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February 5, 2010

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

PROJECT NAME	: Binney Street Project
PROJECT MUNICIPALITY	: Cambridge
PROJECT WATERSHED	: Charles River
EEA NUMBER	: 14523
PROJECT PROPONENT	: Alexandria Real Estate Equities, Inc.
DATE NOTICED IN MONITOR	: December 23, 2009

Pursuant to the Massachusetts Environmental Policy Act (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 requires** the preparation of an Environmental Impact Report (EIR).

Project Overview

The proposed project involves a major redevelopment proposal for several city blocks in the Kendall Square area of Cambridge. According to the Environmental Notification Form (ENF), the proposed project consists of the phased construction of a mixed-use development totaling approximately seven buildings and 1,753,200 square feet of space. The project is comprised of: five commercial buildings (totaling approximately 1,513,200 square feet (sf) for office, laboratory space, and retail space); and two residential buildings (approximately 220,000 sf) with 220 residential units. The project is estimated to generate a total of 14,856 vehicle trips on an average weekday and would contain 1,932 parking spaces below grade. The proposed project will be connected to existing municipal water and sewer service. It will consume an estimated 169,600 gallons per day of water and will generate approximately 152,600 gpd of wastewater flow. The proponent is proposing to preserve several existing buildings and to

provide open space on the site. The proponent plans to complete the project in eight phases over a period of approximately 20 years.

The parcels, which total 11.28 acres, are located along Binney Street, First Street, Second Street, Third Street, Fifth Street, Sixth Street, and Rogers Street in Cambridge. The site currently houses research and development space, office buildings, and parking lots. The site is located approximately a half-mile north of the MBTA Kendall Station and a half-mile south of the MBTA Lechmere Station; it is currently served by the EZ Ride shuttle, a shuttle service that is operated by the Charles River Transportation Management Association and is available to the general public for a subsidized fare.

I note that the proposed project has many attractive elements, including its location in an already developed urban area in close proximity to public transportation. I commend the proponent for its goals of creating a new mixed-use neighborhood that will provide daytime and evening activity in a currently underutilized area, including the addition of attractive new public open space and transportation improvements to facilitate pedestrian and bicycle use of the area. I also note that a project of the scale proposed by the proponent provides a multitude of opportunities to incorporate innovative technologies designed to reduce the project's environmental impacts, including its direct and indirect greenhouse gas emissions. Given the prominence that this development will have in the City of Cambridge, I hope that the proponent will view this project as an opportunity to create a model of green building and sustainable design that other projects will be able to follow. I urge the proponent to take this opportunity to explore all feasible energy efficiency and renewable energy options available to it, and to reduce the project's greenhouse gas emissions to the maximum extent possible.

State Permits and Jurisdiction

This project is subject to a mandatory EIR pursuant to Section 11.03(6)(a)(6) and Section 11.03(6)(a)(7) of the MEPA regulations because it requires state Permits and Financial Assistance and involves the generation of 3,00 or more New adt on roadways providing access to asingle location and the construction of 1,000 pr more New parking spaces at a single location. The proponent will require permission from the Massachusetts Department of Conservation and Recreation (DCR) to allow intersection improvements at Binney Street and Land Boulevard. The project will require a Sewer Connection/Extension Permit, a Disposal Permit for Waste, and a permit for Discharge to Underground Injection Wells from the Department of Environmental Protection (MassDEP). The project will require a Temporary Construction Site Dewatering Discharge Permit and may require an Industrial User Sewer Discharge Permit from the Massachusetts Water Resources Authority (MWRA). The project must comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from a construction site. The project will also require a Federal Aviation Administration (FAA) Height Restriction Notice. The project may also require a Notice of Preconstruction to the Massachusetts Aeronautics Commission. The project is also subject to review by the City of Cambridge and will be subject to the City of Cambridge Planning Board's Planned Unit

Development (PUD) Special Permit process, where local impacts will be assessed and mitigation determine through extensive local permitting. Finally, the project will also require a Public Benefits Determination in accordance with 301 CMR 13.00 and is subject to the MEPA Greenhouse Gas Emissions Policy and Protocol.

The proponent has indicated that State Financial Assistance may be sought for the project. Therefore, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

SCOPE

The Draft EIR (DEIR) should conform to Section 11.07 of the MEPA regulations for outline and content as modified by this Scope. The DEIR should address the issues outlined below in detail and should include a copy of this Certificate and all comment letters received on the ENF.

Project Description

The EIR should provide a detailed project description with a summary/history of the project. It should include existing and proposed site plans. The EIR should identify and describe the 20 year project phasing and the projected timing of the phases. The EIR should discuss the aesthetics of the project, and should include a conceptual-level landscaping plan and building elevations from all sides. It should identify any proposed lighting impacts on adjacent residential structures.

Permitting and Consistency

The EIR should briefly describe each state permit or Agency Action required or potentially required for each phase of the project, and should demonstrate that the project meets applicable performance standards. The EIR should contain sufficient information to allow the permitting agencies to understand the environmental consequences of their actions. In accordance with section 11.01(3)(a) of the MEPA regulations, the EIR should discuss the consistency of the project with applicable local or regional land use plans.

Alternatives Analysis

The City of Cambridge recently re-zoned the proposed project area to a Planned Unit Development (PUD) District to provide for the creation of a mixed-use district of general and technical office and retail activity, with a component of residential use. This PUD district permits larger scale development and supporting commercial activities.

The EIR should discuss and compare the Preferred Alternative, the No-Build Alternative

and should summarize any alternatives that have previously been explored for the project site by the proponent. The analysis should clearly present the alternative driveway/garage configurations at the site and identify the advantages and disadvantages of the Preferred Alternative. The EIR should discuss alternative building configurations on the site that might result in fewer impacts, particularly on traffic, parking, and wind and shadows. It should provide a comparative analysis that clearly shows the differences between the environmental impacts associated with each of the alternatives for each of the areas that are scoped. The proponent has committed to the donation of two acres of land for open space and the donation of an historic building for municipal and community use. The EIR should discuss any other opportunities to provide further open space or building allocation for community use.

Traffic

Because the project has the potential to generate an additional 14,856 daily vehicle trips and these daily vehicle trips might cause significant traffic impacts, the City of Cambridge's Traffic, Parking, and Transportation Department provided a traffic study scope of work to the proponent in April 2009. The proponent completed their Traffic Impact Study (TIS) and the City of Cambridge certified it as complete and reliable on November 19, 2009. The TIS evaluated the vehicle, bicycle, pedestrian and transit trips for the existing condition, Phase I build, full build, future build (2014), and future build with mitigation. The TIS included in its evaluation other area projects, either permitted or under construction, and included a background traffic growth rate of 1% per year over five years. The TIS evaluated the project against the Cambridge Planning Board Special Permit transportation criteria and was found to have traffic impacts related to daily and peak hour trip generation, intersection level of service, traffic on residential streets, lane queue and pedestrian and bicycle facilities.

The traffic analysis presented in the EIR should be prepared in conformance with the EEA/EOT Guidelines for EIR/EIS Traffic Impact Assessment. The unadjusted and adjusted trip generation rates must be fully explained in the EIR. It should include a breakdown by transportation mode and the reasoning behind these estimated trip generation numbers. It should fully describe all of the proposed components to provide accurate trip generation estimations. The EIR should also clarify what method in the ITE Trip Generation manual is used. In order to verify that the method is conservative, the DEIR should provide more information to support the calculations and assumptions used to derive the trip generation rates.

According to the ENF, construction of the project would occur between 2010 and 2030. Therefore, the DEIR should provide capacity analyses based on Build Year 2030 operations. The DEIR should also include a phasing plan outlining when each parcel will be developed and providing traffic estimates for each parcel as they are constructed. This discussion of project phasing should also indicate when the Land Boulevard/Binney Street improvements will be constructed.

According to MassDOT, the Cambridge Street/Route 28 intersection needs to be included

in the study area, and the DEIR should present turning movement, bicycle, and pedestrian counts at this location. The DEIR should analyze the coordination/interconnection system along the Route 28 corridor.

The DEIR should also identify appropriate mitigation measures for areas where the project will produce impacts on local and regional traffic operations, especially where delay increases at intersections. The intersection capacity analysis indicates that the project would increase delays and queues for the Third Street/Route 28 and Land Boulevard/Route 28 intersections during peak hours. The ENF states the proponent will seek permission to conduct intersection improvements at Binney Street and Land Boulevard, however there is a lack of specific details on what the improvements entail. The EIR should provide a detailed representation of proposed improvement(s) to the intersection as described in detail in DCR's comment letter. In addition, the proponent should provide adequate mitigation and a composite illustration of queues at these signalized intersections to demonstrate that the project would not create safety problems.

The EIR's should also include level of sevice (LOS) tables that include the weekday morning and evening peak hours for each movement at these above intersections. It should verify the proposed morning and evening peak hour. The EIR should provide a traffic distribution map and background growth from other proposed projects in the area. Future conditions should cover a five-year, a ten-year and twenty year time horizon to account for the phasing of the project. The EIR should examine present and future build and no-build traffic volumes for impacted roadways and intersections. The Volume/Capacity ratio should also be provided for signalized intersections. The EIR should include a summary of average and 95th percentile vehicle queues for each intersection within the study area.

The EIR should discuss the suitability of any proposed signalization changes and any roadway widening. It should discuss right-of-way (ROW) implications of possible widening and describe how such ROW's would be acquired. The EIR should include plans showing the configuration of each roadway intersection proposed for modification. Traffic accident history for the three most recent years for which data are available should be reviewed and presented for the study area. In the DEIR, traffic accident problem areas should be identified, and solutions should be proposed.

The EIR should discuss the proponent's coordination efforts with DCR, MassDOT and the City of Cambridge officials as they address regional and local traffic concerns within this area. It should provide the most current information on the proposed construction dates for any roadway improvements in the area. The proponent should consider participating in proposals by DCR, MassDOT, and the the City of Cambridge to provide additional traffic mitigation measures to reduce the impacts on estimated delay at adjacent intersections along the corridor.

Parking

The project proposes to contain 1,932 parking spaces. The ENF states that re-zoning of the project area, approved by the City of Cambridge on February 9, 2009, limits parking on-site and establishes maximum ratios of parking per gross square foot, which vary by land use type. The zoning limits parking to 0.9 spaces per 1,000 sf of R&D/retail space and one space per unit for residential use. The EIR should further analyze opportunities for parking reductions and should include a comprehensive parking needs assessment. The parking needs assessment should take into account the turnover rates for employees, visitors, and residences. It should describe the parking supply and demand in the project area. The EIR should inventory both existing and proposed off- and on-street parking and proposed parking fees. It should present vehicle occupancies/modal splits for the trips generated in order to estimate parking demand. Parking demand management should be a key component of the overall mitigation analysis.

The City of Cambridge has stated in it comment letter that that parking for the residential units may be adequate at 0.8/unit based on surveys done for residential buildings close to transit. In addition, this project may have an opportunity for shared parking between residents and employees that have peak parking demands at different times of the day. Therefore, the parking supply to meet residential needs in a new garage serving both residents and employees may be able to be reduced.

Pedestrian/Bicycle Circulation

The ENF includes a proposal for a new multimodal trasponrtation node on Second Street to support bicycling and transit in the area. The DEIR should provide a detailed description of the services to be provided at this proposed multimodal node. The EIR should also provide a more comprehensive discussion of the pedestrian plan depicting how the on-site improvements will connect to existing pedestrian corridors, rail stations or bus stops, and other nearby destinations, including DCR's Charles River Reservation. This plan (preferably at 20-scale) should clearly show the location and widths of sidewalks around the site, identify public and private common spaces (both for access and egress to parking or across the project site as well as open space), and connection points to nearby public transit options. The Proponent should continue to work with the City of Cambridge to identify intersections that may require upgrades to effectively enhance opportunities to connect pedestrians and bicyclists through the project site to the MBTA stations and bus stops. The EIR should identify the location of on-site bus shelters, proposed sidewalk or crosswalk improvements, and any pedestrian signal upgrades proposed. Bicycle lanes, bicycle storage racks, benches, landscaped areas, or other pedestrian and bicycle amenities should be identified within the project area. The proponent should coordinate with the City of Cambridge, DCR, and organizations like Walk Boston to develop a design that will safely accommodate pedestrian, bicycle and vehicular traffic in the project area. I encourage the proponent to consult the MassDOT's Project Development and Design Guide for the design of pedestrian-friendly streets.

Transportation Demand Management (TDM)

Automobile trips to and from the site are expected to be distributed across several major streets linking the site to the following surrounding community and regional highways: O'Brien Highway, Land Boulevard, Gilmore Bridge, Memorial Drive, Broadway, Cambridge Street and Longfellow Bridge. Based on observations and analysis of existing conditions in the project vicinity, it is clear that there are some traffic issues in the surrounding area that result in peak-hour congestion. The proponent proposes in the ENF to support a program of TDM actions to reduce automobile trips generated by the project. The goal of the project's TDM plan is to reduce the use of single occupant vehicles (SOVs) by encouraging carpooling and vanpooling, bicycling, walking, and increased use of the area's public transportation system.

The project site is close to bicycling routes and transit services, is within walking distance to many attractions, and has limited parking. Therefore, the project is generally consistent with state and regional policies that support smart growth and multi-modal transportation access. As described in the ENF, the Mixed-Mode Transportation Hub would provide a weather protected bus stop for the EZ Ride and potential BRT routes; facilitate ridesharing; and provide amenities for cyclists and commuting information. The proponent's TDM measures also include widened sidewalks and improved bicycle linkages.

The EIR should provide greater detail on the the proponent's TDM Program. TDM measures to consider include: active promotion by the proponent of transit, walking and bicycling for tenants; coordination with the Charles River TMA to promote TDM implementation; coordination with the Massachusetts Bay Transportation Authority (MBTA) on potential transit services; and continued coordination with the City of Cambridge to maximize non-SOV travel options. I advise the proponent to work closely with the City of Cambridge, neighborhood groups in East Cambridge, DCR, and MassDOT to expand upon the measures contemplated in the ENF and to identify additional traffic mitigation measures in developing an appropriate TDM program. These TDM strategies should be incorporated in a Parking and Transportation Demand Management (PTDM) Plan to be reviewed and approved by the City of Cambridge PTDM Officer.

The DEIR should commit to and describe a Traffic Monitoring Program (TMP) that will include counts on an annual basis and that would continue for five years following full occupancy of the site. The monitoring program would include reports on the implementation of the TDM program and would provide specific metrics to demonstrate success. Finally, the proponent should commit to a site design that actively accommodates and promotes increased transit service in the area.

Air Quality

The project triggers MassDEP's review threshold requiring the proponent to conduct an air quality mesoscale analysis comparing the indirect emissions from transportation sources

under the Build and No-Build conditions. The proponent should consult with MassDEP regarding modeling protocol prior to conducting this analysis. The mesoscale analysis should also be conducted in accordance with guidance described in the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol (Policy).

The purpose of the mesoscale analysis is to determine whether and to what extent the proposed project will increase the amount of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the project area. The mesoscale analysis will also be used to determine if the project will be consistent with the Massachusetts State Implementation Plan (SIP). Emission increases due to the project must be mitigated and any subsequent environmental impact analysis should include the Proponent's commitment to implement said mitigation measures. Implementation of a TDM program on-site will provide an opportunity for additional air quality improvements through a reduction in trips. TDM measures and their ability to reduce trip generation rates should be evaluated in the EIR as part of the air quality analysis.

The EIR should discuss the project's compliance with MassDEP's Ridesharing Regulations, 310 CMR 7.16. The mesoscale analysis should also be used to estimate indirect Carbon Dioxide (CO_2) emissions from transportation sources in conjunction with the GHG Policy and Protocol, as outlined further below. The Proponent should evaluate the feasibility of compliance with the Massachusetts Idling regulation (310 CMR 7.11) and the Rideshare Regulation (310 CMR 7.16) and should make commitments to such compliance wherever feasible.

The EIR should also contain information as to whether the project will include the installation of any Fuel Utilization Facility that emits air contaminants. I advise the proponent that pre-installation approval from the MassDEP Division of Air Quality Control is needed if the project does include the installation of any Fuel Utilization Facility such as furnaces, fuel burning equipment, and/or boiler(s) sized above the de minimus threshold levels in 310 CMR 7.02. In addition, if any of the buildings will be equipped with emergency generators, additional review by MassDEP will be required depending on the size of the generator units.

Greenhouse Gas (GHG) Emissions

The DEIR should include an analysis of GHG emissions and mitigation measures in accordance with the standard requirements of the MEPA GHG Policy and Protocol ("the Policy"). The DEIR should quantify the direct and indirect GHG emissions associated with the project's energy use and transportation-related emissions. Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by the burning of fossil fuels, and from emissions associated with vehicle use by employees, vendors, customers and others. The DEIR should outline and commit to mitigation measures to reduce GHG emissions.

The DEIR should include a GHG emissions analysis that calculates and compares GHG emissions associated with two scenarios: 1) a Massachusetts Building Code-compliant baseline (the Base Case) (typically the International Energy Conservation Code, "IECC" 2006 version with 2007 supplement or the ASHRAE 90.1.2007); and 2) a Preferred Alternative. I am aware that the City of Cambridge has adopted the Massachusetts Energy Stretch Code (Stretch Code); therefore, this building code will applicable to the design and construction of this project. However, for purposes of the GHG Policy, comparison to the standard state-wide building code is appropriate. I believe that both requirements can be satisfied by a single analysis. In particular, the Massachusetts Energy Stretch Code establishes appendix G of the ASHRAE 90.1 2007 code as the compliance path for commercial buildings over 100,000 sf. According to information I have received from the Massachusetts Department of Energy Resources (DOER), modeling of the Base Code Compliant Case as defined in appendix G section G3 would also satisfy the requirement for Base Code Compliant Case modeling per the state-wide effective code under the MEPA GHG Policy. I therefore refer the proponent to appendix G of the ASHRAE 90.1 2007 code as a means to both satisfy the requirements of the MEPA GHG Policy and to demonstrate compliance with the Stretch Code in effect in Cambridge. I also refer the proponent to the GHG Policy for additional guidance on the analysis and I strongly encourage the proponent to meet with representatives from MEPA, MassDEP and DOER prior to preparation of the DEIR.

The GHG analysis should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which the Proponent plans to avoid, minimize, or mitigate damage to the environment to the maximum extent feasible. The DEIR should include the modeling printout for each modeled scenario. It should include emission tables that compare the Base Case (in tons of Carbon Dioxide (CO_2)) with the Preferred Alternative and show the projected reduction (in tons and percentages) by emissions source. The DEIR should clearly state modeling assumptions and explicitly note which GHG reduction measures have been modeled and provide supporting data demonstrating GHG reductions. The DEIR should identify whether certain building design or operations GHG reduction measures will be mandated by the proponent to future occupants or merely encouraged for adoption and implementation.

I refer the proponent to the MassDEP comment letter (that includes contributions from DOER) for additional recommendations on the analysis of GHG emissions, data to be incorporated into the DEIR, and potential mitigation measures. Specifically, the appendix to the GHG Protocol has a list of potential energy conservation measures that have been commonly employed with proven efficiency. While this list is not meant to be exhaustive, it is suggested that in the GHG analysis the proponent evaluate the feasibility of evaluating as many of these for inclusion in the project as are feasible. In addition to these measures, the proponent is encouraged to evaluate and include measures specific to energy intensive lab space occupancy. The DEIR should contain measures which would significantly reduce the exhaust and fresh air make-up ventilation rates. Additionally, evaluation of heat pumps, heat recovery ventilation, and enthalpy controlled economizer and EnergyStar rated air conditioning (AC) units is encouraged. The proponent should not discount mitigation measures even if it is not currently feasible to quantify the GHG reduction impact including: recycling of construction, office and residential materials

as well as water conserving approaches such as low flow plumbing fixtures, gray water reuse, and low impact landscaping and irrigation designs. These measures will be considered when evaluating whether the project mitigated its GHG emissions to the greatest extent practicable.

In support of these evaluations, the DEIR should clearly describe each building including the type, usage, and orientation. It should also describe the building envelope elements, along with the proposed design performance criteria (such as R or U-value) for each element. The DEIR should describe the building electrical and HVAC systems, including the design loads and levels, equipment selected, and the relevant performance. The DEIR should consider quantifying the GHG reductions associated with water conservation measures in its plans.

The DEIR should specifically respond to the comments by MassDEP with respect to:

- Pursuit of Leadership in Energy and Environmental Design (LEED) and/or Energy Star certifiable project status;
- Availability of potential rebates from energy providers associated with the installation of highly efficient equipment;
- Explanation of building orientation and discussion of expected impacts on energy usage;
- Energy efficient lighting (both interior and exterior);
- Interior day-lighting of buildings;
- Duct insulation;
- Use of peak shaving or load shifting strategies;
- Super insulation;
- Window glazing;
- High-efficiency HVAC systems;
- High-albedo roofing materials;
- Incorporation of third-party building commissioning;
- Implementation of lighting motion sensors, climate control and building energy management systems. I strongly encourage the implementation of separate metering of utilities within the residential units and between separate office/institutional uses to incentivize energy conservation;
- On-site renewable energy sources. The DEIR should evaluate the use of photovoltaic (PV) systems in accordance with the recommendations of DOER;
- Combined heat and power (CHP) technologies;
- Energy performance tracking capabilities; and
- Energy Star-rated appliances.

In addition, the proponent should evaluate the feasibility of connecting to the district steam system in East Cambridge owned by Veolia, as recommended by the City of Cambridge. If not feasible, the proponent should evaluate installing combined heat and power (CHP) systems to supply the development with electricity and heat as an option to district steam.

The description of the modeling methods and results should provide enough detail to allow for a thorough review. Each mitigation measure should be itemized with the related performance ratings. The DEIR should also evaluate the following sustainable design elements: water conservation and the reuse of wastewater and/or stormwater; the use of non-toxic and/or recycled building materials; recycling systems or plans; solid waste reduction plans; and an annual audit program for energy consumption, waste streams and the use of renewable resources.

The mesoscale analysis described previously should be used to estimate the indirect emissions from mobile source GHG emissions associated with the additional project related vehicle trips. The calculation should compare GHG emissions for existing and future year (full) Build and No-Build conditions and future year (full) Build with Mitigation conditions. The proponent should follow the procedures for the GHG analysis as described in the Policy. The DEIR should identify TDM measures proposed for each of the alternatives and the corresponding emission reductions expected.

Recognizing that the project will be phased for a 20 year period of time into the future, which may make it more difficult to specify measures that would be incorporated in building designs for later phases of the project, the proponent should consider and adopt where feasible, advanced energy technologies and building systems, as they become commercially available and cost-effective, based on a life cycle cost analysis. In addition, in acknowledgement of the challenges facing implementation of certain energy efficiency measures in tenant occupied spaces, the proponent should consider reasonable measures to educate and create incentives for tenants to adopt energy efficiency/renewable generation measures. The DEIR should investigate providing energy efficiency consulting services and information and/or developing a tenant manual to incorporate building design and operational GHG mitigation measures into lease agreements. As an example of such a document, I direct the proponent to the New Patriots Stadium and Public Infrastructure Project (EEA # 12037) Third Notice of Project Change and the associated Secretary's Certificate issued on April 17, 2009.

Public Benefit Determination

Because the project is partially located in tidelands (as defined in 310 CMR 9.02) and requires the preparation of an EIR, I will conduct a public benefit review and issue a public benefits determination in accordance with 301 CMR 13.00. The ENF included a chapter descibing how the project will meet the requirements for a positive Public Benefit Determination. However, the EIR should include more detailed information describing the nature of the tidelands affected by the project and the public benefit of the project including: the purpose and effect of the project; the impact on abutters and the surrounding community; enhancement to the property; benefits to the public trust rights in tidelands or other associated rights; benefits provided through previously obtained municipal permits; and environmental protection and preservation, public health and safety, and the general welfare. I encourage the proponent to specifically consider whether there are opportunities to increase public access to the Charles River and to focus on connections from and through the site to other public amenities.

Biosafety Issues

The project will contain approximately 1.5 million square feet of technical office/laboratory space. I note that the City of Cambridge regulates laboratory space aggressively and has developed stringent regulations governing laboratory operations. Pursuant to the Biosafety Regulations, the Cambridge Biosafety Committee Policies and Procedures, and the rDNA Ordinance, laboratory uses are subject to a comprehensive regulatory regime. The EIR should there describe the applicable regulations and how the project will comply with them.

Stormwater

The six building sites that make up the project site are located within the area designated "CAM 017" by the City of Cambridge Department of Public Works. Binney Street forms an east-west utility corridor running between and along the six building sites. Most streets within CAM 017, including those in the project area, are serviced by separate public stormwater and sanitary sewer pipes. However, the systems are interconnected, primarily in Binney Street. There is no existing separated stormwater outfall servicing the Project area.

Within Binney Street there is a 96-inch x100-inch combined sewer conduit that begins west of the project area, and flows easterly through the project area to Land Boulevard near the Charles River. At Land Boulevard, the combined sewer is connected to the Cambridge Marginal Conduit with a diversion structure. Once in the Cambridge Marginal Conduit, flows proceed to the MWRA's Prison Point CSO Treatment Facility, which ultimately discharges treated effluent to the inner Boston Harbor. During large rainfall events, combined stormwater and sanitary sewage flows overtop the diversion structure at Land Boulevard and discharge flows directly to the Charles River via a 90-inch by 96-inch outfall.

The ENF states that the proponent has been in consultation with the City of Cambridge to provide a new, completely separated stormwater trunk line that will service five of the six proposed building sites, and discharge directly to the 90-inch by 96-inch outfall to the Charles River downstream of the diversion structure. In this way, combined flows within the Binney Street 96-inch by 100-inch pipe will not be combined with stormwater flows from the proponent's sites. The DEIR should explain how the proposed stormwater trunk line will be sized and whether there are opportunities to collect additional stormwater that may currently be discharging to the Binney Street conbined sewer conduit beyond the project area. The remaining building site, 225 Binney Street, is not adjacent to the other five, and, accoding to the ENF, will be best serviced by an existing 24-inch separated storm drain that flows south on Sixth Street, eventually discharging to the Broad Street Canal.

The ENF indicates that the project would comply with the applicable MassDEP Stormwater Management Standards, and that it will design the stormwater management system

to meet Total Maximum Daily Load (TMDL) removal criteria for phosphorus in the Charles River. The DEIR should provide information to demonstrate how this will be accomplished. The EIR should evaluate potential drainage impacts on all nearby water resources. It should present drainage calculations and plans for the management of stormwater from the proposed project. It should include a detailed description of the proposed drainage system design, including a discussion of the alternatives considered along with their impacts. The EIR should identify the quantity and quality of flows. The rates of stormwater runoff should be analyzed for the 10, 25 and 100-year storm events. The proposed drainage system should control storm flows at existing levels. The proponent should recharge roof runoff and other treated stormwater runoff from paved areas and driveways in order to retain as much as possible of the existing groundwater flows and drainage patterns. The DEIR should also indicate the proposed schedule for construction of the stormwater management system and other BMPs given the phased construction of the project.

Stormwater runoff impacts during construction and post-construction should be evaluated in the EIR, and it should be demonstrated in calculations, stormwater system design plans at a readable scale, best management practice (BMP) designs, and supporting information that source controls, pollution prevention measures, erosion and sediment controls, and the post-development drainage system will be designed in compliance with the Stormwater Management Standards for water quality and quantity impacts and that the site runoff controls address the Charles River Basin TMDLs requirements applicable to the City of Cambridge's Storm Water Program. The EIR should discuss consistency of the project with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit, Phase II from the U.S. Environmental Protection Agency and MassDEP for stormwater discharges from construction sites. The EIR should include a discussion of best management practices employed to meet the NPDES requirements, and should include a draft Pollution Prevention Plan.

The EIR's stormwater management should aim to maximize infiltration, slow runoff from the site, maximize the use of vegetation, capture rooftop runoff for irrigation, and minimize sediment and nutrient loading downstream. It should address the performance standards of DEP's Stormwater Management Guidelines. The EIR's stormwater analysis should evaluate the use of Low Impact Development (LID) techniques. I refer the proponent to the comment letter from the Charles River Watershed Association (CWRA) for ideas to consider in evaluating potential additional LID measures and I encourage the proponent to accept CWRA's invitation to meet to discuss ideas for this project.

Finally, a maintenance program for the drainage system should be included in the EIR to ensure its effectiveness. This maintenance program should outline the actual maintenance operations, responsible parties, and back-up systems.

Water

According to the ENF, the project will consume about 169,600 gallons per day of water.

Potable water is supplied to the area via several 6-, 8- and 12-inch distribution lines owned and operated by the City of Cambridge's Water Department. There are no dedicated fire protection lines in the area and no dedicated transmission mains. Currently, approximately 20 existing buildings in the project area draw water from the distribution system. The ENF states that the that the project does not foresee connecting to the 6-inch lines for domestic water purposes. Therefore, the distribution system has adequate capacity to supply the proposed buildings. There is no need for the installation of new water lines. I note that the City of Cambridge requires that laboratory buildings contain at least two domestic water services so that service is not interrupted if one is not operational.

The EIR should identify any water system improvements that will be required in order to connect to the water system. It should describe the proponent's proposed water infrastructure improvements. The EIR should provide a detailed breakdown of the estimated water demand for the project. This breakdown should include the proposed outdoor watering demand for landscaping and the projected water source.

The EIR should outline the proponent's efforts to reduce water consumption and thereby reduce wastewater generation. It should show the breakdown of its water consumption for each component proposed on the project site.

Wastewater

The project at full build-out is estimated to generate a net increase in flows of 152,600 gallons per day of wastewater. The majority of the building space will be laboratory/office space, with a mix of residential and commercial space. Based on current estimates, approximately 86% of the floor area will be dedicated to laboratory and office space. I note that non-industrial wastewater flow from the project of 50,000 gallons per day or more will require a sewer connection permit from MassDEP. In addition, if there will be pretreatment of wastewater prior to discharge, the MassDEP's Bureau of Waste Prevention must be contacted.

The ENF states that the proponent has met with the City of Cambridge's Sewer Maintenance Department to discuss the project, the anticipated flows, and the capacity of the existing sewer system. The ENF states that the existing 29-inch by 25-inch sanitary sewer line can accommodate the anticipated net increase of 152,600 gallons per day flow from the Binney Street project. Wastewater generated by the project will discharge into the City of Cambridge's sewer system, which flows into the MWRA system and ultimately to the Deer Island Wastewater Treatment Facility. The project will be served by separate sewer and storm drain systems. The ENF states that the proponent will install a separate, dedicated stormwater system to convey stormwater flows from the project sites to the Charles River and to remove these flows from the combined system currently in Binney Street. The program to accomplish this removal of stormwater flows from the Binney Street conduit should be described in the DEIR.

Infiltration and inflow (I/I) is a serious public health and environmental problem in

MWRA member communities. MassDEP, the MWRA, and its member communities are implementing a flow control program in the MWRA regional wastewater system to remove I/I from the wastewater system. In accordance with MassDEP's wastewater policy entitled, Managing Infiltration and Inflow in MWRA Community Sewer Systems, (effective on April 2, 2009), the DEIR should evaluate the system within the project's service area for I/I reduction options and to ensure that the additional wastewater flows from the project would be offset by the removal of I/I. The DEIR should provide information demonstrating that an adequate volume of I/I be removed from segments of the sewer that are serving the project site. Currently, MassDEP is using a minimum 4:1 ratio for I/I removal to new wastewater flow added. This ratio may be increased if specific flow constrictions/overflows already exist in the sewershed to which the new flow is added. The proponent should therefore work with the City of Cambridge, Water and Sewer Department, MassDEP and MWRA on this issue.

Lastly, I refer the proponent to the comments submitted by MWRA concerning the requirements for a Temporary Construction Site Dewatering Disharge Permit and guidance concerning any gas/oil separators proposed for the parking garage.

Historical/Archaeological Issues

The ENF for the project correctly identifies the historic resources that are in the project area. This project locations are within the vicinity of four properties that are listed in the State Register. The Bottles House Block, the American Net and Twine Company Factory, the Black and Knowles Steam Pump Company, and the Anthenauem Press Building. However, the ENF did not contain information on several other properties that may be considered historic. The Cambridge Historic Commission (CHC) has identified several other buildings owned by the proponents within the project area that are considered significant under the demolition delay ordinance, Ch. 2.78, Article II of the City Code, and that may also be eligible for the National Register of Historic Places. I advise the poronent to continue working with the CHC to evaluate the other buildings owned by the proponents within the project area that may be considered significant. In addition, the Massachusetts Historical Commission (MHC) requests the opportunity to work withwith the proponent and the CHC to review and comment on the proposed rehabilitation plans for the historic buildings and the proposed new design construction as plans develop.

Hazardous Wastes

The ENF acknowledges that MassDEP has records of hazardous material releases occurring in the vicinity of the project site. The EIR should provide the status of the tracked releases. The EIR should also present a summary of the results of any hazardous waste studies and remediation efforts undertaken at the site by the proponent. It should identify potential groundwater contamination and explain the treatment and handling of soils and stormwater during construction and long-term on any sites that require further remediation as a part of this project.

Noise

Noise from rooftop mechanicals is a concern in the areas of Kendall Square and the industrial areas of East Cambridge. The EIR should discuss the type of rooftop mechanical systems that are proposed to be used. The EIR should discuss expected noise levels associated with rooftop mechanicals and discuss how the proponent plans to buffer or mitigate project-related noise.

Construction

The EIR should present a discussion of construction period impacts (including but not limited to noise, dust, blasting, wetlands, and traffic maintenance) and analyze feasible measures that can avoid or eliminate these impacts. The EIR should include a construction sequencing traffic plan to estimate what roadways will be used to bring equipment to the site, the frequency with which the roadways will be used, and the types of equipment that will be transported on the roadways. The EIR should include a discussion of impacts expected to result from the construction traffic, as well as a mitigation proposal to offset these impacts. The proponent should be aware that construction activities for the project may be affected by several bridge improvement projects being undertaken by DCR and MassDOT and described in detail in their respective comment letters.

Recycling Issues

In its comment letter, MasssDEP encourages the proponent to evaluate construction and demolition recycling activities in the EIR. The EIR should consider future waste reduction and recycling and integrating recycled materials into the project to minimize or mitigate long-term solid waste impacts from the project.

Mitigation / Draft Section 61 Findings

The EIR should include a separate chapter updating and summarizing proposed mitigation measures. 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.

Comments/Circulation

The EIR should contain a copy of this Certificate and a copy of each comment letter received. The EIR should respond fully to each substantive comment received to the extent that it is within MEPA jurisdiction. The EIR should present additional technical analyses and/or

narrative as necessary to respond to the concerns raised. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in the initial scoping certificate or this certificate.

The proponent should circulate the EIR to those parties who commented on the ENF, to any state agencies from which the proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the EIR should be made available for review at the main branch of the Cambridge Public Library.

February 5, 2010
Date

Alicia McDevitt, Assistant Secretary, for
Ian A. Bowles

Comments received:

01/05/2010	Alan Greene
01/15/2010	Massachusetts Historical Commission
01/15/2010	Massachusetts Water Resources Authority
01/26/2010	Rhonda Massie
01/26/2010	Stephen H. Kaiser, PdD.
01/26/2010	Department of Environmental Protection
01/26/2010	Charles River Watershed Association
01/26/2010	City of Cambridge, Executive Department
01/27/2010	Department of Conservation and Recreation
01/27/2010	Massachusetts Department of Transportation
02/05/2010	Massachusetts Deparmtnent of Transportation (email)

IAB/ACC/acc