



Charles River Watershed Association

Mr. Mark Maloney
Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

November 10, 2006

RE: Wheelock College IMPNF / PNF for Campus Center and Student Residence

Dear Mr. Maloney:

Charles River Watershed Association has reviewed the Institutional Master Plan Notification Form (IMPNF) and Project Notification Form (PNF) for the above referenced project. There are several project elements that we believe need further analysis and discussion in the Draft Project Impact Report (DPIR) and should be included in the BRA's Scoping Determination for the IMP in order to ensure that all environmental impacts have been minimized and mitigated. We hope these comments will assist the BRA and Wheelock College as the planning process moves forward.

Stormwater Management

It is our understanding that the stormwater from this site drains, via the Boston Water and Sewer Commission's municipal storm drain system, into either the Muddy River conduit and out to the Charles River; or, during larger storm events, into the Muddy River Fens and then out to the Charles River via Charlesgate. In either case, stormwater from the site enters and impacts the Muddy River and its drainage network.

As you are undoubtedly aware, there are significant and long-standing flooding and water quality problems in the Muddy River. The US Army Corps of Engineers is currently in the process of designing a dredging and environmental restoration project for the entire Muddy River that is estimated to cost well over \$60 million. The Muddy River Restoration project is needed to reduce significant flood hazards, to improve water quality, to restore degraded habitat, and to remove sediments that have accumulated in the Muddy River. Most of these problems are a direct result of stormwater discharges into the Muddy River.

Any redevelopment that is proposed in areas that drain directly into the Muddy River system, therefore, needs to focus carefully on stormwater management issues, and should

maximize opportunities to reduce peak storm flows, minimize imperviousness, maximize infiltration and capture sediments. The significant expenditure that will be made by the federal and state government, as well as by the City of Boston, to dredge and restore the Muddy River must be protected to the maximum extent possible.

The IMPNF document mentions that the DPIR will evaluate the project impact on the River but does not make any reference to putting together a stormwater management program to ensure that every effort will be made to protect the River from flooding and water quality impairments. It is our hope that the DPIR will study various alternatives to enhance stormwater management on the site so as to demonstrate how improvements will be made over the existing conditions.

As a part of its efforts to mitigate its impact on the Muddy River, CRWA would also encourage Wheelock College to consider retrofitting not only its own property but also sections of Pilgrim Road and Riverway with Low Impact Development (LID) best management practices in coordination with various city agencies like BWSC and DPW etc. These improvements can be designed and implemented in concert with other pedestrian safety improvements that Wheelock is committed to implementing with the City of Boston. The retrofits would not only help with stormwater treatment but also provide infiltration to recharge groundwater levels in the area.

We feel that the Article 80 Project Impact Review is the appropriate process for a full analysis of the stormwater management program. The DPIR should include specific, detailed information and alternatives analyses of stormwater management on the site. 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. We suggest that the scoping for the IMP and the DPIR include more documentation about the proposed stormwater management program including:

- 1 Detailed information about the final design of the proposed stormwater management infrastructure including the location and design of drains, catch basins, water quality structures, and infiltration structures;
- 2 Detailed information about any surface stormwater management features such as swales, vegetative filter strips, rain gardens, permeable pavement or vegetated storage areas;
- 3 An assessment of the opportunities to reduce even further the peak flows and volume of stormwater runoff, including estimates of the impacts in a one-year storm;
- 4 An assessment of how the site could meet DEP's stormwater management policy in its entirety, not just "to the maximum extent practicable;"
- 5 A plan to minimize the primary pollutants of concern for the Muddy River, sediments and nutrients;
- 6 A maintenance plan for the stormwater management plan.

Groundwater

The CCSR project is proposed to have some subsurface construction which would require it to address important environmental issues both during and post- construction. The location of this project in an area of historic fill, and the ongoing problems throughout many areas of the City with groundwater levels, make it all the more important that this aspect of the project be designed with the utmost care and in anticipation of any potential impacts.

The project needs to be designed to minimize groundwater impacts from the project, and the proponent should commit to working closely with abutters and the Boston Groundwater Trust to ensure that there are no alterations to groundwater levels as a result of the project. Since the site falls within the City's "Groundwater Conservation Overlay District", specific recharge standards need to be applied to redevelopment as well as development project (in addition to meeting the groundwater conservation standards of Article 32). Investigations should also include the potential seasonal changes in groundwater levels, as well as potential effects on groundwater flow. In some areas of Boston, construction of sub-surface projects such as tunnels, underpasses and even some building foundations have altered groundwater flow patterns, resulting over time in changes to ambient groundwater levels. Groundwater flows are extremely slow so alterations may occur over years.

The DPIR and the Scoping Determination for the IMP should include an assessment of groundwater flow directions, as well as a determination of whether those directional flows change seasonally. If the project shows any potential for altering flows, either slowing or reducing flows into the Muddy River, or conversely reducing flows back into the ground during periods of high groundwater, or causing any groundwater "mounding," the DPIR should document a mitigation plan for any such alterations. In addition, the DPIR should specify what source of water would be used should groundwater recharging be necessary during or after construction.

Instead of following the current practice of discharging all the wastewater from the various buildings through the BWSC sewer into the MWRA system to be treated at Deer Island, a strategy needs to be developed to recycle and reuse wastewater and capture roof runoff for infiltration and/or storage for slow release to recharge groundwater levels. In case on-site infiltration of stormwater is not possible the DPIR should evaluate the possibility of seeking off-site locations for groundwater recharge and stormwater infiltration. Finally, a detailed plan for the treatment and disposal of water from dewatering activities should be included in the DPIR.

Impacts to the Emerald Necklace

The project will increase not only the vehicular traffic in the area, but also the number of pedestrians, and will likely increase the use of the Emerald Necklace Parks, including the Riverway Park. As acknowledged in the IMPNF/PNF document, this park system is already heavily used, and is in need of significant capital and operations improvements.

Since the Wheelock community uses the pedestrian paths within the parks to and from the LMA campus, the Longwood T Station and Wheelock's Brookline Campus, the IMP needs to specifically address how the college will support efforts to improve the conditions of the park, as a part of its community benefits package. Also the DPIR needs to study the impact of both the CCSR and the West Wing building design on the Parkway in detail to ensure that not only is there no negative impact from a height and massing perspective, but the aesthetic and environmental opportunities to improve the Parkway are maximized to the extent possible. It is advisable that the proponents coordinate their design efforts with the Department of Conservation and Recreation (DCR) especially with regard to its interface with the Parkway.

CRWA also suggests that Wheelock College work with the BRA, the Boston Park and Recreation Commission, the Medical Academic and Scientific Community Organization (MASCO), the Fenway Alliance, and the Emerald Necklace Conservancy to develop a program to support the improvement of maintenance and management of the park system to mitigate this increased use and to provide support for the community-wide effort that is underway to bring this park system up to an acceptable community standard. This contribution could be made as a linkage payment (as a part of the public benefits package) or through the implementation of a specific capital improvement project for improving access to and maintenance of the park or for environmental restoration projects in the LMA as a whole.

Sustainable Site and Building Design

While there is some discussion on measures for energy conservation and sustainable design in the IMPNF / PNF document, there are no specifics provided on what kinds of best management practices and technologies will be incorporated at the building, the individual site and the overall campus level. The Scoping Determination for the IMP and the DPIR need to explicitly define what the project aims to achieve in terms of standards for environmental sustainability on the three levels mention above as well as how the project will determine indicators for sustainability.

Green building standards should be adopted for wastewater reuse for flushing toilets etc. (through double plumbing the building) as well as capturing, filtering and storing roof run-off. CRWA would encourage the proponents to consider a green roof for not only the new CCSR building, the East and the West Wings, but also as a retrofit for all other buildings on its campus. Given that there is such a dearth of green / open space in the LMA as a whole, green roofs would not only provide cleaner roof runoff and reduce the urban heat island effect in the LMA but also provide an aesthetically pleasing amenity for the building occupants as well as habitat for birds and insects.

Given that the new buildings on the Wheelock Campus will further reduce the amount of open space available to only a quarter acre of a quad adjoining the CCSR, it is critical that stormwater management be an important consideration in the design and landscaping of not only the new courtyard but also the other open space, parking areas and streetscape improvements that are going to be made throughout the campus in the near future.

While the LEED system provides one metrics for incorporating green building standards and requirements, there are only limited credits available for stormwater management in the LEED. Therefore CRWA would encourage the proponents to go beyond the LEED rating system, when considering “greening” strategies for the site and buildings. This project offers a huge potential to expand the purview of green practices from individual building scale to looking a “greening of infrastructure” at an overall neighborhood level. Through retrofitting the entire campus area with Low Impact Development (LID) best management practices, the proponent can achieve a much larger impact than the cumulative impact of a collection of individual green buildings. Wheelock’s goal of “promoting sustainability as the campus expands” can thus be realized at multiple levels. It should thus not be limited to only “applying appropriate environmentally protective measures, when feasible, in the construction and operation of its new buildings”.

We appreciate the opportunity to provide comment on this project through the Article 80 review process. Please feel free to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Pallavi Kalia Mande". The signature is written in a cursive, slightly slanted style.

Pallavi Kalia Mande
Urban Restoration Specialist

cc: Wheelock College
Medical Academic and Scientific Community Organization
Boston Parks and Recreation Department
Boston Environment Department
Boston Groundwater Trust