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July 9, 2021

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

PROJECT NAME	: Boston Children's Hospital Weymouth
PROJECT MUNICIPALITY	: Weymouth
PROJECT WATERSHED	: Boston Harbor, Weymouth and Weir
EEA NUMBER	: 16387
PROJECT PROPONENT	: CHB Properties, Inc., an affiliate of The Children's Hospital Corporation
DATE NOTICED IN MONITOR	: June 9, 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), the project consists of demolition of an existing industrial building and construction of a three-story, 69,000-square foot (sf) medical office building (MOB); a new surface parking lot with 270 parking spaces; and associated utilities, driveways, walkways, stormwater management system, and landscaping. The project will remove existing paving, structures, and walls that encroach within the 50-foot wetland buffer zone. It will restore previously disturbed areas located near Whitman's Pond with native landscape plantings and rain gardens as part of the stormwater management system. A new accessible walking path will be constructed near the pond to provide access the pond's edge. Access is proposed via Libbey Industrial Parkway. The site will be served by municipal water and sewer. The project will be constructed in a single phase.

Project Site

The 4.3-acre project site is located at 200 Libbey Industrial Parkway in Weymouth. The project site is developed, with approximately 72 percent impervious area, and includes a vacant aging two-story

41,480-sf industrial warehouse. The site abuts the South Cove portion of Whitman's Pond to the North; existing pavement extends to very near the edge of the pond. It is bounded by commercial development to the east and south on the south side of Libbey Industrial Parkway. The area immediately to the west of the site is wooded with more commercial development further to the west. The project site is owned by Foxrock Properties (FoxRock or the developer). The Proponent holds the lease for the property.

Wetland resource areas include Bordering Vegetated Wetlands (BVW), Isolated Vegetated Wetlands (IVW), Bank, and Bordering Land Subject to Flooding (BLSF) associated with Whitman's Pond. The site abuts the 100-year floodplain associated with Whitman's Pond. Whitman's Pond and Old Swamp River/South Cove are Public Water Supply watersheds, and therefore, Outstanding Resource Waters (ORW).

Environmental Impacts and Mitigation

Potential environmental impacts of the project include generation of 2,358 new unadjusted average daily trips (adt) (total of 2,564 adt); construction of 200 new parking spaces (total of 270 spaces); water use of 14,025 gallons per day (gpd) (total of 15,125 gpd); and wastewater generation of 12,750 gpd (total of 13,750 gpd). Measures to avoid, minimize, and mitigate environmental impacts include removal of 0.18 acres of impervious area; transportation improvements including funding design and construction of roadway widening and sidewalk construction and implementation of transportation demand management (TD) 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 (6)(b)(13), and 11.03(6)(b)(14) because it requires an Agency Action and will generate 2,000 or more new adt on roadways providing access to a single location, and will generate 1,000 or more adt on roadways providing access to a single location and construct 150 or more new parking spaces at a single location. The project requires a Determination of Need from the Massachusetts Department of Public Health and a WM15 Permit (National Pollutant Discharge Elimination System (NPDES) Notice of Intent) from the Massachusetts Department of Environmental Protection (MassDEP) for proposed construction activities related to potential discharge to an ORW. The project will likely require a Sewer Use Discharge Permit from the Massachusetts Water Resources Authority (MWRA).

The project requires a NPDES Construction General Permit (CGP) from the U.S. Environmental Protection Agency (EPA). The Weymouth Conservation Commission issued an Order of Conditions for the project on April 13, 2021 that was not appealed.

Because the Proponent is not seeking Financial Assistance from the Commonwealth for the project, MEPA jurisdiction for any future review 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, and an analysis of alternatives. It identifies measures to avoid, minimize and mitigate project impacts.

The ENF provides a Traffic Impact Analysis and a Stormwater Report. The Proponent submitted supplemental information on July 6, 2021 to provide a response to several comments. For purposes of clarity, all supplemental materials are referred to herein as the "ENF" unless otherwise referenced. Comments from the Town identify support for the project.

Alternatives Analysis

The ENF includes analysis of the following alternatives: No Build/Refurbish; Office; and the Preferred Alternative. The ENF includes a tabular comparison of impacts (presented below) associated with each alternative and provides a conceptual plan for build alternatives. The No Build alternative would refurbish the existing two-story building for reuse as an industrial building, but generally leave the project site in its existing condition with very little pervious area. This alternative was dismissed because it would not meet the project goal of providing pediatric medical services in the community, nor would it reduce impervious areas or improve the water quality of stormwater reaching Whitman's Pond.

The Office Alternative is based on a conceptual site layout for a general office building that would maximize development and comply with zoning. It has a lower gross square-footage than the Preferred Alternative because the Preferred Alternative received zoning relief in the form of variances from the Weymouth Zoning Board of Appeals that permitted less parking (270 parking spaces, as opposed to one space per 100 sf), impervious lot coverage greater than 60 percent of the lot area, and parking in the front yard setback. These variances allow for a larger building footprint than would have been permitted as-of-right. In addition, the Preferred Alternative also received a Special Permit to allow for height in excess of 35 feet, as the floor-to-floor heights for the MOB are higher than that which would have been required for a general office building. Developing an as-of-right project meeting the required parking ratio of five spaces per 1,000 sf of general office use, complying with the limitations on lot coverage, and no parking within the front yard setback would result in a smaller building in an alternative scenario.

Alternative	Building gsf	Impervious Area (ac)	Trips (vtpd)	Parking Spaces	Water Demand (gpd)	Waste-water (gpd)
No-build/Refurbish	41,480	3.12	206	70+/-	3,422	3,011
Proposed Project	69,000	2.94	2,564	270	15,125	13,750
Office Alternative	51,090	2.58	554	258	4,207	3,825

While the Office Alternative would have less impacts, it would not meet the goal of providing pediatric medical services in the community and was dismissed. However, the Preferred Alternative is projected to have substantially greater impacts than other alternatives, and MassDEP comments have raised questions about the capacity of municipal water/wastewater systems to accommodate this new development. I encourage the Proponent to continue to maximize ways to minimize impacts through final design and permitting.

Wetlands and Stormwater

The project will impact 38,420 sf of Buffer Zone to BVW and Bank in the northern portion of the site. The Weymouth Conservation Commission reviewed the project for its consistency with the Wetlands Protection Act (WPA), Wetlands Regulations (310 CMR 10.00) and associated performance standards including stormwater management standards (SMS) and issued an Order of Conditions that

was not appealed.

The project will result in the removal of 0.18 acres of impervious surfaces and is subject to the SMS. A Stormwater Management Report was submitted as part of the Notice of Intent and is included in the ENF. The project will improve stormwater treatment at the site and comply with the MassDEP Stormwater Management Regulations for a redevelopment project. The proposed stormwater management system will be designed to collect, convey, treat, and control stormwater discharges associated with the project. The Proponent will install a closed drainage system that includes the use of three water quality units, deep sump catch basins, and rain gardens in the northern portion of the site between the proposed redevelopment and Whitman's Pond. The system will comply with the recharge requirements (Standard 3) to the maximum extent practicable due to the presence of high groundwater elevations, poorly draining fine silty materials, and fill material. The project will be designed to meet Standard 5 (Land Uses with Higher Potential Pollutant Loads) and Standard 6 (Critical Areas) to the maximum extent practicable. The ENF notes that all runoff in contact with potential pollutants will be routed to deep sump/hooded catch basins, water quality units, rain gardens or detention basins prior to discharge. Previously disturbed areas located near Whitman's Pond will be restored with native landscape plantings and rain gardens as part of the stormwater management system. The planned stormwater controls will prevent the pollution of Whitman's Pond, a vital public water supply source. A new accessible walking path will be constructed near the pond for staff and patients to be able to easily access the pond's edge.

Conveyances of stormwater through underground stormwater infiltration structures are subject to the jurisdiction of the MassDEP Underground Injection Control (UIC) program and these structures must be registered even if they are pre-existing structures.

The Proponent should prioritize implementation of additional low impact development (LID) measures to improve stormwater management such as vegetated buffers/filter strips, reducing impervious area, rain barrels, and soil bioengineering/vegetative stabilization. I strongly encourage the Proponent to reduce impervious area to the maximum extent practicable.

The ENF does not review potential conditions at the site under future climate change scenarios or how the project design will make this infrastructure resilient under those conditions. I encourage the Proponent to implement measures that incorporate future climate change projections as the design of the project is finalized and proceeds to permitting. In particular, I encourage the Proponent to incorporate climate change data into design elements such as stormwater system sizing and use ecosystem-based adaptation measures to mitigate stormwater runoff.

Transportation

The project does not require permits from the Massachusetts Department of Transportation (MassDOT). The ENF includes a transportation study prepared for the Town. The study provides an analysis of existing and future transportation conditions within the study area and includes a mitigation program. The project will include 270 parking spaces. Vehicular access to the site is currently provided by two site driveways located on the north side of Libbey Industrial Parkway. The westerly site driveway will generally remain in the same location and narrowed slightly. The easterly driveway will shift slightly to the east to better serve the proposed building. The study area includes five intersections, including the project site driveways.

Based on Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition) Land Use Codes 720 (Medical-Dental Office Building), the project is expected to generate 2,358 net new adt (existing industrial use includes 206 adt) for a total of 2,564 adt, including 161 and 239 vehicle trips during the weekday morning and evening peak hours, respectively. No credit was taken for potential vehicle trip reductions associated with alternative modes of transportation (i.e., transit, walking, biking, carpooling).

The study evaluated the safety of the adjacent off-site study intersections and site driveways. The Libbey Industrial Parkway intersections with Middle Street and Pleasant Street have higher than average crash rates. However, recent signalization (Middle Street) and future signalization (Pleasant Street) should help to address some safety concerns at the intersections. Since the installation of the traffic signal at Middle Street, the most recent crash data indicates that the crash rate is decreasing from its prior unsignalized condition. Adequate stopping and intersection sight lines are provided at both site driveways. Any signage or plantings in front of the site will be located so that they do not obstruct the lines of sight to and from the site driveways.

The ENF provides an analysis of study area intersections for the 2021 Existing, 2028 No-Build, and 2028 Build conditions. It also describes how traffic volumes were established based on traffic counts collected in 2015 to account for the effects COVID-19 pandemic. The analyses indicate the intersection of Route 18 and Middle Street/West Street currently operates at or near capacity with an overall level of service (LOS) E during both weekday peak hours. Independent of the project, it is anticipated that traffic signal timing adjustments will be implemented at this location by others as part of routine traffic signal maintenance. With these improvements, the intersection would operate at improved overall LOS D during both peak hours, albeit with longer delays (LOS E/LOS F) for left turn movements at the intersection through the projected 2028 No Build and 2028 Build peak hour conditions.

Independent of the project, potential traffic increases associated with background growth and other development projects will further exacerbate delays at the intersection of Middle Street and Libbey Industrial Parkway/Tara Drive (currently operates at LOS C). Under 2028 No Build conditions, the intersection is expected to continue to operate at LOS C during both peak hours with all individual lane groups expected to continue to operate at LOS D or better except the Tara Drive eastbound approach (LOS E) and the Libbey Industrial Parkway westbound left/through lane (LOS F) during the evening peak hour. With the addition of the project trips, the intersection is expected to operate at LOS C and LOS D during the morning and evening peak hours, respectively, with the Libbey Industrial Parkway westbound left/through lane expected to exceed capacity (volume-to capacity ratio of greater than 1.0) during the evening peak hour. Widening the Middle Street northbound approach to provide an exclusive right-turn lane would increase capacity at the intersection and improve operations to LOS B and LOS C during the weekday morning and evening peak hours, respectively, with all movements projected to operate below capacity. The Proponent is committed to funding the design of the right-turn lane improvement, as well as providing a fair share contribution toward the construction costs. The Proponent will also fund the design of a sidewalk from Middle Street to the project site and provide some matching funds to assist the Town in its construction. In addition, Foxrock (the developer) will donate the land on their property located on the southeast corner of the intersection to support the roadway widening and sidewalk construction at the intersection. The potential traffic increases associated with the project will have no noticeable impact on future traffic operations at the other study area intersections, relative to the 2028 No Build (without project) conditions.

The Massachusetts Bay Transportation Authority (MBTA) Bus Route 226 operates closest to the site with the nearest bus stop located within walking distance to the site (less than one-half mile) at the intersection of Middle Street and Libbey Industrial Parkway. This route connects Columbian Square to Braintree Station on the Red Line with a stop at the Weymouth Landing Commuter Rail station on the Greenbush Line. Additionally, Bus Route 225 connects the Quincy Center Station on the Red Line to the Weymouth Landing Commuter Rail Station. The Weymouth Landing Commuter Rail Station is located approximately three miles to the northwest of the site.

The ENF identifies the following TDM measures that will be implemented as part of the project to minimize single occupancy vehicle (SOV) trip generation: Employee Transportation Advisor; 50 percent transit subsidy to employees; preferential parking spaces for employees who rideshare or use low-emission vehicles; shuttle service connectivity to nearby public transportation modes (commuter rail); carpool assistance and incentives; emergency ride home; two electric vehicle (EV) charging stations; telecommuting and compressed schedules, when feasible; display transportation information in main lobby; and bicycle racks. The Proponent will work with the future tenant to explore additional TDM measures to further reduce SOV trips to the site.

Water Supply

Comments from MassDEP include information regarding the Town's Water Management Act (WMA) Permit and Registration. The Town exceeded its authorized withdrawal volumes for the first time in 2020. The WMA Permit will be reviewed later in 2021 as part of the Town's permit renewal process, which will consider the Town's compliance with authorized volumes and ability to meet future demands. MassDEP comments emphasize that the Proponent should take all feasible measures to assist the Town by reducing proposed demands from the project (15,125 gpd) which will limit the mitigation the Town will be required to provide for increases in water withdrawals. The Proponent should take all practical measures to reduce water demand from the project now and in the future, including installation of low-flow/water efficient fixtures and drought tolerant plantings.

The project will be served by municipal water. MassDEP comments indicate that the ENF does not identify if the municipal system has the capacity to accommodate an increase of 14,025 gpd. The Proponent will be required to confirm adequate capacity prior to connection of the project through the local approval process. MassDEP comments indicate that MassGIS identifies almost the entirety of the building footprint within the Zone A of a surface water public water supply, which may impact the build-out of the wastewater collection piping on the site. The Weymouth Water Department will review and approve the proposed work within the Zone A of its surface water sources in accordance with the Massachusetts Drinking Water Regulations, 310 CMR 22.20B(7)(b).

Wastewater

The ENF indicates that the project will increase wastewater flow by 12,750 gpd, from an existing wastewater flow of 1,000 gpd to 13,750 gpd. The project site is served by a sanitary sewer owned and operated by the Town, which ultimately conveys flows to the MWRA's Deer Island Wastewater Treatment Plant. To ensure that the project's wastewater flow does not increase surcharging or overflows in large storms due to high volumes of infiltration and inflow (I/I) in MWRA's facilities, the Proponent should fully offset the project's wastewater flow increase with I/I removal in compliance with MassDEP regulation and Town's I/I policy. At least four gallons of I/I should be removed for every gallon of new wastewater flow. As mentioned in comments from MassDEP, the Proponent should

consult with the Town to ensure this mitigation requirement is met. Supplemental information indicates that the project will comply fully with the Town's requirements for I/I as required by the local Sewer Connection Permit, which may be through implementation of specific projects or by making a monetary contribution. MWRA comments note that the discharge of groundwater or stormwater to the sanitary sewer system associated with this project is prohibited pursuant to 360 CMR 10.023(1). The ENF does not identify if permitting will be required for potential discharge of industrial wastewater into the municipal or MWRA sewer systems. A Sewer Use Discharge Permit is required prior to discharging laboratory wastewater, equipment washdown, dental wastewater, and/or photo-processing wastewater from the MOB into the MWRA sanitary sewer system.

Greenhouse Gas (GHG) Emissions and Sustainable Design

While the project does not exceed the thresholds for application of MEPA's Greenhouse Gas (GHG) Policy and Protocol, it involves the development of a new MOB 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. DOER indicates that similar projects have achieved 50 to 80 percent reductions in GHG emissions through incorporation of the following effective strategies:

- Building design and construction practices that result in low heating and cooling thermal energy demand intensity (heating and cooling "TEDI") 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 heating
- Efficient electrification of water heating, where feasible
- Extensive rooftop solar readiness and commitment to solar photovoltaic systems
- EV-ready parking spaces

Significant incentives may be available including MassSave® incentives, Alternative Energy Credits (AECs), and Solar Massachusetts Renewable Target (SMART) incentives. DOER comments recommend an integrated approach to designing the project and provide an example which includes improved envelope and inclusion of energy recovery to achieve heating TEDI reduction; downsizing the HVAC as much as possible, including evaluating perimeter heating elimination; efficient electric space heating as described in their comments; and external shading and improved solar heat gain coefficient windows to control space cooling loads. The Proponent should review commitments made to reduce GHG emissions for the Boston Children's Hospital pediatric medical facility in Needham (described in the Notice of Project Change and Single EIR submitted in 2021 EEA#15233)[1] and strive to reach a

[1]https://eeaonline.eea.state.ma.us/EEA/emepa/mepacerts/2021/sc/eir/15233%20SEIR%20Founders%20Park%20(Center%20128)%20NEEDHAM.pdf

similar or better level of GHG emission reduction for the proposed MOB.

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). I refer the Proponent to detailed comments from MassDEP regarding construction-period measures. 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 Proponent to require contractors to use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.0000). The Proponent should develop a spills contingency plan. All C&D activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponent to reuse/recycle C&D debris to the maximum extent.

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

July 9, 2021
Date

Kathleen A. Theoharides

Comments received:

06/24/2021 Robert J. Luongo, Director, Weymouth Planning & Community Development
06/28/2021 Massachusetts Department of Energy Resources (DOER)
06/28/2021 Massachusetts Water Resources Authority (MWRA)
06/30/2021 Massachusetts Department of Environmental Protection (MassDEP) – Southeast Regional Office (SERO)

KAT/PPP/ppp

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Town of Weymouth
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June 24, 2021

The Executive Office of Energy and Environmental Affairs
MEPA Office
100 Cambridge Street, Suite 900
20 Central Street
Boston, MA 02114

RE: ENF Submittal – Boston Children's Hospital Weymouth

Dear Interested Party:

On behalf of the Town of Weymouth, I enthusiastically lend my support to the proposed Boston Children's Hospital at 200 Libbey Industrial Parkway. Boston Children's Hospital has been a long-time corporate partner with the Town and we are excited that they have chosen to stay and to grow in our Town. They are an important employer for the Town and obviously provide top rated services to our residents as well as those throughout the region.

We are similarly grateful for the reuse of this particular site as the property has had a long history of environmentally detrimental and inappropriate industrial uses. The property is situated on the banks of the South Cove of Whitman's Pond, a critical environmental resource and a secondary public water supply for the Town. This project will remove what has long been a source of pollutants and untreated stormwater runoff entering Whitman's Pond.

This project was extensively reviewed by all Town departments and received approvals from the Board of Zoning Appeals, the Weymouth Conservation Commission, and the Weymouth Fire Department. Reviews by all departments were thorough, intense, and thoughtful. Children's Hospital and their entire design team were responsive to the Town's input and worked as good faith partners to create a project which represents a tremendous improvement to existing conditions in and around Whitman's Pond.

As stated in the Environmental Notification Form, this project significantly reduces existing impervious surfaces, introduces a robust and modern stormwater management system, and restores and improves a large portion of the Whitman's Pond shoreline. The views of the pond from both the exterior of the property and the interior of the building will provide greater public awareness and an opportunity to educate residents of all ages in the importance of this natural resource.

I trust that you will find this project to be an ideal partnership between a municipality and a corporate partner each dedicated to environmental sustainability. I encourage the Office of Energy and Environmental Affairs to recognize this unique opportunity and to act favorably.

Sincerely,

Robert J. Luongo
Planning & Community Development Director

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Secretary

Patrick Woodcock
Commissioner

28 June 2021

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

RE: Boston Children's Hospital, Weymouth, MA, EEA #16387

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 a 3-story, 63,000-sf medical office building with parking area to accommodate approximately 270 parking spaces. The objective of this letter is to share strategies for the project to reduce greenhouse gas emissions (GHG) while also improving resiliency and affordability. These strategies include incorporation of:

- Building design and construction practices that result in low heating and cooling thermal energy demand intensity (heating and cooling "TEDI") 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 heating, including:
  - If the building is highly ventilated: 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);
  - If the building is not highly ventilated: low temperature, hydronic space heating with heat-input provided by in-building central plant consisting of air-to-water heat pump; or, air source heat pumps/VRF.
- Efficient electrification of water heating, where feasible;
- Extensive rooftop solar-readiness;
- Electric vehicle ready parking spaces.

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.

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)[1]. 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:

[1] Although they have the same units, heating and cooling TEDI is not the same as heating and cooling EUI. TEDI represents energy requirement, or demand, not energy consumption. For guidance on how to extract TEDI information from building models see "Energy Modeling Guidelines", City of Vancouver, Planning, Urban Design and Sustainability Department, Land Use Development and Policy Guidelines, Version 2.0, amended 18 July 2018 and "Designing to TEDI, TEUI, and GHGI Performance Metrics", International Building Performance Simulation Association (IBPSA), by Chan *et al*

- 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)

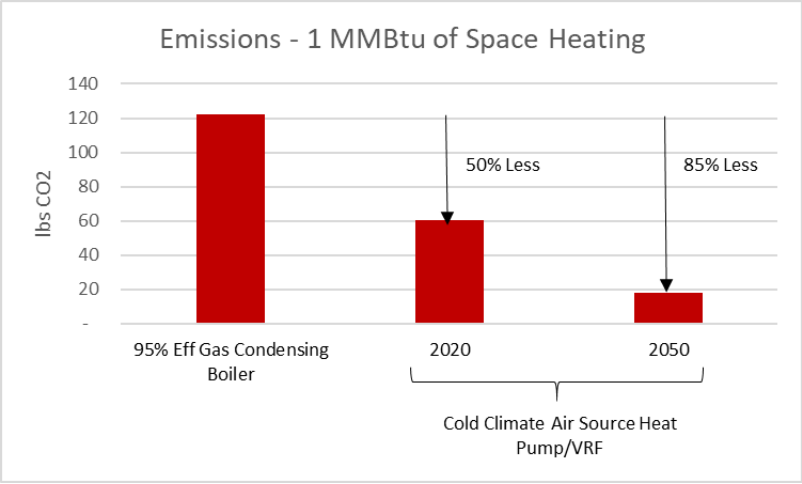
Buildings with curtain wall envelope require high performing windows and high performing opaque spandrels to achieve heating TEDI reductions. High performing windows and high performing opaque spandrels should be carefully evaluated if curtain-wall construction is considered.

Efficient Electrification – Space Heating

Efficient electrification of space heating entails the swapping of fossil fuels (natural gas, oil, and propane), or electric resistance systems, with cold-climate rated air source heat pumps or ground source heat pumps.

Electrification of space 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 heating with cold climate air source heat pump (or ground source heat pump) has 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, and possibly sooner, efficient electric heating is expected to have approximately **85% lower emissions** in Massachusetts than condensing natural gas heating. See illustration below.



DOER recommends efficient electrification of space heating paired with the TEDI reduction strategies for all new construction.

Electrifying Space Heating: High ventilation

The proposed medical office buildings may have high ventilation loads. High ventilation loads have made electrification of space heating a challenge in the past. However, DOER is aware of highly-ventilated builidng projects that are pursuing a pathway to partially electrify space heating. The approach uses a hybrid of air to water (or ground to water) heat pumps with gas equipment as backup in which the heat pump can provide 80-90% total annual heating end use.

Key strategies for this hybrid approach are as follows:

- Include a hot water distribution loop of 120°F;
- Include an in-building, centralized heating plant consisting of an air-to-water (or ground-to-water) heat pump and a gas-fired condensing boiler;
- Size the boiler for 100% of the peak load; size the air source heat pump for 25% to 50% of the peak load;
- Prioritize the heat pump operation first and utilize boiler only when loads exceed 25-50% of peak. The objective is to provide 80-90% of the total annual heating with air source.

A hybrid approach like this may provide a feasible means to partially electrify space heating of highly ventilated medical office building.

Electrifying Space Heating: Normal ventilation

If the building does not have high ventilation loads (like standard office ventilation loads), efficient electrification of space heating is readily possible using one of the strategies below:

- Central air to water heat pump serving hot water loop.
- Air to water heat pump or VRF systems.

Efficient Electrification – Service Water Heating

Similar to above, due to Massachusetts low electric grid emissions, even swapping from best in class condensing gas to heat pump service water heating results in significant emissions reduction. However, heat pump service water heating is challenging in some building settings.

Service water heating

Medical office buildings may have low service water loads. Heat pump service water heating using packaged air source heat pump equipment is potentially feasible. Such units can be distributed throughout the buildings at or near the service water points of use. If water usage is low, we recommend this approach for those building types.

Alternatively, medical office buildings may have larger process water loads and/or limited interior space to locate packaged heat pump water heating equipment near point of use. Alternative approaches in these applications include:

- *Centrally located air source water heating:* These systems consist of centrally located air source heat pumps, usually with the compressors outdoors, which provide hot water to water distribution piping to the end use locations. These are usually engineered solutions with less packaged equipment options.

- *Condensing gas hot water heaters*: These systems consist of either centrally located, or distributed, natural gas fired heating equipment. Centrally located equipment is preferable as it allows an opportunity to swap to heat pump water heating in the future.

- Some combination of above.

Opportunities for efficient electrification should be considered throughout the design process.

Solar PV

Rooftop PV can provide significant GHG benefits as well as significant financial benefits. Experience has shown that, with planning, up to 80% of roof space can be set aside for PV on roofs of low-rise, mid-rise, and high-rise buildings.

Even if PV is not installed during building construction, it is 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 low TEDI can both contribute to enabling more PV as these approaches can reduce rooftop equipment associated with conventional code HVAC.

Additionally, the project has significant opportunity for canopy solar in the parking area. The project should review opportunities to install canopy solar throughout the parking lot or making the parking area prepared for future canopy solar by making the garage solar ready and running conduit throughout parking are for future canopy solar.

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.

Opportunities to maximize EV-ready parking spaces should be considered through the design of this project.

Incentives

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

- MassSave® performance-based incentives[2] 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.

- Alternative Energy Credits (AECs)[3] 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[4] 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).

Three C406 additional efficiency measures should be included in the Baseline.

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. Did the project ensure Baseline building scenarios meet all requirements including relevant MA amendments? Three C406 measures should be used in the Baseline.

2. Did the building achieve at or above code level envelope? The building can confirm this by developing two UA analysis tables to ensure compliance, as follows:

    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.

[2] https://www.masssave.com/en/saving/business-rebates/new-buildings-and-major-renovations/
[3] https://www.mass.gov/guides/aps-renewable-thermal-statement-of-qualification-application
[4] https://www.mass.gov/solar-massachusetts-renewable-target-smart

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.

3. Were strategies to reduce TEDI considered? A combination of high-performing envelope, heat recovery, and solar gain management should be used throughout with an aim toward reducing heating TEDI. Strategies to achieve this include:

    a. *Above code-threshold envelope* (vertical walls, windows, roofs and exposed lower level floors). Priority should be given to increasing continuous insulation and framed insulated wall sections.

    b. *Glass curtain wall/spandrel systems* should be minimized as much as possible, and avoided where possible, as these are the lowest performing wall systems.

    c. *Reduce air infiltration to Passivehouse levels to 0.08 cfm at 75 Pa*. In-building field tests are recommended to confirm air-infiltration.

    d. *Ventilation Energy Recovery*. High performing energy recovery is essential to achieving low TEDI.

    e. *Solar gain management*. Manage solar gains with external shading and/or low solar heat gain coefficient (SHGC).

4. Was efficient electrification considered? Opportunities for air source heat pumps or air to water systems should be considered for the building.

5. Did the project evaluate incentives? Including:

    a. Estimate of Alternative Energy Credits;

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

6. Did the project set-aside as much space as possible for rooftop PV? It is important to set-aside roof space for PV early to ensure that mechanical equipment spacing is designed to maximize rooftop space. A target of 80% roof set-aside is generally achievable.

7. Did the project maximize EV-ready parking spaces? It is important to maximize EV Ready parking spaces as it is much easier to size the electrical service and run conduit for future EV parking during new construction rather than retrofit in the future.

8. Furthermore, integration of these recommended measures has compounding and interrelated benefits. For example: the adoption of an above code building envelope and air-sealing measures greatly improve the feasibility and economics of an all-electric space heating system; electrification reduces rooftop equipment; inclusion of solar PV in a project improves the economics of efficient electrification of space and water heating. Accordingly, these solutions should be considered as a package rather than in isolation.

The following scenario is an example of an integrated approach of the above strategies.

a. Improved envelope and inclusion of energy recovery to achieve heating TEDI reduction. Downsize the HVAC as much as possible, including evaluating perimeter heating elimination. Efficient electric space heating as described herein. 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.

Sincerely,

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

Brendan Place
Clean Energy Engineer
Massachusetts Department of Energy Resource

MASSACHUSETTS WATER RESOURCES AUTHORITY
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June 28, 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 #16387 – Environmental Notification Form
Boston Children's Hospital Weymouth, Weymouth MA

Dear Secretary Theoharides,

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted by CHB Properties, Inc., an affiliate of the Children's Hospital Corporation (the "Proponent") for Boston Children's Hospital Weymouth (the "Project") in Weymouth, Massachusetts. The 4.3-acre Project site is located at 200 Libbey Industrial Parkway in Weymouth and is currently occupied by an approximately 41,489 square foot, 2-story industrial warehouse that is mostly vacant. The Project site is virtually completely impervious. The Project involves demolition of the existing warehouse and construction of a new first class, 3-story, approximately 69,000 square-foot medical office building. A new surface parking lot with 270 spaces will also be included.

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 12,750 gallons per day (gpd), from an existing wastewater flow of approximately 1,000 gpd to 13,750 gpd. The Project site is served by a sanitary sewer owned and operated by the Town of Weymouth that conveys flows to MWRA's Braintree-Weymouth Interceptor, Braintree-Weymouth Pumping Station, Nut Island Headworks and, ultimately, Deer Island Wastewater Treatment Plant. All of these wastewater facilities are subject to surcharging in large storms due to high volumes of infiltration and inflow ("I/I") entering the pipes of tributary community systems. To ensure that the Project's new wastewater flow does not increase surcharging or overflows in large storms, the Proponent should fully offset new flows to the sewer system with I/I removal in accordance with

MassDEP regulation, which requires at least four gallons of I/I to be removed for every gallon of new wastewater flow, as well as Town of Weymouth policy.

TRAC Discharge Permitting

MWRA prohibits the discharge of groundwater and stormwater into 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. The Project site has access to a storm drain and is not located in a combined sewer area. Therefore, the discharge of groundwater or stormwater to the sanitary sewer system associated with this Project is prohibited.

A Sewer Use Discharge Permit is required prior to discharging laboratory wastewater, equipment washdown, dental wastewater, and/or photoprocessing wastewater from the medical facility associated with the Project into the MWRA sanitary sewer system. For assistance in obtaining this permit, representatives from the proposed medical facility should contact George Riley, Industrial Coordinator, in the TRAC Department at (617) 305-5664.

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,

Rebecca Weidman
Director
Environmental and Regulatory Affairs

cc: George Zoto, MassDEP

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

June 29, 2021

Kathleen A. Theoharides
Secretary of Environment and Energy
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
ATTN: MEPA Office
Boston, MA 02114

RE: ENF Review. EOEEA 16387 WEYMOUTH. Boston Children's Hospital at 200 Libbey Industrial Parkway

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Environmental Notification Form (ENF) for the Boston Children's Hospital at 200 Libbey Industrial Parkway, Weymouth, Massachusetts (EOEEA #16387). The Project Proponent provides the following information for the Project:

The proposed Project will replace the aging 2-story industrial building that is beyond its useful life with a first class, 3-story,69,000 square-foot medical office building. The Project will raze the existing building and remove the existing site improvements. A new surface parking lot with 270 parking spaces will serve the Project. The site is well served by all needed utilities located in Libbey Industrial Parkway and no new utilities need to be brought to the site. Figure 7 presents the proposed Site Plan.

The Project will remove existing paving, structures, and walls that encroach within the 50-foot wetland buffer decreasing the existing lot's impervious cover area. Previously disturbed areas located near Whitman's Pond will be restored with native landscape plantings and rain gardens as part of the stormwater management system. A new accessible walking path will be constructed near the pond to provide access the pond's edge. New stormwater structures will be constructed to capture and release stormwater in compliance with MassDEP standards for a redevelopment site. The Project has been reviewed by the local Conservation Commission and received an Order of Conditions on April 13, 2021.

Bureau of Water Resources Comments

Wetlands. As reported by the Proponent, a Notice of Intent (081-1267) was submitted on February 4, 2021. The Weymouth Conservation Commission issued an Order of

Conditions approving the Project on April 14, 2021. The Order of Conditions was not appealed and is therefore the final Order of Conditions for the proposed work.

Waterways. The siting of this Project is not subject to Chapter 91 jurisdiction.

Stormwater Management/National Pollutants Discharge Elimination System (NPDES) Permit. The Proponent acknowledges the need for an EPA NPDES Stormwater Permit and a MassDEP WM15 permit for its proposed Construction Activities. Information regarding the NPDES Stormwater requirements and an application for the Project's Construction General Permit can be obtained by completing and submitting a Notice of Intent (NOI) to MassDEP via WM 15: NPDES General Permit Notice of Intent | Mass.gov and to EPA via the .Stormwater Discharges from Construction Activities | National Pollutant Discharge Elimination System (NPDES) | US EPA.

The Proponent is advised to consult with David Gray at gray.david@epa.gov, 617-918-1577 for any of its questions regarding EPA's NPDES stormwater permitting requirements.

Underground Injection Control. The Proponent details the uses of a stormwater management system to collect, convey, treat, and control stormwater discharges associated with the Project. Figure 5 on page 488 of the document titled "Post - Development Watershed Map" shows where a subsurface UIC stormwater well (infiltration chambers) is proposed or already exists in place. Yet, the third paragraph of Page 316 of the PDF, the ENF reports "subsurface infiltration/recharge systems or surface infiltration basins are not part of this Project." The ENF contradicts this claim throughout the ENF in support of the presence of subsurface recharge (PDF pages 444, 447, 451(Summary for Pond 3P: Subsurface Recharge Area 1), 455, 459, 467, 476, 479. 480-482 (Stage-Area-Storage for Pond 3P: SUBSURFACE RECHARGE AREA 1).

The Proponent should be aware that the conveyances of stormwater through underground stormwater infiltration structures are subject to the jurisdiction of the MassDEP *Underground Injection Control (UIC)* program. Even if the infiltration, as shown on Figure 5, is a pre-existing structure, 301 CMR 27.08 still requires a UIC registration because these structures are not grandfathered.

These structures must be registered with MassDEP UIC program through the submittal of a BRP WS-06 UIC Registration application through MassDEP's electronic filing system, eDEP. The statewide UIC program contact is Joe Cerutti, who can be reached at (781) 465-4123 or at joseph.cerutti@mass.gov. All information regarding on-line (eDEP) UIC registration applications may be obtained at the following web page under the category "Applications & Forms": https://www.mass.gov/underground-injection-control-uic.

Drinking Water. This Project includes the razing and rebuilding of an existing office structure and parking lot into a larger building and parking lot, refurbishment/ improvements to existing stormwater retention and the nearby pond edge. The property is almost completely impervious so there will be no change to percent of impervious

surface.

The concern of the Drinking Water Program is the increase of 14,025gal per day for the new structure and its operations. The ENF gives no mention of where this increase in water consumption will be coming from and if that entity has the capacity to take on an increase of 14,025 gal per day.

Additionally, the MassGIS OLIVER interactive mapping site shows almost the entirety of the building footprint is in the Zone A of a surface water public water supply (4336000-02S Old Swamp River), which may impact the build-out of the wastewater collection piping on the site.

The Weymouth Water Department shall review and approve the proposed work within the Zone A, B and/or C of its surface water sources in accordance with the Massachusetts Drinking Water Regulations, 310 CMR 22.20B(7)(b), " the public water system shall document on a form provided by the Department and submitted to the Department in calendar year 2001, that the public water system has established a protocol that provides the system with an opportunity to review and comment on all proposed new or expanded land uses or activities within the watershed of its surface water source(s) to local boards, commissions and other authorities with primary responsibilities for approving such uses and activities."

Water Management Act. Weymouth is registered to provide 4.51 MGD on an annual average daily basis from their 4 registered wells and their surface water sources. That value appears to be based on the finished water volumes from their treatment plants. The city also has a Water Management Act permit that allows them to increase their pumping by an additional 0.49 mgd from the Winter Street Well #1 only. The remainder of their sources are constrained to 4.51 mgd limit. In 2020, Weymouth reported a total finished water volume of 4.57 mgd, with only 1.36 million gallons (3,700 gallons per day) being withdrawn from Winter St. Well #1. Therefore, Weymouth exceeded their authorized withdrawal volumes for the first time in 2020.

Weymouth's Water Management Act permit is scheduled for review later this year as part of their application to renew their permit. Weymouth's compliance with their authorized volumes and their ability to meet their future demands will be part of permit renewal process.

In view of this information, the Project Proponent should take all feasible measures to assist Weymouth by reducing their proposed demands which will limit the mitigations Weymouth will be required to provide for increases in water withdrawals.

The Proponent identifies an increase in water demand on the Weymouth system of approximately 15,125 gpd with the development of this Project. The Project Proponent should take all feasible steps to minimize this demand by requiring the installation of low flow/water efficient devices and appliances in all its units – now and in the future - and try to reduce the hospital's water demand by reducing future increases and limiting the

mitigation requirements Weymouth would be required to address for compliance with its Water Management Permit.

Wastewater Management Comments: MassDEP SERO Wastewater Management notes the Proponent has identified, as a member community, the MWRA for the required permit to discharge industrial wastewater to the sewer in Weymouth. The MWRA has been delegated by MassDEP to permit sewer connections under 314 CMR 7.00.

The Boston Children's Hospital Weymouth indicates that the proposed project will generate increased wastewater flows of 12,750 gallons per day (gpd) from an existing wastewater flow of approximately 1,000 gpd to 13,750 gpd. The Proponent has not identified that an industrial wastewater permit will be needed. The Town of Weymouth requires applicants to remove infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any connection to their system that contributes flows greater than 440 gallons per day of new or additional wastewater flow. At a minimum, the ratio is four gallons of I/I removal for each new gallon of wastewater flow, as well as Town of Weymouth policy. Accordingly, the Proponent should, as required for a Town of Weymouth's DPW Water and Sewer Construction Permit, meet with staff from the Town to ensure that this mitigation requirement is met.

The Proponent is advised that a Sewer Use Discharge Permit is required prior to discharging laboratory wastewater, equipment washdown, dental wastewater, and/or photo processing wastewater from the medical facility associated with the Project into the MWRA sanitary sewer system. For assistance in obtaining this permit, representatives from the proposed medical facility should contact George Riley, Industrial Coordinator, in the TRAC Department at (617) 305-5664.

Bureau of Waste Site Cleanup Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are three closed MCP sites located at the proposed Project location. These were also identified by the Project Proponent in the ENF. Release Tracking Number (RTN) 4-3003450 is related to a surficial release of petroleum that was assessed and closed under a Licensed Site Professional Opinion in 1984 and 1988. MassDEP confirmed site closure in a letter dated July 1, 1996. RTN 4-3020913 is related to a spill of 100 gallons of hydraulic oil. The RTN was closed with a A-2 Response Action Outcome (RAO) on September 12, 2001. Finally, RTN 4-3024937 was issued in response to a release of 75 gallons of diesel fuel from a service truck. The RTN was closed with a A-2 RAO on August 2, 2005. All three RTNs have been closed with Permanent Solutions and no further response actions or reporting are required under the MCP.

There are no other listed MCP disposal sites located at or in the vicinity of the site that would appear to impact the proposed project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php. Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste (BAW) Comments

Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor, or noise. To determine the appropriate requirements please refer to:

310 CMR 7.09 Dust, Odor, Construction, and Demolition
310 CMR 7.10 Noise

Construction-Related Measures

The Proponent acknowledges that all non-road diesel equipment rated 50 horsepower or greater will meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

Massachusetts Air Quality and Idling Regulation

The Project Proponent reports the following measures will be performed to reduce potential emissions and minimize impacts from construction vehicles.

- Encouraging contractors to use construction equipment EPA Tier 4 equipment or equipment retrofitted with diesel emission control devices to the greatest extent practicable.
- Using Ultra-Low Sulphur Diesel for all trucks and construction machinery.
- Maintaining an "idle free" work zone by providing supplemental electrical equipment along with "just-in-time" delivery methods. On-site idling will be limited to five

minutes in accordance with the Massachusetts Anti Idling Law. "No Idling" signs will be posted at all appropriate locations.
- Minimizing exposed storage of debris on-site, using wetting agents, and cleaning streets and sidewalks regularly on a scheduled basis to minimize dust.
- Monitoring construction to reduce unnecessary transfers and disturbances of loose materials.

Spills Prevention. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

Hazardous Waste Management. If any occupant of the Project generates hazardous waste and/or waste oil, that entity must be properly registered with the MassDEP in accordance with 310 CMR 30.000 for legally generating and managing regulated waste. The Proponent is advised to consult at this MassDEP website https://www.mass.gov/guides/hazardous-waste-generation-generators to determine if the Proponent qualifies as a generator of hazardous waste and/or waste oil.

Solid Waste Management. The ENF indicates that the contracts for the contractor will include specific requirements to ensure construction procedures allow for the necessary segregation, reprocessing, reuse, and recycling of materials and the Project will conduct demolition activity that disturbs asbestos containing materials.

1. *Reuse of any demolition material requires submittal of MassDEP's BWP SW41 – Beneficial Use Determination – Restricted Applications*. The permit is intended to protect public health, safety, and the environment by comprehensively regulating the reuse of waste materials as effective substitutes for a commercial product or commodity. Information pertaining to this requirement is available at https://www.mass.gov/doc/instructions-sw-39-40-41-42-beneficial-use-determinations/download.

2. *Compliance with Waste Ban Regulations*: Waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including *310 CMR 19.017: Waste Bans*. Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. The goals of the waste bans are to: promote reuse, waste reduction, or recycling; reduce the adverse impacts of solid waste management on the environment; conserve capacity at existing solid waste disposal facilities; minimize the need for construction of new solid waste disposal facilities; and support the recycling industry by ensuring that large volumes of material are available on a

consistent basis. Further guidance can be found at: https://www.mass.gov/guides/massdep-waste-disposal-bans.

MassDEP recommends the Proponent consider source separation or separating different recyclable materials at the job site. Source separation may lead to higher recycling rates and lower recycling costs. Further guidance can be found at: https://recyclingworksma.com/construction-demolition-materials-guidance/

For more information on how to prevent banned materials from entering the waste stream the Proponent should contact the RecyclingWorks in Massachusetts program at (888) 254-5525 or via email at info@recyclingworksma.com. RecyclingWorks in Massachusetts also provides a website that includes a searchable database of recycling service providers, available at http://www.recyclingworksma.com.

3. *Asphalt, brick, and concrete (ABC) rubble,* such as the rubble generated by the demolition of buildings or other structures must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled " Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017 ", that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf.

4. *Tree removal/land clearing:* As defined in 310 CMR 16.02, clean wood means "discarded material consisting of trees, stumps and brush, including but limited to sawdust, chips, shavings, bark, and new or used lumber" …etc. Clean wood does not include wood from commingled construction and demolition waste, engineered wood products, and wood containing or likely to contain asbestos, chemical preservatives, or paints, stains or other coatings, or adhesives. The Proponent should be aware that wood is not allowed to be buried or disposed of at the Site pursuant to 310 CMR 16.00 & 310 CMR 19.000 unless otherwise approved by MassDEP. Clean wood may be handled in accordance with 310 CMR 16.03(2)(c)7 which allows for the on-site processing (i.e., chipping) of wood for use at the Site (i.e., use as landscaping material) and/or the wood to be transported to a permitted facility (i.e., wood waste reclamation facility) or other facility that is permitted to accept and process wood.

5. The Proponent acknowledges the following requirements for *asbestos, dust, noise, and odor nuisance conditions* abatement through its survey, including all asbestos containing materials (ACM), prior to the demolition of the existing structure:

   a. *Building Demolition and Asbestos Containing Waste Material*: The Project Proponent is advised that demolition activity must comply with both Solid Waste and Air Quality Control regulations. Please note that MassDEP promulgated revised Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. The new regulations contain requirements to conduct a pre-demolition/renovation

asbestos survey by a licensed asbestos inspector and post abatement visual inspections by a licensed asbestos Project monitor. The Massachusetts Department of Labor and Work Force Development, Division of Labor Standards (DLS) is the agency responsible for licensing and regulating all asbestos abatement contractors, designers, Project monitors, inspectors, and analytical laboratories in the state of Massachusetts.

b. In accordance with the revised Asbestos Regulations at 310 CMR 7.15(4), any owner or operator of a facility or facility component that contains suspect asbestos containing material (ACM) shall, prior to conducting any demolition or renovation, employ a DLS licensed asbestos inspector to thoroughly inspect the facility or facility component, to identify the presence, location and quantity of any ACM or suspect ACM and to prepare a written asbestos survey report. As part of the asbestos survey, samples must be taken of all suspect asbestos containing building materials and sent to a DLS certified laboratory for analysis, using USEPA approved analytical methods.

c. If ACM is identified in the asbestos survey, the Proponent must hire a DLS licensed asbestos abatement contractor to remove and dispose of any asbestos containing material(s) from the facility or facility component in accordance with 310 CMR 7.15, prior to conducting any demolition or renovation activities. The removal and handling of asbestos from the facility or facility components must adhere to the Specific Asbestos Abatement Work Practice Standards required at 310 CMR 7.15(7). The Proponent and asbestos contractor will be responsible for submitting an Asbestos Notification FormANF-001 to MassDEP at least ten (10) working days prior to beginning any removal of the asbestos containing materials as specified at 310 CMR 7.15(6).

d. The Proponent shall ensure that all asbestos containing waste material from any asbestos abatement activity is properly stored and disposed of at a landfill approved to accept such material in accordance with 310 CMR 7.15 (17). The Solid Waste Regulations at 310 CMR 19.061(3) list the requirements for any solid waste facility handling or disposing of asbestos waste. Pursuant to 310 CMR 19.061(3) (b) 1, no asbestos containing material; including VAT, asphaltic-asbestos felts, or shingles; may be disposed at a solid waste combustion facility.

e. In accordance with the Air Quality Regulations at 310 CMR 7.09(2), the Proponent must submit a BWP AQ 06 Notification Prior to Construction or Demolition form to MassDEP for any construction or demolition of an industrial, commercial, or institutional building or residential building with 20 or more dwelling units at least ten (10) working days prior to initiation of said construction or demolition Project. The Proponent should propose measures to prevent or alleviate dust, noise, and odor nuisance conditions, which may occur during the demolition.

If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847 for solid waste comments or Cynthia Baran at (508) 946-2887 for asbestos comments.

Proposed s.61 Findings

The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this ENF. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,

Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
Gerard Martin, Acting Deputy Regional Director, BWR
John Handrahan, Acting Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Daniel Gilmore, Chief, Wetlands and Waterways, BWR
David Hill, Wetlands and Waterways, BWR
Duane LeVangie, Chief, Water Management Act, BWR/Boston
Shi Chen, Water Management Act, BWR/Boston
Joseph Cerutti, Underground Injection Control, BWR/Boston
Daniel DiSalvio, Chief, Compliance and Enforcement, BAW
Mark Dakers, Chief, Solid Waste, BAW

Elza Bystrom, Solid Waste Management, BAW
Cynthia Baran, Chief, Asbestos, BAW
Allen Hemberger, Site Management, BWSC