastewater issues and the need for Infiltration/Inflow (I/I) Removal as well as Discharge Permitting from the Toxic Reduction and Control (TRAC) Department.

Wastewater

The ENF reports that the Project will increase wastewater flow by 122,769 gallons per day (gpd), from an existing wastewater flow of 4,691 gpd to 127,460 gpd. The ENF states that there is an existing 12-inch Boston Water and Sewer Commission (BWSC) combined sewer along the Project Site frontage in Dorchester Avenue. The 12-inch combined sewer discharges to BWSC's South Boston Interceptor – North Branch (SBI-NB). During dry weather and smaller rainfall events, flows conveyed by the SBI–NB are conveyed to BWSC's New Boston Main Interceptor and ultimately to MWRA's Columbus Park Headworks in South Boston and the Deer Island Wastewater Treatment Plant. During larger storm events when the capacity of the BWSC combined system is exceeded, the system can overflow to Fort Point Channel via combined sewer outfall BOS070.

To ensure that the Project's large wastewater flow does not increase system surcharging or overflows in large storms, the Proponent should continue to work with BWSC to develop a plan for ensuring offset of the Project's wastewater flow as required by Massachusetts Department of Environmental Protection regulation and BWSC policy. Four gallons of stormwater and/or infiltration and inflow (I/I) should be removed from a hydraulically related sewer system(s) for every gallon of new wastewater flow. The ENF acknowledges the required offset and commits to compliance with the required 4:1 I/I removal. While the ENF references a future BWSC sewer separation project along Dorchester Avenue, it does not relate this future sewer separation to the Project's I/I mitigation requirement and provides no other plan to effect the necessary I/I removal. Increasing wastewater flow to the BWSC combined sewer system and the MWRA system without required and effective offset can compromise the Fort Point Channel water quality benefits of MWRA's recently completed $912 million CSO control plan, as well as the performance of the South Boston CSO Storage Tunnel which protects the beaches.

TRAC Discharge Permitting

MWRA prohibits the discharge of groundwater and stormwater to the sanitary sewer system, pursuant to 360 C.M.R. 10.023(1) except in a combined sewer area when permitted by the Authority and the local community. Although the Project site is currently located in a combined sewer area, planned BWSC sewer separation work may create the opportunity to discharge groundwater and or stormwater to the Fort Point Channel during construction. If this work is complete at the time of construction and discharging to the Fort Point Channel from the Project site is possible, the discharge of groundwater and stormwater from the Project site to the sanitary sewer system will be prohibited. If this separation work is not complete at the time of construction, a Temporary Construction Dewatering Permit will be required prior to the discharge of groundwater or stormwater from any construction activities associated with the Project into the sanitary sewer system.

A Sewer Use Discharge Permit is required prior to discharging laboratory wastewater, research and development wastewater, photoprocessing, and/or industrial process wastewater from laboratory or commercial space associated with the Project into the MWRA sanitary sewer system. For assistance in obtaining this permit, representatives from the proposed laboratory and commercial space should contact Erika T. Samuels, Industrial Coordinator, in the TRAC Department at (617) 305-5666.

Any gas/oil separators in parking garages associated with the project must comply with 360 C.M.R. 10.016 and State Plumbing Code. The installation of the proposed gas/oil separators 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.

On behalf of the MWRA, thank you for the opportunity to provide comments on this Project. Please do not hesitate to contact Katie Ronan of my staff at (857) 289-1742 with any questions or concerns.

Sincerely,

Beth Card
Director
Environmental and Regulatory Affairs

cc: John Viola, DEP
Adam Horst, BWSC

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
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Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Kathleen A. Theoharides
Secretary

Patrick Woodcock
Commissioner

21 May 2021

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

RE: 323-365 Dorchester Ave, Boston, MA, EEA #16368

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

Dear Secretary Theoharides:

We've reviewed the Environmental Notification Form (ENF) for the proposed project. The project includes 4 high-rise mixed-use buildings containing 257,640 office space, 286,460 life science space, 55,000-sf of retail space, and, 399,530-sf residential space (345 units). The objective of this letter is to share strategies for the project to reduce greenhouse gas emissions (GHG), improve resiliency, and affordability.

The project currently states a Mitigation Level[1] for the project of approximately 6% with no commitments to Passivehouse or building electrification. DOER has seen similar projects achieve mitigation levels of 20-50% through the incorporation of the following key strategies at little to no cost premium. DOER recommends that the project review opportunities to incorporate the following key strategies.

[1] 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.

Key Strategies

Deployed together, the following have been found to be effective strategies in advancing emission reduction, resilience, and affordability:

- Passivehouse (Residential Buildings);
- Building design and construction practices that result in low heating and cooling thermal energy demand intensity (heating and cooling "TEDI") by: (All Buildings)
    - Maintaining envelope integrity with framed, insulated walls with continuous insulation;
    - Thermally-broken windows and other components to eliminate thermal bridges;
    - Minimizing glass curtain wall assemblies and excessive windows;
    - Low air-infiltration, confirmed with in-building air-infiltration testing;
    - Energy recovery;
    - Management of solar heat gains;
- Efficient electrification of space heating, including:
    - For highly ventilated buildings such as the proposed life-science building: low temperature, hydronic space heating with heat-input provided by hybrid, in-building, central plant consisting of air-to-water heat pump (primary) and gas boilers (secondary). Size the air to water heat pump to 20-40% of the heating peak load. This approach can also work for speculative life-science buildings, as well.
    - For all other buildings (residential, office, and retail): hydronic space heating with 100% air to water heat pump input, or air source VRF, or air to air heat pumps.
- Efficient electrification of water heating, where feasible; (All Buildings)
- Extensive rooftop solar-readiness; (All Buildings)
- Electric vehicle ready parking spaces. (All Buildings)

Experience has shown that the above deliver 50 to 80% less emissions than projects built to Code while improving affordability and resilience. In addition, significant incentives may be available, including MassSave® incentives, Alternative Energy Credits (AECs), and Solar Massachusetts Renewable Target (SMART) credits. For this project, just the MassSave® Passivehouse incentive for the residential portion of the project is worth up to **$1.035M**.

Key Mitigation Strategies Explained

Passivehouse

Passivehouse is an energy efficiency building standard that results in an ultra-low energy building requiring little energy use for space heating and cooling. This is achieved by focusing on envelope performance, airtightness, solar heat gain management, and energy recovery. Passivehouse projects also typically have efficient electrified heating, as described above, and much smaller-sized HVAC systems. Published studies show that in low-rise and mid-rise residential construction, Passivehouse doesn't necessarily cost more to build because improvements to envelope are offset by reductions in HVAC[2] costs. In high-rise residential construction, Passivehouse costs nominally more[3].

Passivehouse is an energy code standard which is unlike other energy efficient building approaches in that its truly performance based by requiring mandatory, rigorous in-field tests to confirm that strict standards are being met. Passivehouse methods are recognized by both Massachusetts building Code, MassSave[4], and incentives under Massachusetts' Alternative Portfolio Standard (APS). For qualifying multifamily buildings, MassSave incentive for Passivehouse is approximately **$3,000 per dwelling unit, or $1,035,000 when applied across the project.**

Passivehouse also delivers:

- *Significant reduction in utility costs:* thus is much more affordable to residents;
- *Improved resiliency:* Passivehouse buildings can stay warm (or cool, in the summer) for extended periods of time even with loss of power.

The Passivehouse pathway accesses the most incentives, while also being the most affordable and efficient.

At this time there are over 5,000 Passivehouse units being designed or under construction in eastern Massachusetts. Additionally, upon completion of Winthrop Square Tower, Boston will be home to a 750,000-sf office space certified as Passivehouse.

[2] Pennsylvania Housing and Finance Association. *Passivehouse Cost Comparison Data set 2015, 2016, 2018* [Data Set]

[3] Feasibility Study to Implement the Passivehaus Standard on Tall Residential Buildings, FXcollaborative, 30 March 2017, Prepared for NYSERDA

[4] MassSave® is a consortium of Massachusetts utility companies designed to deliver energy efficiency throughout the Commonwealth of Massachusetts.

Passivehouse Examples

The Distillery
Boston, MA

Winthrop Center
Boston, MA

Newton Northland
Newton, MA

Bunker Hill Housing Development
Charlestown, MA

Newton Riverside
Newton, MA

Thermal Energy Demand Intensity (TEDI) Reduction: Envelope, Heat Recovery, and Solar Gains

The combination of quality envelope, heat recovery, and management of solar gains can result in significant reduction in heating (and cooling) thermal energy demand intensity (TEDI, units of kBtu/sf-yr). In addition to reduced utility costs and emissions, the value of a targeted focus on heating and cooling TEDI results in:

- Simplified space heating electrification;
- Reduction, and possible elimination, of perimeter heating systems;
- Improved resiliency;
- Reduced peak demands;
- Improved occupant comfort;
- Reduced maintenance.

Specific TEDI reduction strategies are:

- High-performance window and walls;
- Thermal-broken windows and components to eliminate thermal bridges;

- Low air-infiltration;
- Ventilation heat recovery;
- Solar gain management via external shading and/or low solar heat gain coefficient (SHGC)

Buildings with curtain wall envelope require high performing windows and high performing opaque spandrels to achieve heating TEDI reductions. High performing windows and high performing opaque spandrels should be carefully evaluated if curtain-wall construction is considered.

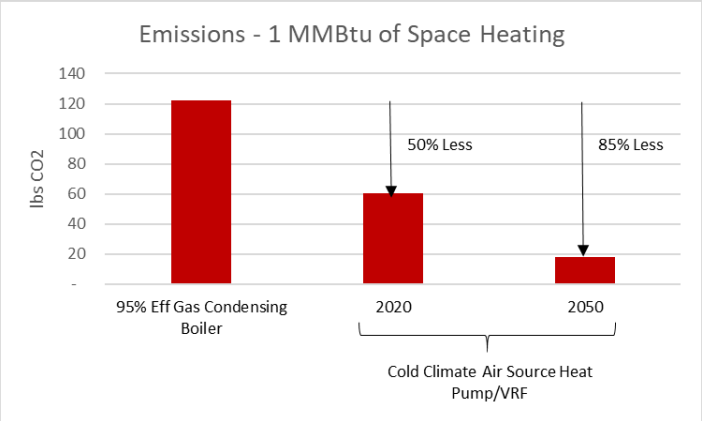
Efficient Electrification

Efficient electrification and renewable thermal space and water heating entails the swapping of fossil fuels (natural gas, oil, and propane) or electric resistance systems with one or more of the following:

- Cold-climate air source heat pumps and variable refrigerant flow (VRF) for space heating;
- Air source heat pumps for water heating;
- Ground source heat pumps;
- Solar thermal.

Electrification of space and water heating is a key mitigation strategy with significant short- and long-term implications on GHG emissions. Massachusetts grid emissions rates continue to decline with the implementation of clean energy policies that increase renewable electricity sources. The implication is that efficient electric space and water heating with cold climate air source heat pump and VRF equipment have lower emissions than other fossil-fuel based heating options, including best-in-class (95% efficient) condensing natural gas equipment.

Currently, efficient electric heating has approximately **50% lower emissions** in Massachusetts than condensing natural gas heating. By 2050, efficient electric heating is expected to have approximately **85% lower emissions** in Massachusetts than condensing natural gas heating. See illustration below.



Electrifying Space Heating for Life Science

Life science and similar "lab-office" buildings, typically have high ventilation loads which may have made electrification of space heating a challenge in the past, particularly with a speculative core/shell project. However, DOER is aware of recent highly-ventilated, speculative core and shell lab/office projects that are pursuing pathways to partially electrify space heating for these types of projects. The approach uses an in-building, centrally located, hybrid heating plant consisting of air to water heat pumps and gas equipment in which the air source heat pump can provide 80-90% total annual space heating end use.

Key strategies for this hybrid approach are as follows:

- Include a hot water distribution loop of 120°F;
- Include a centralized heating plant consisting of both an air to water heat pumps and a gas-fired condensing boiler;
- Size the gas boiler for 100% of the peak load; size the air source heat pump for 20-40% of the peak load;
- Prioritize air source operation first, utilizing gas boiler only when loads exceed the size of the air source system.

A hybrid approach like this may provide a feasible means to partially electrify space heating of highly ventilated lab/office building, including for speculative core/shell projects.

Electrifying Space Heating for all other Building

All other spaces (office, residential, and retail) can be readily achieve 100% efficient electrification of space heating using either air to water heat pumps, VRF, or air to air heat pumps.

Heat Pump Water Heating

Water heating can be accomplished in many ways, common technologies include fossil fuel boilers and electric resistance systems. There are approaches that utilize air-source heat pumps, as well. These applications include centrally located systems that distribute hot water to the units or distributed, unit-based heat pump water heaters.

Distributed heat pump water heating is feasible for office and retail buildings and is recommended for these applications. Distributed heat pump water heating may be feasible for the life sciences building, as well, and is recommended if feasible.

Distributed heat pump water heating is much more challenging to implement in dense residential, however due to limited space in the individual units. For this application, we recommended evaluating a centrally located heat pump water heating system.

Solar PV

Rooftop PV can provide significant GHG benefits as well as significant financial benefits. The project should review opportunities to maximize on-site PV by set-aside as much roof space as possible for future rooftop PV.

Even if PV is not installed during building construction, it's important to plan the project to ensure that roof space is set aside for PV and that roof space doesn't become unnecessarily encroached with HVAC appurtenances, diminishing the opportunities for future PV. Electrification of heating and Passivehouse can both contribute to enabling more PV as these approaches can reduce rooftop equipment associated with conventional code HVAC.

Electric Vehicle (EV) Ready Parking Spaces

EV charging stations are critical for the continual transition towards electric mobility. Even if EV charging stations are not installed during construction , it is critical to maximize EV ready spaces as it is significantly cheaper and easier to size electrical service and install wiring or wiring conduit during construction rather than retrofitting a project later.

We encourage the project to maximize EV ready parking spaces for the project.

Incentives

Buildings which incorporate the above strategies can qualify for significant incentives:

- MassSave performance-based incentives[5] offer incentives for every kWh or therm saved compared to a program-provided energy model. The above energy efficiency strategies offer opportunities for large kWh and therm savings.

- MassSave Passivehouse incentives[6] are available to multifamily buildings which meet either PHI or PHIUS Passivehouse certification. In addition to a $3,000/unit incentive, MassSave also funds pre-construction feasibility and modeling. The incentive structure is as follows:

Passive House Incentive Structure for Multi-Family Mid- and High-Rise Buildings			
Incentive Timing	**Activity**	**Incentive Amount**	**Max. Incentive**
Pre-Construction	Feasibility Study	100% Feasibility costs	$5,000
	Energy Modeling	75% of Energy Modeling costs	$500/Unit, max. $20,000
	Pre-Certification	$500/unit	N/A
Post-Construction	Certification	$2,500/unit	
	Net Performance Bonus	$0.75/kWh	
		$7.50/therm	

[5] https://www.masssave.com/en/saving/business-rebates/new-buildings-and-major-renovations/
[6] https://www.masssave.com/saving/residential-rebates/passive-house-incentives

- Alternative Energy Credits (AECs)[7] offer incentives to electrify building space heating using heat pumps and/or VRF. This program also includes multipliers which increase value if the building meets Passivehouse standards or buildings built to HERs 50 or less. These credits may be distributed on a quarterly basis over time; or, may be distributed in a lump sum to the developer if certain conditions are met.

- Massachusetts SMART program[8] provides significant incentives for solar development on top of federal and state tax incentives. SMART includes pathways which allow solar production to be sold without off-takers. This may be of potential interest to building developers as this allows them to develop rooftop solar without necessarily engaging with building tenants. For this reason, setting aside rooftop solar PV areas helps ensure that building owners' ability to monetize the roof is not impacted.

Codes and Baseline

Massachusetts Stretch Code applies to this project. Stretch Code requires a 10% energy performance improvement over ASHRAE 90.1-2013-Appendix G plus Massachusetts amendments including C402.1.5 (envelope), C405.3 and C405.4 (lighting), C405.10 (EV charging), and C406 (three additional efficiency measures).

Recommendations

The strategies described above provide pathways to GHG mitigation, increased affordability, and improve resiliency. The following are questions that should be considered throughout the planning process:

1. Was each building and space use type modeled separately? Models should be separated by building or building area use type as follows:
    a. Office
    b. Lab/R&D
    c. Retail
    d. Residential

2. Did the project ensure baseline building scenarios meet all requirements including relevant MA amendments. Each building should clearly indicate which three C406 measures are being used in the baseline. C406 measures are required for Code. For example, if the project choses additional solar PV, the solar PV must be installed to meet Code

3. Did the project demonstrate compliance with envelope requirements? To demonstrate compliance each building could develop two UA analysis tables, as follows:

[7] https://www.mass.gov/guides/aps-renewable-thermal-statement-of-qualification-application
[8] https://www.mass.gov/solar-massachusetts-renewable-target-smart

a. One table that shows how the baseline complies with Table 5.5-5 of ASHRAE 90.1 2013 Appendix G plus Massachusetts Amendment C401.2.4. Fenestration limits will vary depending upon building type.

b. A second table that shows how the proposed complies with 2018 IECC Tables C-402.1.3, C402.1.4, and C-402.4. Fenestration limit should be 30% when calculating minimum performance requirements for all building types.

4. Was above-code envelope used throughout? The following measures should be reviewed:

a. Above code-threshold envelope should be used throughout (vertical walls, windows, roofs and exposed lower level floors). Priority should be given to increasing **continuous insulation and framed insulated wall sections**. Distinguish between R value of batt and R value of continuous insulation. Continuous insulation necessarily means insulation that is uninterrupted by hangers, studs, etc. Indicate planned wall assembly U value and wall construction type (mass, wood, metal stud, etc). Confirm that the relationship between R-value and assembly U-factor conform to Appendix A of the Code.

b. Glass curtain wall/spandrel systems should be avoided as these are the lowest performing wall systems.

c. Opaque curtain wall sections shall not have envelope performance larger than R-10.

d. Reduce air infiltration, along with field tests to confirm integrity.

e. Recommended envelope for all building types, in summary, is an envelope with a 15% improved UA over IECC C402.1.5 minimum plus Passivehouse level air infiltration limit of 0.08 cfm at 75 Pa.

f. Low heating thermal energy demand intensity (TEDI). A combination of the above listed high-performing envelope measures paired with and heat recovery can deliver heating TEDI that is significantly smaller than code heating TEDI.

5. Did the project consider additional opportunities for high performing buildings? The project should consider approaches as follows:

a. Residential: Passivehouse with efficient electric space heating (electric air source heat pump/VRF or central air to water heat pump to 120F thermal distribution loop) and gas water heating. A study could be performed by a qualified Passivehouse consultant at little to no cost by leveraging the MassSave® funded Passivehouse feasibility study and modeling incentives.

- Investigate centrally located heat pump water heating

b. Life Science: Improved envelope as described above. Downsize the HVAC as much as possible. In-building centrally-located hybrid efficient electric space heating (air to water heat pump sized at 20-40% peak heating capacity as priority backed-up with 95% efficient gas boiler sized at 100% peak, connected to 120°F thermal distribution hot water loop). External shading and improved solar heat gain coefficient windows to control space cooling loads. Energy reduction shall be attributable to reductions in heating, cooling, fan, ventilation, and pumping. We expect GHG mitigation to come primarily from reductions in heating, cooling, pumping, and fan energy.

    - Investigate both distributed heat pump water heating and centrally located heat pump water heating

c. Office: Improved envelope as described above. Downsize the HVAC as much as possible. In-building centrally-located efficient electric space heating (air to water heat pump sized at 100% peak heating capacity with no gas boiler back-up). External shading and improved solar heat gain coefficient windows to control space cooling loads. Heat pump hot service hot water. Energy reduction shall be attributable to reductions in heating, cooling, fan, ventilation, and pumping. We expect GHG mitigation to come primarily from reductions in heating, cooling, pumping, and fan energy.

    - Investigate VRF alternative for space heating

d. Retail portion: Improved envelope as described above. Downsize the HVAC as much as possible. Efficient electric (electric air source heat pump/VRF) space heating. External shading and improved solar heat gain coefficient windows to control space cooling loads. Electric air source heat pump service hot water. Energy reduction shall be attributable to reductions in heating, cooling, fan, ventilation, and pumping. We expect GHG mitigation to come primarily from reductions in heating, cooling, pumping, and fan energy over reductions in lighting and miscellaneous energy reduction.

6. Did the project evaluate incentives? Including:

    a. Estimate of Alternative Energy Credits

    b. Estimates of MassSave incentives, based on meeting with utility.

7. Did the project evaluate rooftop solar PV? This should include building roof plans showing location of planned solar and location of roof HVAC equipment and other appurtenances.

8. Did the project maximize EV-ready parking spaces. Confirm commitment to installed EV charging station and EV ready spaces.

Sincerely,

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