Charles River Watershed Association

By Fax and Mail

March 11, 2005

Secretary Ellen Roy Herzfelder
Executive Office of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn: Aisling Eglington, MEPA Unit

Re: Final Environmental Impact Report, Senior Campus Community, Dedham, MA, EOEA No. 13199

Dear Secretary Herzfelder:

The Charles River Watershed Association (CRWA) submits the following comments on the Final Environmental Impact Report (FEIR) for the above-referenced project. This is a very large project that abuts the Charles River with significant environmental impacts. CRWA has attended both Dedham Planning Board and Conservation Commission meetings on the project over the last several months. These "standing room only" meetings attest to the great public interest in and concern about the project. CRWA has also met with Hebrew Senior Life (HSL) representatives and consultants about the project.

Some project changes have been made since the submittal of the DEIR. CRWA has also reached agreement with HSL on other aspects since the FEIR was filed. CRWA appreciates HSL's willingness to work with us to find solutions for this environmentally sensitive site. There are, however, areas in which HSL can and should do better. The water, stormwater and impervious surface, and traffic impacts are significant and CRWA believes that additional mitigation is required for a project of this scale in this location. The project is seeking state financial assistance and MEPA review is broad.

Water Resource Issues

The Town of Dedham is already in a large water deficit from a water budget perspective and its infrastructure results in massive dewatering. The town exports its wastewater out of basin, 75% of this "wastewater" is inflow and infiltration (I/I), or stormwater and clean groundwater that enters the pipes locally, its municipal stormdrain system carries off stormwater before it can infiltrate into the ground, and it has a high degree of imperviousness that also prevents aquifer recharge. This man-made water cycle is not sustainable and presents a graphic example of why eastern Massachusetts is

literally running out of water. Not surprisingly, the Dedham Westwood Water District (DWWD), which withdraws water from both the Charles and Neponset basins pursuant to a permit from the Department of Environmental Protection (DEP), is experiencing difficulty in meeting peak summer demand.

Because of seasonal water shortages, DWWD is not allowing the project to use public water supply for its landscape irrigation needs. Even without irrigation use, the project will still require some 116,000 gallons per day (gpd) of potable water from the DWWD water system. The project will utilize cisterns that can store 150,000 gallons of rainwater (50,000 gallons at the Rashi School and 100,000 gallons at the HSL to meet some of its irrigation needs; however, with 12 acres of turf and 16 acres total requiring irrigation, the outdoor water demand of this project is huge. The FEIR at p. 5-6 estimates irrigation water demand as 49,515 gpd. Once the stored rainwater is exhausted (about two to three days worth of irrigation water under average conditions, or one day of irrigation under peak conditions, FEIR at p. 5-7), irrigation water will be supplied by an onsite well, or as CRWA recently learned, several wells. According to the FEIR, peak well(s) use in July is estimated to be 89,000 gpd. This will occur at the time when streamflow in the Charles is lowest and is comprised almost entirely of baseflow, or groundwater.

The project will compound the net water deficit in Dedham because its potable water will be drawn locally and exported out of basin via MWRA sewers and it will withdraw a large quantity water onsite for irrigation, most of which (80%) will never be returned to the aquifer due to evapotranspiration and planting uptake. **Every effort should be made to minimize and mitigate the project's impacts on water resources and to enhance aquifer recharge here.** As discussed below, there are number of steps that should be taken to accomplish this. These measures should be included as mitigation commitments and made part of the Section 61 findings.

- Drought Management Plan: Based on recent discussions and correspondence with the project's consultants, Laura Rome, Epsilon Associates, Inc., and Joseph Geller, Geller Devellis, Inc.,[1] the proponent has agreed to develop a drought management plan that will limit irrigation use when precipitation is low. While CRWA concurred with DEP's comment on the DEIR that the project should be subject to the same seasonal restrictions on outdoor water use as those on public water supply, the proponent has asserted to us that it should be able to use its harvested rainwater for irrigation regardless of conditions. Instead, the proponent has agreed not to irrigate between 8:00 a.m. and 6:00 p.m. when evapotranspiration is high, regardless of the source and to develop a drought management plan. We have asked the proponent to tie reduced irrigation to streamflow levels, as Mount Auburn Cemetery's (MAC) drought management plan does,

[1] Hereinafter, the consultants' commitments on behalf of the proponent will be referred to as the proponent's agreement.

and provided its consultants with a copy of the MAC plan.[2] We hope that agreement can be reached on effective triggers and actions in the plan and that the Conservation Commission will incorporate the plan into the Order of Conditions.

- Reduced Turf and Irrigation: The proponent has stated that the turf will be a mix containing some drought tolerant grasses and that it will utilize xeriscaping in landscaping. While a little less than an acre will be irrigated with drip irrigation FEIR at p. 5-5), the playing fields and other lawn areas will be irrigated through in-ground sprinkler systems. We have asked the proponent to explore the use of artificial turf on the playing fields to reduce the irrigation water demand. Little of the water used for lawn irrigation is returned to the aquifer and compacted lawns in themselves are relatively impervious surfaces hindering recharge. The amount of turf in this project should be drastically reduced. This is especially true at the Rashi School where existing meadow in the riverfront is area is proposed to be converted into mowed and irrigated turf. (FEIR at 3-19). The project should be reconfigured to avoid intrusion into the riverfront area adjacent to the Rashi School.

If the proponent insists on using 12 acres of turf, the amount of turf irrigated by automatic sprinklers should be quite limited and the proponent should commit to relying on rainfall for irrigation in the majority of turf areas. CRWA has requested that lawn areas not be watered and allowed to go dormant in times of low rainfall, rather than using private well water on these areas. We note than lawns "green up" again with rainfall. This could also be an important component of the project's public water conservation/education program with the project utilizing signage similar to that being used by MAC to educate the public about its water conservation program. Lastly, with adequate loam depth and drought- tolerant fescues, once a week watering is all that should be necessary for the areas that are irrigated by inground sprinklers. The proponent should commit in the MEPA process and through the drought management plan to reducing the amount of turf, the amount of acreage that is irrigated, and to minimal irrigation of land that is irrigated.

The FEIR at p. 5-7 states that "to supplement collected rainfall, an irrigation well will be pumped to refill the storage tanks." The proponent, however, now agrees that the cisterns will not be used to store water pumped from the wells since this would reduce the amount of rainfall that could be collected and defeat the purpose of the cisterns.

- Well Placement and Metering: The existing well near the polo field will not be used and the proponent will be relocating the well. To reduce impacts on streamflow and wetland resources from the irrigation well, it is important create as much lag time as possible from the withdrawal to resource impacts. Because pumping occurs when streamflow and wetland water levels are already low, increasing the lag time helps to

[2] The MAC, in addition to tying reduced irrigation actions to streamflow levels, complies with the Massachusetts Water Resources Commission's *Guide to Lawn and Landscape Water Conservation* (2002), and uses 8"to 10" of loam to improve plant uptake of water through water retention. We note that while MAC uses a streamflow of 0.41 cubic feet per second per square mile (cfsm) to trigger moderate drought management actions, DEP has now indicated that it will use a streamflow of 0.50 cfsm as a trigger for mandatory reductions in nonessential outdoor water use in Charles River Watershed water withdrawal permits.

minimize impacts on flow and, in turn, on habitat. CRWA has offered to assist the proponent in siting the well; however, we recently learned that a second irrigation well is planned in the vicinity of the Rashi School for its irrigation needs.[3] We note that the proponent provides no data or support for the statement in the FEIR in response to DEP's comments that "[t]here are no anticipated significant adverse impacts of the proposed irrigation wells to ground or surface waters." CRWA is concerned that this well, which would be far closer to the river, has the potential to cause impacts, and the proponent should commit to locating it much farther away, or eliminating it entirely.

In the summary of impacts and mitigation measures in the FEIR at Table 7-1 the proponent states with respect to nonpotable water supply that "[a]s appropriate, a monitoring program will be implemented to ensure that the pumping of wells does not adversely affect protected resources." We believe a monitoring program that includes monitoring wells and metering of the project's withdrawals should be required to assess impacts over time. An essential component of the monitoring program is accurate baseline data.

There are several reasons to require the well to be metered. First, it will ensure that withdrawals are not exceeding the threshold volume requiring a Water Management Act (WMA) permit from DEP. Second, this will be a large withdrawal and private irrigation wells singly and cumulatively are a contributing factor in low surface water levels. The impacts compound as more and more straws are stuck into the same aquifer. Private irrigation well withdrawal volumes are an important, but missing, piece of information in determining a community's overall water budget and should be accounted for in that analysis. Third, metering will provide important data to the Town on the effectiveness of the cistern system and the amount of private well water supplementation necessary for this amount of irrigated acreage. To date, the proponent has not agreed to meter its withdrawals and CRWA believe that this should be required both in the Section 61 Findings and the Order of Conditions.

- Reduced Imperviousness: New site imperviousness is considerable (almost 23 acres) and it has only been reduced by 1/10th acre since the DEIR. (FEIR at p. 1-10). There will be 32 buildings, roadways, and 637 surface parking spaces with most of the buildable space on this site being developed.

The substantial concentration of surface parking at the Rashi School (200 spaces) and at the Long-Term Care Facility (LTCF) (278 spaces) presents an opportunity for structured parking, either above or below ground. Structured parking provides the dual benefits of reducing contaminated stormwater runoff and enhancing recharge. While structured parking is more expensive that surface lots, we note that the 50 senior supportive villas are reportedly being marketed in HSL promotional literature for between $300,00 and $600,000 each, and there are also 28 senior supportive manor houses that presumably will be sold for much more.[4] And while recognizing that the

[3] According to the FEIR at 5-6, the Rashi School alone will require 21,700 gallons of water per day in the summer months.

[4] CRWA believes that the project should commit to making some of the villa units affordable housing.

number of parking spaces required under the zoning may be low here, the amount of parking actually planned appears high, particularly at the LTCF in the southeastern portion of the site. While project impacts to riverfront area have been reduced in other areas since the filing of the DEIR,[5] LTCF surface parking will require grading in the riverfront area. This could be avoided with a reduction in the number of spaces and with garage parking, above or below grade. We note that satellite parking for LTCF employees could be accommodated in a parking garage at the Rashi School. This would reduce the amount of imperviousness and also be an effective transportation demand management (TDM) measure since car and van pools could be given preferential parking at the LTCF, and this less convenient parking for employees in single occupancy vehicles would promote both public and shared transportation.

- Water Conservation: Little information about project water conservation is provided in the FEIR. Water conservation is an integral part of green design/sustainable development. Because DWWD has trouble meeting peak demand in the summer, water conservation at this large project is particularly important. DWWD is exploring the development of a water conservation fee program for new development to offset increased demand on the public water supply system. This fee, which is not part of the access fee that the project will pay to cover capital improvements related to its tie-in to the DWWD system would, as we understand it, be used to reduce water demand by financing water conservation measures, such as the installation of low flow toilets in older homes and subsidizing front loading washing machines and other state-of-the-art low flow devices. We think the fee could also be used to enhance off-site stormwater infiltration and aquifer recharge. The proponent has agreed in principle to payment of the conservation fee/participating the program and we believe this commitment should be included in the Section 61 Findings.

Water-efficient washing machines and dishwashers in residential units and throughout the project and a strong water conservation program can make a significant difference in the project's water use. HSL laundry will be sent off site and the proponent has informed us that it is focusing on reducing water use in the HSL kitchen. It is our understanding that the Rashi School will own its facility, rather than being HSL's tenant. The proponent agrees that it is important for the Rashi School also to employ state-of-the-art water conservation measures in its kitchen. We believe that the proponent should commit to making a strong, effective water conservation program a condition of the sale to the Rashi School and an integral part of its own operations.

- Stormwater: CRWA is extremely concerned about the potential for impacts to the riverfront area, the river and wetland resources as a result of changes in surface water runoff from this project. We have reviewed the project design and stormwater management plan with particular emphasis on this issue. The proponent has worked with the Dedham Conservation Commission, and its consultant to minimize impacts both during and after construction.[6]

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[5] The project will still impact 45,279 ft pf riverfront area (FEIR 2-1).

[6] CRWA has several outstanding questions for the proponent regarding the revised stormwater calculations provided to us. Because CRWA has some questions about the calculations and the consultant who performed them is on vacation until Monday, CRWA will submit any additional technical comments to MEPA no later than Tuesday, March 15, per agreement with Ms. Eglington.

The proposed design includes infiltration of stormwater, lengthy stormwater flow paths, grass swales and detention ponds in an effort to keep post-development stormwater flows and volumes at or below existing conditions. In addition, the project attempts to minimize water quality impacts with a variety of structural and non-structural Best Management Practices (BMPs).

Nevertheless, with the addition of 23 acres of new impervious surface, efforts to monitor and manage stormwater are critical to protecting the riverfront area and the river, and enhancing aquifer recharge. In discussions with CRWA, the proponent agreed to develop a detailed Stormwater Operations and Maintenance Plan and to conduct regular staff training to maintain the effectiveness of the BMPs. HSL has also agreed to an ongoing stormwater public education program. We urge you to condition your certificate upon the implementation of these efforts.

CRWA believes the long-term success of effective stormwater management on this site will require regular tracking and reporting. We urge you to require the proponents to implement a Stormwater and BMP Tracking and Reporting System. Such a system should include at a minimum:

- regular wet and dry weather inspection of stormwater management structures and design elements;
- assessments of the effectiveness of the various elements of the design, maintenance requirements, and possible improvements;
- capital and operations expense requirements;
- wet weather sampling of stormwater discharges to the Charles River;
- tracking of total sand, salt and salt substitutes applied on an annual basis, as well as the volume of sediments retrieved through street sweeping, catch basin cleaning and maintenance of detention ponds and swales; and
- recording of any changes in operations, maintenance, design or structures in the stormwater management on site.

Development of such a large, mostly undeveloped site requires effective, innovative design and management to ensure the riverfront area and the river are not adversely impacted.

➢ Contractor Manual: The proponent has agreed to develop a contractor manual on stormwater management, snow removal, and deicing/sanding, and on grounds' operation and maintenance, which will also incorporate the Integrated Pest Management Program.

➢ Wastewater: CRWA believes that there is a lost opportunity for water reuse at this site. Both CRWA and the Metropolitan Area Planning Council (MAPC) asked the proponent to evaluate reuse of grey water, which can reduce potable water use. The proponent stated in the DEIR that the building coverage and decentralized housing "which forms the majority of this development" does not create sufficient density thus making water use cost prohibitive. (Response to comments of CRWA on the ENF).

While we again requested that the feasibility of water reuse, including cost and the amount of water that could be saved, be explored in the FEIR, the proponents responded merely that the elder care facilities do not create sufficient density and make a water reuse system cost prohibitive. It also said it eliminated reuse at the Rashi School because the grey water generated is not large enough to make such a system efficient. (Response to comments of MAPC and CRWA on the DEIR). It is impossible to evaluate the feasibility of water reuse from these conclusory statements.

Other Issues:

- Transportation: The project will generate 3,088 vehicle trips per day. We disagree that employees traveling from Brookline, or Dorchester will access the site from the Mass Pike/Route 128. Rather, it is far more likely that they will use Route 1 and local Dedham roads to commute given the already congested state of the highways. The level of service (LOS) at a number of intersections around the project will continue to deteriorate. While the DEIR stated that this would be the case even without the project, it is clear that the project will exacerbate the traffic problems. Transportation demand management (TDM) measures are extremely important for this project to reduce traffic impacts.

A campus transportation manager will be responsible for TDM measures. We believe that goals should be set for reducing single occupancy vehicle use in each of the first several years of operation and that HSL should be required to report semi-annually on its progress toward meeting those goals to the appropriate town board. A monitoring program for traffic impacts after occupancy should also be required.

- Walking Trails: In the FEIR the proponent has committed to making the walking trails along the river open to the public and we commend HSL for this. It will improve river accessibility and enjoyment for all Dedham residents. However, without a conservation restriction or easement, the HSL could close the paths to the public at any time. We believe that HSL should ensure this public benefit through a permanent easement or conservation restriction allowing public access to the trails.

CRWA appreciates this opportunity to comment on the FEIR. Please feel free to call me if you have any questions.

Very truly yours,

Margaret Van Deusen
Deputy Director

cc: Dedham Planning Board
Dedham Conservation Commission
Nan Crosland, DWWD
John Viola, DEP NERO
Kellie O'Keefe, DEP NERO, WMA Program
Kenneth S. Miller, EOTC
Laura Rome, Epsilon Associates

Charles River Watershed Association, 48 Woerd Avenue, Waltham, 02453
T: (781) 788-0007, F: (781) 788-0057, Website: www.charlesriver.org, Email: crwa@crwa.org

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