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September 14, 2007

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

PROJECT NAME: Harvard University – Allston Campus 20-Year Master Plan
PROJECT MUNICIPALITY: Boston
PROJECT WATERSHED: Boston Harbor
EEA NUMBER: 14069
PROJECT PROPONENT: Harvard University (through the Allston Development Group)
DATE NOTICED IN MONITOR: August 8, 2007

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) 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) in the form of a Master Plan as described below. The Expanded Environmental Notification Form (EENF) outlines a Master Plan for the development of Harvard University's Allston campus over the next 20 years. In separate Certificates issued today I have established a Special Review Procedure (SRP) to guide the review of this project and have proposed to grant a waiver to allow Phase 1 of the project, the Science Complex, to proceed before the completion of MEPA review on the Master Plan.

Harvard proposes to develop the new Allston campus as a model for sustainability and smart growth development. A major component of Harvard's master planning process therefore entails developing a comprehensive sustainability strategy to guide the planning and development of the Allston campus. Harvard has outlined goals related to climate change and energy use, water management and the Charles River, transportation, landscape and ecology, and human health and productivity that it will seek to achieve during the build-out of the 20-year Master Plan. Because the Allston campus is relatively unencumbered by constraints associated with existing buildings and infrastructure, this development presents an opportunity to adopt

innovative approaches to sustainability that go well beyond compliance with environmental regulations and will result in significant improvements in the quality of the area's environment and natural resources.

Harvard has seized upon this opportunity by voluntarily proposing to abide by three significant commitments, which I therefore require through this Certificate. First, Harvard has committed that the Allston Science Complex will produce fifty percent less greenhouse gases (GHG) than a typical laboratory designed to the current ASHRAE 90.1 Standard (2004), using Harvard's 2006 energy supply profile. Second, Harvard has committed that the full build-out of the Allston campus will result in a thirty percent reduction in GHG emissions for buildings compared to the current ASHRAE 90.1 Standard (2004), using Harvard's 2006 energy supply profile. Third, Harvard will use the Executive Office of Energy and Environmental Affairs (EEA) GHG Policy to quantify all project-related GHG emissions and propose measures to avoid, minimize and mitigate those emissions. These measures establish a new benchmark for institutional development, and demonstrate Harvard's commitment to a leadership role in addressing the challenge of climate change¹.

In order to demonstrate compliance with these three commitments, after further consultation with my office, Harvard shall prepare and submit appropriate quantitative analyses that estimate the GHG emissions associated with components of the Allston campus, and compare them to the current ASHRAE 90.1 Standard (2004), using Harvard's 2006 energy supply profile. Harvard shall submit this information in association with subsequent filings required under the Special Review Procedure.

Project Description

Harvard's current Allston campus contains approximately 140 acres and is located predominantly on land bounded by Soldiers Field Road and Western Avenue, with North Harvard Street separating two distinct areas of the existing campus, the Harvard Business School and the athletic area. The growth of Harvard's campus in Allston over the next 20 years is expected to involve an additional approximately 85 acres of land, increasing the size of the Allston campus to approximately 215 acres.

The 20-year Master Plan to accommodate the growth of Harvard's campus in Allston envisions the redevelopment of currently underutilized, predominantly industrially-zoned land, and creation of a pedestrian-friendly campus environment. The construction of four to five million square feet (sf) of building space is anticipated over 20 years. With the exception of the Science Complex and a proposed Art Center (the review of which has been sequenced to follow the review of the Science Complex), no specific projects have yet been identified, nor is the timing or sequence of the 20-year Master Plan known at this time.

The EENF presents a master planning framework to guide the orderly development of the campus as a whole, seeking to accommodate Harvard's anticipated institutional needs in a

¹ Harvard filed the EENF before the final EEA GHG Policy was issued, and therefore would not be subject to that policy absent its voluntary agreement.

manner which is compatible with adjacent uses, neighborhood needs, and with master planning efforts initiated by the Boston Redevelopment Authority (BRA) in conjunction with the Allston community. The Proponent has also filed an Institutional Master Plan Notification Form (IMPINF) for the Master Plan with the BRA in response to the requirements of Article 80D of the Boston Zoning Code. The guiding document for the IMPINF is a master planning framework entitled "The Plan for Harvard in Allston: Executive Summary". Both the master planning framework and the IMPINF were submitted as appendixes to the EENF.

Much of the information presented in the EENF has been presented in various submissions to the BRA, specifically the Draft Project Impact Report (DPIR) for the Science Complex and the IMPINF for the Master Plan. While much of the information is the same, there is no formal linkage between the MEPA and BRA review of the project. The BRA will focus on the review of the project under the requirements of Article 80 of the City of Boston's zoning code, which, generally speaking, includes more detailed review of building design. MEPA review will focus on the compliance of the project with the performance standards of required state permits, and with the intent of MEPA to ensure that the Proponent will avoid, minimize and mitigate Damage to the Environment.

Jurisdiction

MEPA and the Proponent assume that the cumulative impacts of the build-out of the Master Plan will exceed one or more review thresholds for the preparation of a Mandatory EIR. Individual state permits for the built-out of the 20-year Master Plan have not yet been identified. The Proponent may seek tax exempt bond financing for one or more of the projects proposed under the Allston Master Plan. Given the possibility of financial assistance from the Commonwealth, the anticipated large number of state permits required and the comprehensive subject matter of the required state permits, MEPA has full-scope jurisdiction over the Master Plan.

SCOPE

General

The Proponent will submit the 20-Year Master Plan for the Allston Campus in fulfillment of the MEPA requirement for an EIR. Because of the requirements of the Special Review Procedure, I will allow the Proponent flexibility in the outline and content of the Master Plan. However, the Proponent should present the information required in this Certificate in a format as consistent with the guidelines for the preparation of an EIR at 301 CMR 11.07 as reasonably possible. The Master Plan should contain a copy of this Certificate, the Special Review Procedure Certificate, and any Records of Decision issued by the Master Plan preparation date, and a copy of each comment letter received.

The Master Plan should provide a baseline of information about the project area and an initial analysis of the different types and levels of development that may be suitable for the Allston campus. The Master Plan must address coordination of development, evaluate potential impacts of the development and propose and commit to all feasible measures to avoid or minimize potential impacts to the environment. The Master Plan should evaluate the scope topics below at a level of detail commensurate with the goals of the Special Review Procedure, which seeks to ensure appropriate planning for the full build-out of the site, analyze cumulative impacts, and provide an understanding of background conditions and resources present on the site. The Proponent will file a series of Project Commencement Notices and Notices of Project Change with more detailed information as the Proponent is ready to move forward with individual projects.

Greenhouse Gas Reduction

To address impacts associated with GHG emissions, EEA has determined that “damage to the environment” as defined in the MEPA regulations includes the emission of greenhouse gases caused by projects subject to MEPA review. EEA is promulgating a Greenhouse Gas Emissions Policy to fulfill the statutory obligation that Proponents take all feasible measures to avoid, minimize, or mitigate damage to the environment. The final Policy will require that certain Projects undergoing review by the MEPA Office quantify the Project’s GHG emissions and identify measures to avoid, minimize, or mitigate such emissions.

Harvard shall ensure that full build-out of the Allston campus will result in a thirty percent reduction in GHG emissions compared to the current ASHRAE 90.1 Standard (2004), using Harvard's 2006 energy supply profile. To achieve these significant reductions in GHG for the Allston campus, the Proponent will employ advanced energy systems, including on-site combined heat, power, and cooling, on-site generation of renewable energy, micro-grid distribution of energy to its buildings, and other state-of-the-art techniques. Project-generated traffic will also be a major source of GHG emissions. Pursuant to EEA’s GHG Policy, the Proponent should seek to minimize and mitigate these impacts.

The Proponent’s Master Plan shall be developed based on the following guidelines:

- Pursuant to the EEA GHG Policy, as a cumulative analysis in the Master Plan, the Proponent should estimate all project-related GHG emissions, including those associated with transportation, and identify reductions in those emissions achieved through application of these guidelines and other measures. All projects filed with MEPA pursuant to the Master Plan should evaluate GHG emissions pursuant to the EEA GHG Policy, or with the requirements of this Certificate if different from the EEA GHG Policy.
- The Proponent should evaluate benchmarks and performance metrics derived from comparable projects globally that have achieved the highest standards of performance related to energy.
- The Proponent should be transparent in the process of developing the methodology for benchmarking and in the periodic updating of those benchmarks as technology develops. The Master Plan should provide an analysis that describes how global best practices

projects were selected and the methodology used to derive benchmarks and metrics that the Proponent proposes to employ for development of the Allston campus.

- As a cumulative analysis in the Master Plan, and for subsequent filings under the Master Plan for individual projects, the Proponent should demonstrate how the development of the Allston campus achieves not less than a 30% reduction in GHG emissions compared to the current ASHRAE 90.1 Standard (2004), using Harvard's 2006 energy supply profile.
- The Proponent should ensure that the Master Plan and individual projects reflect contemporary best practices and benchmarking techniques as they evolve over time. Future opportunities or constraints related to emissions reductions should be addressed by the Proponent in subsequent filings.
- The Proponent should implement state of the art measurement and management of energy use. The Proponent should develop a mechanism for the public reporting of energy use data.
- The Proponent should ensure that as new technologies develop those technologies will be considered for use and that infrastructure and building planning will not foreclose the options to implement those technologies.
As part of any carbon offsetting strategy, wherever feasible the Proponent should commit to consider and give preference to local State of Massachusetts and NE Region offsets; any offsets should be consistent with the EEA GHG Policy.

Sustainable Development Principles

A major component of the Proponent's master planning process entails developing a comprehensive sustainability strategy to guide the planning and development of the Allston campus. The EENF outlines goals related to climate change and energy use, water management and the Charles River, transportation, landscape and ecology, and human health and productivity that the Proponent will seek to achieve during the build-out of the 20-year Master Plan. The development of the Allston campus presents an opportunity to adopt innovative approaches to sustainability that go well beyond compliance with environmental regulations and will result in significant improvements in the local and regional environment.

The Proponent's Master Plan shall be developed based on the following guidelines:

- The Proponent should evaluate benchmarks and performance metrics derived from comparable projects globally that have achieved the highest standards of performance related to energy efficiency, use of renewable energy, water resource management, transportation, human ecology and the protection and enhancement of natural resources and biodiversity.
- Given the central position of the Charles River to the Allston site, this should include an analysis of innovative approaches to water and wetland management consistent with the intent of the Charles River Watershed Association's "Blue Cities" initiative. The Proponent should also look to existing Harvard programs and initiatives as the basis for biodiversity development benchmarks.

- The Proponent should be transparent in the process of developing the methodology for benchmarking and in the periodic updating of those benchmarks as technology develops. The Master Plan should provide an analysis that describes how global best practices projects were selected and the methodology used to derive benchmarks and metrics that the Proponent proposes to employ for development of the Allston campus.
- As a cumulative analysis in the Master Plan, and for subsequent filings under the Master Plan for individual projects, the Proponent should identify the benefits achieved by incorporating sustainable design practices.
- The Proponent should ensure that the Master Plan and individual projects reflect contemporary best practices and benchmarking techniques as they evolve over time.
- The Proponent should implement state of the art measurement and management of sustainable design elements and assure transparency with the respect to that information.
- The Proponent should ensure that as new sustainable design practices develop those practices will be considered for use and that infrastructure and building planning will not foreclose the options to implement those practices.

Project Description and Alternatives

The Master Plan shall describe a proposed development plan for Harvard's Allston campus as defined above. The Proponent shall present a "no build" alternative as required by MEPA regulation. With the understanding that the majority of Master Plan projects have yet to be identified, and no specific buildings aside from the Science Complex have been proposed in the EENF, it is expected that the specific components of the Master Plan will evolve over time.

The Allston Campus is located in a previously developed area and is constrained to a large extent by the configuration of existing roads and buildings that are proposed to remain in place (e.g., Western Avenue, North Harvard Street, Harvard Business School, Harvard Stadium), as well as various long-term encumbrances on portions of the land area associated with the Allston campus. The Proponent should provide an inventory of all Harvard-owned lands in Allston, and discuss development opportunities and constraints on parcels that are not identified in the 20-Year or 50-Year Master Plan. The Master Plan should specifically discuss possible uses of the Beacon Yards parcel and its relationship to transportation and transit infrastructure alternatives.

The Master Plan should contain a discussion of site planning alternatives, and in particular how site planning has been influenced by major infrastructure alternatives, most notably roads and access to transit facilities, and neighborhood access to public open space. Consistency with local, regional and state planning documents should guide the development of alternatives. As the site has been developed previously, the purpose of the alternatives analysis should be to evaluate how various frameworks that have informed the master planning process shape the campus and neighborhood and how they are designed to provide environmental benefits, as compared to the No Build alternative.

The Proponent should present a preferred alternative for the Master Plan area that incorporates sustainable design measures with regard to site layout, building design, natural

resource protection, water resources, energy use and open space to the maximum extent possible. The Proponent should fully explain any trade-offs inherent in the alternatives analysis, such as increased impacts on some resources to avoid impacts to other resources.

The EENF identifies the creation of green corridors and connections between the campus and the Charles River Reservation as major goals for the Master Plan. The Charles River Basin Master Plan prepared by DCR addresses improvements to parkland along the perimeter of much of Harvard's Allston campus (and beyond) and identifies the need for better connections across and along the river. The alternatives analysis should describe how the open space framework behind the Master Plan advances the goals of the Charles River Basin Master Plan in comparison to the no-build alternative. The Master Plan should also discuss how a greater emphasis on historic preservation planning might alter Harvard's approach to master planning its Allston campus.

The Proponent should discuss how it will develop the schedule for development in the project area and what factors will influence decisions about the order of development projects. The Master Plan should provide information on what uses and buildings will occur in the project area in the interim period. The Master Plan should provide an overview of other projects planned in the project area by other Proponents and should discuss how these planned projects will affect Harvard campus development plans, existing infrastructure, and potential cumulative impacts.

As outlined below, the Master Plan must present a survey and inventory of the existing natural resources and man-made infrastructure in the project area. This discussion should reflect local and regional connections and context. It should describe existing uses and the capacity of natural and man-made infrastructure systems for different, continued and expanded uses. The resources and site conditions that may limit redevelopment of specific sites must be identified, quantified and evaluated. Generalized maps for each resource category should be prepared at the same scale for overlay purposes.

Cumulative Impacts

Analysis of cumulative impacts from the various phases of the development represents a major focus of the Master Plan and a major factor in determining its adequacy pursuant to the Special Review Procedure. The Master Plan should include a thorough analysis of potential cumulative impacts associated with each alternative presented for review. The analysis should include a "full build" scenario that assumes intensive development of each subsequent phase of the project.

Permits

The Master Plan should provide an overview of potentially required local, state and federal permits for the development of the Allston campus. The Proponent should broadly demonstrate that the project could meet any applicable performance standards.

Consistency

In accordance with Section 11.01(3)(a) of the MEPA regulations, the Proponent should discuss the consistency of the Master Plan with any applicable local or regional land use and open space plans, and address the requirements of Executive Order 385 (Planning for Growth). I note that the EENF provided a discussion of the Master Plan's consistency with the North Allston Strategic Framework for Planning, the Boston Open Space Plan, the Charles River Master Plan, Access Boston, and the Boston Bicycle Plan. The Master Plan should expand upon and update this discussion as appropriate. The Proponent should discuss consistency with Metropolitan Area Planning Council's (MAPC) Smart Growth Principles and with the Commonwealth's Sustainable Development Principles.

Stormwater

The Master Plan should provide a description, evaluation and mapping of existing drainage conditions and treatment systems in the project area. The Proponent should delineate sub-watershed boundaries and drainage patterns. The Master Plan should discuss past and current flooding and drainage issues, including drainage calculations for existing and proposed conditions. The Proponent should demonstrate that development of the Allston campus will not result in a net loss of flood storage capacity.

The stormwater evaluation in the Master Plan should demonstrate that source controls, pollution prevention measures, erosion and sedimentation controls during construction, and the post-development drainage systems will be designed to comply with the Department of Environmental Protection's (MassDEP) Stormwater Management Policy (SMP) and applicable regulations and standards for water quality and quantity impacts. The Proponent should provide sufficient information to demonstrate that the proposed stormwater management plan for the Master Plan area provides adequate protection for wetland resources, improves water quality and ecosystem function, manages surface and groundwater flows and integrates the environment fully into the urban infrastructure.

The development of the Master Plan area will result in a reduction of imperviousness in the project area. The Proponent has proposed numerous Low Impact Development (LID) measures in the EENF. The Proponent has also been working with the Charles River Watershed Association (CRWA) to develop a set of development principles for the Master Plan development related to stormwater and water resources. The Master Plan should report on the results of this consultation. The Proponent should present an expanded discussion in the Master Plan on opportunities to create an integrated restorative plan for project area resources on the subwatershed level. The Proponent should consider alternatives to conventional infrastructure upgrades such as the daylighting of buried streams, the development of green streets, and opportunities for recharge that will improve subwatershed hydrology.

Wetlands

All resource areas as defined in the Wetlands Protection Act, G.L. c. 131, § 40 shall be identified and mapped. The Proponent should evaluate the significance of the identified wetland resource areas with regard to statutory values identified by applicable laws. The Proponent should provide a quantification of the extent of potential impacts to wetland resource areas and/or associated buffer zones. The Proponent should specifically discuss anticipated work within the Riverfront Area. The Master Plan should consider the impacts of potential river crossings, including dredging. The Proponent should explain how the Master Plan would comply with the performance standards in the wetlands regulations and demonstrate that impacts have been avoided and minimized.

Chapter 91

Comments from MassDEP state that a portion of the proposed site includes historic landlocked tidelands, which may be subject to licensing depending on how matters pending before the Supreme Judicial Court and the Legislature are resolved. The Master Plan should present information on tidelands issues that reflects consultation with the Chapter 91 program in Boston.

Water Resources

A study of surface and groundwater that will include inventory, mapping, water quality, and quantity assessment should be conducted for all surface and groundwater resources in the project area. The Proponent should identify potential impacts to groundwater, i.e. geothermal wells, underground parking, remediation activities, and demonstrate that activities will not adversely impact groundwater.

Wastewater

According to the EENF, the Master Plan campus development will increase average daily flows in the area from 260,000 gallons per day (gpd) to 263,000 gpd and peak flows from 1,250,000 gpd to 1,279,000 gpd. The Master Plan should discuss how anticipated wastewater flows were calculated and indicate the percentage of sanitary and industrial wastewater in the projected flows. Wastewater from the area will discharge into the City of Boston's sewer system, then into the Massachusetts Water Resources Authority (MWRA) system, and ultimately to the Deer Island Wastewater Treatment Facility. The Master Plan should describe and map the existing Boston Water and Sewer Commission (BWSC) and MWRA wastewater system in the project area. The Master Plan should identify any planned improvements to the system, and any anticipated infrastructure improvements that will be required as a result of the Master Plan.

The Master Plan should provide a discussion of current infiltration and inflow (I/I) in the project area and identify any current City of Boston or state efforts to reduce I/I. Comments from

MassDEP, the MWRA and the BWSC state that the Proponent will be responsible for removing I/I at a minimum ration of 4:1. This ratio may be increased if specific flow constrictions or overflows already exist in the sewershed to which the new flow is added. The Proponent should consult with the BWSC and MassDEP on this issue. The Proponent should outline in the Master Plan how it will meet I/I removal requirements for the entire project area, and for individual projects. It is important that the Proponent be responsible for mitigating the cumulative impacts of the build out of the entire campus, not just individual projects that require sewer permits from MassDEP.

Drinking Water

The Master Plan should describe, map and evaluate the existing water supply system. The Proponent should discuss whether the system is adequate for existing and proposed uses, fire protection and emergency connections. According to the EENF, the increase in average daily water use from the Master Plan build-out will be 38,000 gpd while the peak water use will increase by 1,500,000 gpd. The Proponent should provide a more thorough discussion of the increase in peak water use. The Proponent should provide more information on water conservation measures that will be implemented in all Master Plan projects.

Transportation

According to the EENF, build-out of the Master Plan will result in 12,400 additional daily vehicle trips in the Allston campus area. I have received numerous comments expressing concern about the impact of the Allston campus development on local and state transportation infrastructure. The Master Plan projects, when combined with other non-Harvard projects in the area, require a strong planning process to create a transportation system capable of supporting predicted capacities. Project-generated traffic will also be a major source of GHG emissions. Pursuant to EEA's GHG Policy, the Proponent should seek to avoid, minimize and mitigate these impacts. The Proponent must coordinate with the Boston Transportation Department (BTD), the Executive Office of Transportation, the Department of Conservation and Recreation (DCR), the Massachusetts Turnpike Authority (MTA), the Massachusetts Bay Transportation Authority (MBTA), and other neighboring municipalities regarding long-term transportation planning for the area, including a coordinated examination of potential inter-modal transportation infrastructure improvements. The Master Plan should discuss the consistency of its preferred alternative with local, regional and state transportation plans.

The Proponent should provide a Traffic Impact and Access Study for the Master Plan to analyze existing transportation infrastructure, potential impacts and proposed improvements. The study may conform to the BRA/BTD Scope for the Institutional Master Plan (IMP) to the extent possible; however I note that the build out of the Master Plan project area will also result in impacts to state roadways and parkways. The Proponent should note comments from DCR on the development of the traffic study for the Master Plan.

The Master Plan should provide an expanded discussion of the Proponent's methodology for determining anticipated trips for the Master Plan development. The Proponent should include a complete accounting of which uses will be removed from the Master Plan project area, which will be moved, to where, and during which phase of the Master Plan. The Proponent should provide justification that trip generation rates are the best possible estimates of how many auto trips will be removed with each displaced use.

The Master Plan should outline the Proponent's mode split goals for the Allston Campus and compare this goal to the level of non-auto access that is achieved at its Cambridge campus. The Proponent should discuss a plan for monitoring mode-split in the Master Plan area and should outline contingency measures that will be implemented if mode share goals are not met. The City of Boston has stipulated a target of 59% single occupancy vehicles, and the Proponent has set a more ambitious goal of 50%.

The Master Plan should describe and evaluate the adequacy of the existing City of Boston and state roadway network in the project area, including the following: road design, construction and geometrics, road lighting, traffic signals and controls, current use and capacity, bridges, sidewalks, and any inactive roads. The Master Plan should provide a plan of connections to other local, state and interstate roads and highways. The Proponent should evaluate traffic capacity of the existing road systems and identify any capacity or safety projects on local roads or routes leading to the state and interstate network that would limit development.

The Proponent should also provide analysis and discussion to show that traffic related to the build out of the Allston campus does not adversely impact City of Cambridge intersections, roadways and bridges. The Proponent should expand the Master Plan traffic study area to include those intersections suggested by the City of Cambridge. The Proponent should conduct a corridor analysis for JFK Street and should present a detailed analysis of alternatives for improving capacity and coordination at the intersections of Memorial Drive/JFK Street and Soldiers Field Road/North Harvard Street. The Proponent should work cooperatively with DCR, the City of Boston and the City of Cambridge to develop a solution for these intersections to optimally accommodate vehicle, pedestrian and bicycle movements and safety.

The Master Plan should discuss possible modifications to ramp connections at the Massachusetts Turnpike and indicate whether the Proponent intends to redesign Exit 18 of the Massachusetts Turnpike. The Master Plan should provide an analysis of how traffic from Exit 18 affects roadways and intersections in the project area, and should outline how planned improvements to the Master Plan area will accommodate this traffic.

The Proponent has proposed covering and depressing Soldier's Field Road as part of a plan to reclaim the riverfront for campus and community use. The Proponent should provide more detail on how this work would be funded. The Master Plan should discuss how this change will benefit the regional transportation network. The Proponent should discuss permitting implications and legislative approvals under Article 97 that may be required for this proposal. The Proponent's vision for Soldiers Field Road and Storrow Drive should include a discussion of proposals to lengthen underpasses along the Charles River. The Master Plan should respond to specific comments from DCR on this issue.

Harvard has been working to advance the Urban Ring project (EEA #12565) and exploring options to bring Urban Ring service to Allston. The traffic analysis in the Master Plan should include scenarios with possible connections to the Urban Ring. The Master Plan should provide an analysis of the demand for bus rapid transit and rail provided by the Urban Ring and should discuss the possibility of a commuter rail stop in Allston/Brighton. The Master Plan should discuss the Proponent's contributions to the capital or operating costs of these services.

As noted in the SRP, since the Proponent has not defined the sequence and timing of specific Master Plan projects, the implementation of traffic mitigation measures will be tied to specific levels of trip generation from projects in any sequence. The Master Plan should provide more information on a specific timeline and triggers for the implementation of traffic mitigation.

Transit

The Master Plan should present a comprehensive Transportation Demand Management (TDM) program that investigates all feasible measures to reduce site trip generation. The TDM program should identify measures and incentives to encourage the use of alternative modes such as transit, walking, and bicycling. The TDM plan should identify the existing modes in the project area including transit, walking and bicycling, analyze their existing and future conditions based on the project's impacts, and provide improvements to attract mode usage. The Proponent should also discuss how plans for individual projects and the development of the campus as a whole will encourage sustainable transportation choices. The Proponent should provide clear implementation commitments including funding for TDM measures deemed feasible and necessary to sustain and/or increase mode usage over time to ensure a balanced and functional transportation system in Allston.

The Proponent should provide a description and analysis of existing public transportation in the project area. The Proponent should discuss its goals for working with the Massachusetts Bay Transportation Authority (MBTA) to optimize service to the project area. The Proponent should provide more information on shuttle connections between Harvard's Allston campus and its Cambridge and Longwood Medical Area campuses. The Proponent should outline the anticipated routing, frequency, hours of operation, the number of anticipated passengers, and whether shuttles will be open to the public to show that shuttles will provide sufficient a level of service to meet mode share goals. The Proponent should respond to specific comments from DCR regarding use restrictions on parkways, including Soldiers Field Road, the Fenway and Park Drive. The Master Plan should provide more information on the potential use of Weeks Bridge for vehicular traffic.

Parking

According to the EENF, development of the Allston campus will result in the need for 4,360 new parking spaces, for a total of 5,400 in the Master Plan area. The Proponent should explain how the number of parking spaces was determined and discuss parking demand management for the campus area. The Proponent should discuss how many Zip Car spaces will

be accommodated in the Master Plan project area. I strongly encourage the Proponent to strive for a high percentage of spaces devoted to car sharing services in each existing or new parking area.

Pedestrian and Bicycle Facilities

The Proponent should provide an analysis of existing pedestrian and bicycle facilities. The Master Plan should present the plan and design standards for pedestrian and bicycle facilities in the Master Plan area and at connections between the Master Plan area and Allston neighborhoods, Charles River parklands and abutting communities. The Master Plan should outline a pedestrian and bicyclist activity monitoring plan that evaluates usage, level of service at pedestrian/bike path intersections, and signal timing, to ensure that proposed facilities are adequate and that crossing times are maximized and safe.

The Proponent should study and commit to implementing bicycle access improvements from the south as suggested in comments from MassBike. The Proponent should also consult with DCR on potential improvements to DCR pathways and connections.

Transportation Air Quality Impacts

The significant number of projected new daily vehicle trips, combined with the proposed changes to local roads has a potential to result in increased regional air pollutants. In response to comments from MassDEP, the Proponent should conduct an air quality mesoscale analysis comparing the Build and No Build conditions. The Proponent should consult with MassDEP regarding modeling protocol prior to conducting this analysis.

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 also will 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 mitigation measures.

If the mesoscale analysis of the Build condition, compared with the No-Build condition, indicates that the proposed project will result in an increase in VOC and NOx emissions, (which is expected given the large number of additional trips), the Proponent must develop, implement, or fund adequate mitigation measures to offset these increases to the maximum extent possible. The Proponent should note suggested Transportation Demand Management (TDM) measures recommended by MassDEP in its comments on the EENF.

Air Quality

The Master Plan should discuss ambient air quality in the project area and describe the status of the region under the Federal Clean Air Act and Massachusetts State Implementation

Plan. The Proponent should document any currently permitted sources of emissions, i.e. generators, equipment, etc. in the project area. The Master Plan should identify any anticipated stationary sources with federal potential emissions and discuss applicable permits and regulations.

Recreation and Open Space

The Allston campus spans essential pedestrian and transportation corridors, and abuts the Charles River, one of the most heavily-used park systems in the nation. The Proponent should provide more information in the Master Plan on how it will achieve stated goals of creating continuous greenways through the campus for pedestrian, habitat and water connections to the Charles River and its parklands. The Proponent should discuss the provision of public amenities such as accessible pathways, benches and gardens. The Master Plan should discuss how regional access to the Charles River Reservation and river will be maintained and improved.

The Proponent should map and identify all existing available passive and active recreation facilities and areas in the project area. The Master Plan should map and identify all undeveloped areas in the project area and discuss which are subject to Article 97 protection. The Proponent should discuss how development of the Allston campus will enable the implementation of recommendations outlined in DCR's *Master Plan for the Charles River Basin*.

The Proponent should indicate if any aspect of the Master Plan would require a disposition or change of use of a public parkland protected pursuant to Article 97 of the Constitution of the Commonwealth. The Master Plan should provide a discussion of compliance with EEA's Article 97 Policy that has a stated goal of ensuring No Net Loss of public conservation lands under public ownership. The Proponent should note that transfer of ownership or interests in DCR-managed land may only occur under exceptional circumstances.

Historic Resources

MHC has stated that it has concerns with potential adverse effects that the Master Plan development will have on the Charles River Basin Historic District, the Larz Anderson and Weeks Bridges, Soldiers Field Road and Harvard Stadium, which are listed in the National and State Registers of Historic Places. In addition, MHC has stated concerns with potential adverse impacts to historic properties that are included in the Inventory of Historic and Archaeological Assets of the Commonwealth, such as the Harvard Business School, the Dillon Field House, and other historic buildings.

The Master Plan should include a full description of all significant historic properties that are located within the area of potential development to provide MHC with sufficient information to determine the adverse effects of the Master Plan. The Proponent should discuss measures that it will take to ensure that new buildings and Master Plan projects are sensitive to historic resources. The Master Plan should discuss any anticipated impacts to historic and cultural

resources. The Master Plan should discuss how alterations to the landscape along the Charles River would be consistent with DCR's Historic Parkway Guidelines. The Proponent must maintain the historic character of DCR bridges crossing the Charles River as the Master Plan moves forward. All proposed changes to bridges along the Charles River should be presented with images showing existing and proposed conditions.

The Proponent should respond to comments from MHC regarding the potential impact of the Master Plan development on future use of historic museum buildings on the Cambridge Harvard campus that are listed in the State and National Registers or the Inventory.

The Proponent should discuss potential impacts to the historic character of the parkway system from placing a segment of Soldiers Field Road underground. The Proponent should consult with DCR and MHC and weigh the advantages to pedestrians against impacts to the parkway system and the motoring public if this segment were to be buried. The Master Plan should also clarify ownership of the land above the depressed parkway.

In response to comments from MHC, the Proponent should complete an archaeological reconnaissance survey (950 CMR 70). The Proponent should consult with MHC on guidelines for conducting the survey and present the results of the survey in the Master Plan. If MHC determines that the results of the reconnaissance surveys warrant additional surveys, the Proponent should report on the additional survey work in the Master Plan.

Hazardous Waste

The EENF lists 40 Release Tracking Numbers (RTNs) associated with the 20-year Master Plan. The Master Plan should map and identify known contamination sites in the project area and should discuss the potential for additional sites to be encountered during construction. The Proponent should provide an overview of historic, current and planned remediation efforts. The Master Plan should outline how site contamination and remediation efforts will affect development within the project area. The Proponent should describe the extent of asbestos and lead paint contamination of existing buildings.

Construction Period Impacts

The Proponent should provide a general overview of measures that will be implemented during construction to minimize potential impacts to air and noise. All demolition must be undertaken in compliance with MassDEP's Solid Waste and Air Pollution Control regulations. The Proponent has committed to participate in MassDEP's Diesel Retrofit Program. All off-road equipment engines must use ultra low sulfur diesel.

Mitigation

For all potential impacts identified, the Master Plan must identify, describe and evaluate for effectiveness all feasible strategies necessary to avoid or minimize those impacts. While MEPA understands that the timing and phasing of individual projects has not yet been determined, the Proponent should discuss how proposed improvements to the transportation network, green space, stormwater management, etc. will be implemented to ensure that some portion of campus-wide benefits are phased in along with building construction. The Master Plan shall describe the proposed mitigation for the phased development of the Allston campus in a matrix that identifies different levels of development that could occur based upon different levels of infrastructure capacity, either existing or proposed.

The Proponent should explain who will finance required improvements and who will build them. This discussion should include all non-building improvements such as utility upgrades and extensions, new roadways, transit improvements, improvements to existing roadways, stormwater infrastructure, and green space. The Master Plan should include the final community benefits agreement that is currently being developed as part of the BRA's Article 80 process.

Response to Comments

The Master Plan should include a copy of each comment letter submitted to MEPA as listed at the end of this Certificate. The Proponent should respond to the comments received from state and local agencies and from members of the public. The Proponent should present additional narrative and/or technical analysis as necessary to respond to the concerns raised.

Circulation

The Proponent should circulate the Master Plan in compliance with Section 11.16 of the MEPA regulations. Copies should be sent to those parties that submitted comments on the EENF, and to each federal, state and local agency from which the proponent will seek permits or approvals. In addition, copies of the Master Plan should be made available for public review at Boston, Cambridge, Brookline and Watertown public libraries.

EEA's Environmental Justice maps indicate that the Allston campus is located in an area with Environmental Justice populations. The EIR should include demographic information and discuss the Proponent's outreach and public participation efforts in conjunction with EEA guidelines.

September 14, 2007

Date



Ian A. Bowles

Comments received:

8/29/2007 Robert Alexander
 9/3/2007 Rita Vaidya
 9/3/2007 John Eskew
 9/5/2007 Stephen H. Kaiser
 9/5/2007 Harry Mattison
 9/5/2007 Boston Water and Sewer Commission
 9/6/2007 Livable Streets Alliance
 9/6/2007 Catharine Hornby, Cambridge Bicycle Advisory Committee
 9/6/2007 Michael Pahre
 9/6/2007 Tamara Bonn
 9/6/2007 Karen Smith
 9/6/2007 Mark Ciommo
 9/7/2007 Tim McHale
 9/7/2007 Stash Horowitz, Association of Cambridge Neighborhoods
 9/7/2007 Herbert Nolan
 9/7/2007 RedmondCW@aol.com
 9/7/2007 Cob Carlson
 9/7/2007 Brent Whelan
 9/7/2007 David G. Evans, Allston Brighton Community Development Corporation
 9/7/2007 City of Cambridge
 9/7/2007 Christina Clamp
 9/7/2007 WalkBoston
 9/7/2007 Massachusetts Historical Commission
 9/7/2007 MassBike, Metro Boston Chapter
 9/7/2007 Metropolitan Area Planning Council
 9/7/2007 Department of Environmental Protection, Northeast Regional Office
 9/7/2007 Charles River Watershed Association/Conservation Law Foundation
 9/7/2007 Massachusetts Turnpike Authority
 9/7/2007 Massachusetts Water Resources Authority
 9/7/2007 Department of Conservation and Recreation
 9/10/2007 Department of Environmental Protection, Northeast Regional Office
 9/10/2007 Rosie Hanlon
 9/10/2007 Steven A. Tolman, State Senator, 2nd Suffolk and Middlesex
 Kevin G. Honan, State Representative, 17th Suffolk
 Michael J. Moran, State Representative, 18th Suffolk
 9/13/2007 City of Boston, Environment Department
 Undated Tim Schofield
 Alessandro Selvig

IAB/BA/ba