



Wetlands & Wildlife, Inc.

Environmental Consulting and Permitting

233 Russell Hill Road

Ashburnham, MA 01430

April 24, 2006

Steve Chapman, P.E.

FAY, SPOFFORD & THORNDIKE, LLC

5 Burlington Woods

Burlington, MA 01803

Re: Wetland Resource Evaluation Report; Comprehensive Permit (40B) Application for the Belmont Uplands – Belmont, MA

Dear Steve:

This letter and the attached *Wetland Resource Evaluation Report* are based on my review of various documents and materials associated with the above-referenced *Comprehensive Permit (40B) Application for the Belmont Uplands*, filed with the Belmont Zoning Board of Appeals by AP Cambridge Partners (a/k/a O'Neil Properties). This information was provided by staff at Epsilon Associates, Inc. (Epsilon) at a meeting on 6 April 2006. A field reconnaissance to review site conditions on the Belmont Uplands also was conducted on 18 April 2006.

The subject *Application* addresses a proposed residential development on a 15.6 acre parcel located in Belmont and Cambridge. The entirety of the development, however, will occur on the 12.9 acre portion of the site in Belmont. Within this area, five, 4-story buildings containing 299 rental units are proposed to be constructed. Vehicular parking is proposed beneath each building, and in surface lots interspersed between the buildings.

As stated in the *Comprehensive Permit Application*, the development will alter approximately 36,809 cubic feet (cf) of *Bordering Land Subject to Flooding (BLSF)* and 2,448 square feet (sf) of *Riverfront Area (RFA)*. While no other wetland resources will be affected by project implementation, portions of the project also will be located within the 100-foot buffer zone of *Bordering Vegetated Wetlands (BVW)*. As such, proposed activities are subject to regulation by the Belmont Conservation Commission (BCC) pursuant to the MA Wetlands Protection Act (WPA; MGL Chapter 131, Section 40) and implementing regulations (310 CMR 10.00 *et. seq.*). Accordingly, this *Wetland Resource Evaluation Report* focuses on the compliance of the proposed project with the requirements and performance standards set forth in the State wetland regulations.

Please contact me with any questions or comments regarding these materials.

Sincerely,

Wetlands & Wildlife, Inc.

Marshall W. Dennis, PWS/CWB

Principal

Attachment

RECEIVED

APR 26 '06

F.S.&T.

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1.0 Wetland Resource Delineation

The boundaries of BVW onsite initially were reviewed and confirmed by the BCC via a Determination of Applicability dated 27 June 2000. However, in conjunction with the MA Department of Environmental Protection (DEP) issuance of a Superseding Order of Conditions for a previous development proposal on the Belmont Uplands, BVW areas onsite were reviewed by wetland scientists representing DEP, the Applicant for the previous development and the Town of Belmont.

Based on this review, conducted in October 2003, BVW boundaries were revised and a plan prepared of the new boundaries. This plan, dated 21 October 2003, was accepted by DEP and incorporated by reference into the above-noted Superseding Order of Conditions, issued by DEP on 30 September 2004. These DEP-approved wetland boundaries, which remain valid until 30 September 2007, are presented in the current *Comprehensive Permit Application* and served as the basis for documenting the absence of BVW impacts associated with the proposed residential development.

2.0 Regulatory Compliance

2.1 Land Under Water Bodies/Waterways and Banks

Findings: While Little Pond and the Little River occur proximate to the site, no Land Under Water Bodies/Waterways or Bank resources are located on the proposed development parcel. Consequently, these resource areas will not be affected by the proposed project; hence, the proposed development effort will not contravene the performance standards associated with these resources.

Recommendations: None

2.2 Bordering Vegetated Wetlands

Findings: The proposed development has been designed to avoid direct impacts to areas of BVW. Moreover, as described in Section 8.5.5 of the *Comprehensive Permit Application*, soil erosion and sediment controls (e.g. siltation barriers and catch basin inlet protection) will be implemented to preclude indirect BVW impacts. As part of the NPDES General Permit associated with construction activities, a Stormwater Pollution Prevention Plan (SWPPP) also must be prepared, and stored at the construction site for review and implementation purposes.

In light of the above, the proposed development complies with the BVW performance standards set forth in the State wetland regulations.

In accordance with these regulatory performance standards and as described in Section 8.5.1 of the *Comprehensive Permit Application*, the proposed locations for compensatory flood storage will have an unrestricted hydraulic connection to the same waterway or water body (i.e. Little Pond and the Little River) and will not restrict flows so as to cause an increase in flood stage or velocity. As such, the proposed development complies with these BLSF performance standards set forth in the State wetland regulations.

The *Application* further states that compensatory flood storage will be constructed at elevations equal to the existing areas of flood storage to be displaced by the proposed project. The *Compensatory Flood Storage Analysis* in Section 8.5.1/Table 3 is presented as evidence in this regard. However, the data presented in Table 3 do not specifically demonstrate that, in fact, compensatory flood storage will be constructed at elevations equal to the existing areas of flood storage to be displaced by the proposed project. Consequently, the project's compliance with this regulatory performance standard presently cannot be determined.

Lastly, with respect to wildlife habitat, the *Comprehensive Permit Application* indicates that approximately 4,400 sf of the total area of BLSF to be affected by the proposed development is significant to the protection of wildlife habitat. Since the aerial extent of this impact will be limited to less than 5,000 sf, however, it is presumed that the proposed development will not impair the capacity of the BLSF to provide important wildlife habitat functions.

Recommendations: To address the outstanding issue regarding the incremental provision of compensatory flood storage, it is recommended that the Applicant supplement the *Comprehensive Permit Application* by preparing and providing a new/revised table to the Zoning Board of Appeals and all appropriate municipal departments for review/comment. As indicated in the example below, this table should clearly list, by incremental one-foot elevations, the existing cubic feet of flood storage to be displaced and the proposed cubic feet of compensatory flood storage to be created. It is recommended that this information also be incorporated into the Notice of Intent to be filed with the BCC.

ELEVATION	FLOOD STORAGE TO BE DISPLACED	FLOOD STORAGE TO BE CREATED
5.0 - 6.0	To Be Provided	1,693
6.0 - 7.0	To Be Provided	4,589
7.0 - 8.0	To Be Provided	7,931
8.0 - 9.0	To Be Provided	13,312
9.0 - 9.8	To Be Provided	14,748
TOTAL	To Be Provided	42,273

Recommendations: Project compliance notwithstanding, it is recommended that the Applicant prepare a comprehensive inspection and maintenance plan relative to soil erosion/sediment controls and SWPPP implementation, and that the plan be provided to the Zoning Board of Appeals and all appropriate municipal departments for review/comment. Further, it is recommended that this plan be incorporated into the Notice of Intent to be filed with the BCC.

2.3 Bordering Land Subject to Flooding

Findings:

As described in the *Comprehensive Permit Application*, the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA) indicate that the 100-year flood elevation extends to elevation 8.2 NGVD. In this regard, the *Application* acknowledges that the designated flood elevation for the subject parcel is expected to be revised by FEMA following the completion of ongoing flood-related investigations. Thus, it is stated in Section 8.2.1.2 of the *Application* that "To be conservative, the project plans are based on a flood elevation of 9.8 NGVD."

As proposed, the residential development collectively will affect approximately 36,809 cf of BLSF at four locations. These sites include:

1. The eastern portion of Building E and associated parking lot entrance from Acorn Park Drive;
2. The parking lot adjacent to and north of Building E;
3. The western portions of Buildings B and D; and
4. The parking lot entrance to Building A from Acorn Park Drive.

To compensate for these impacts, approximately 42,273 cf of flood storage are proposed to be created at two locations onsite. These compensatory flood storage areas will be located adjacent to the parking lot north of Building E and adjacent to the parking lot south of Building A.

The State wetland regulations at 310 CMR 10.57(4)(a) state:

Compensatory [flood] storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body ... Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

Regardless, none of the materials reviewed in conjunction with the preparation of this *Wetland Resource Evaluation Report* addressed the following overriding requirement of the State wetland regulations relative to actions affecting the RFA:

There must be no practicable and substantially equivalent economic alternative to the proposed action with less adverse effects on the interests identified in M.G.L. c. 131 §40. [310 CMR 10.58(4)(c)]

Recommendations: Based on the above, it is recommended that the Applicant prepare and provide the alternatives analysis required by the MA Wetlands Protection Act regulations to the Zoning Board of Appeals and all other appropriate municipal departments for review/comment. As described in the regulations, this analysis should evaluate the following complement of alternatives:

An alternative is practicable and substantially equivalent economically if it is available and capable of being done after taking into consideration costs, existing technology, proposed use, and logistics, in light of overall project purposes. Available and capable of being done means the alternative is obtainable and feasible. Project purposes shall be defined generally (e.g., single family home, residential subdivision, expansion of a commercial development). The alternatives analysis may reduce the scale of the activity or the number of lots available for development, consistent with the project purpose and proposed use.

It also is recommended that this alternatives analysis be incorporated into the Notice of Intent to be filed with the BCC.

2.5 Vernal Pools

Findings: In fact, there are no certified vernal pools (CVP) on or proximate to the proposed development site. However, the MA Natural Heritage & Endangered Species Program has identified two potential vernal pools (PVP) offsite near the development area.

The easternmost pool is located adjacent to and east of Acorn Park Drive, and south of an on-ramp to Route 2 eastbound from which is discharged to the pool. Based on site-specific observations, this pool primarily serves as a point of discharge for stormwater runoff from the Route 2 on-ramp noted above. Moreover, most of land uses/habitats surrounding the pool consist of existing development and emergent wetlands dominated by the invasive common reed (*Phragmites australis*). Accordingly, this site is not expected to provide or function as vernal pool habitat.

Additionally, Section 8.5.2 of the *Comprehensive Permit Application* indicates that the “compensatory flood storage area, as well as the proposed detention basin, will be further enhanced with wet meadow species” that will provide food, cover and breeding/nesting sites for wildlife.

To ensure the establishment and growth of these plantings and the wildlife habitat they will provide, it is recommended that the Applicant prepare a detailed compensation site preparation plan, planting plan and monitoring/maintenance plan for each flood storage area to be created, and that this information be provided to the Zoning Board of Appeals and all appropriate municipal departments for review/comment. Due to the close proximity of the invasive common reed (*Phragmites australis*), this plan will be integral to ensuring the future viability of the flood storage compensation sites for multiple species of wildlife. For guidance in the compilation of plan-related information, it is recommended that reference be made to the following documents:

- U.S. Army Corps of Engineers (COE) *Regulatory Guidance Letter No. 02-2* (December 24, 2002);
- *COE Mitigation Checklist and Guidance* (June 15, 2004); and
- *MA Inland Wetland Replication Guidelines* (MA DEP; March 2002).

It also is recommended that this plan be incorporated into the Notice of Intent to be filed with the BCC.

2.4 Riverfront Area

Findings:

Based on the review of the wetland resource information provided by Epsilon, I concur that the proposed project will comply with the following Riverfront Area- (RFA) related performance standards:

- The project will comply with the performance standards for all other resources within the RFA;
- The project will not adversely affect specified habitat sites of rare wetland or upland, vertebrate or invertebrate species;
- The project, including proposed mitigation measures, will have no significant adverse impact on the RFA to protect the interests identified in the MA Wetlands Protection Act; and
- The project will comply with the DEP Stormwater Management Policy and, since RFA disturbance will be limited to less than 5,000 sf, it is presumed that the proposed development will not impair the capacity of the RFA to provide important wildlife habitat functions.

The second potential vernal pool is located just landward of the eastern shores of Little Pond. Although no amphibian egg masses were observed in this pool during field investigations, the upland forest habitat surrounding the pool provides potential habitat for various vernal pool species.

Recommendations: In light of the foregoing discussion, it is recommended that the Applicant conduct site-specific data collection activities sufficient to confirm the presence/absence of obligate and facultative vernal pool species and, thus, the vernal pool status of the above-referenced PVPs. It also is recommended that this information be provided to the Zoning Board of Appeals and all other appropriate municipal departments for review/comment, and that the results of these investigations be incorporated into the Notice of Intent to be filed with the BCC.

2.6 Wildlife/Wildlife Habitat

Findings: As accurately stated in Section 8.4 of the *Comprehensive Permit Application*, the proposed project does not exceed the review thresholds for any of the wetland resources to be affected by project implementation. Consequently, wildlife habitat evaluations associated with these resource impacts are not required by the regulations.

Notwithstanding the above, it is understood that wildlife-related investigations onsite have been conducted, and that the *Comprehensive Permit Application* includes a series of upland and wetland habitat enhancement measures directed at improving existing wildlife conditions. These measures are more fully described in the *Open Space Maintenance Plan*, previously prepared by the Applicant in conjunction with a prior development proposal.

Recommendations: As noted above, wildlife habitat evaluations associated with these resource impacts are not required by the regulations. However, in the event the project is approved by the Zoning Board of Appeals, it is recommended that implementation of the habitat enhancement measures referenced in the *Open Space Maintenance Plan* be a required condition of the *Comprehensive Permit*.

3.0 SUMMARY

This *Wetland Resource Evaluation Report* provides recommendations directed at assisting the Zoning Board of Appeals in their review of the *Comprehensive Permit Application* filed by AP Cambridge Partners (a/k/a O'Neil Properties) for a residential development on the Belmont Uplands.

Wetlands & Wildlife, Inc.

As stated in the preceding sections, the proposed development will alter approximately 36,809 cubic feet (cf) of Bordering Land Subject to Flooding (BLSF) and 2,448 square feet (sf) of Riverfront Area (RFA). While no other wetland resources will be affected by project implementation, portions of the project also will be located within the 100-foot buffer zone of Bordering Vegetated Wetlands (BVW). Proposed activities, therefore, are subject to regulation by the Belmont Conservation Commission (BCC) pursuant to the MA Wetlands Protection Act (WPA; MGL Chapter 131, Section 40) and implementing regulations (310 CMR 10.00 *et. seq.*). Accordingly, this *Report* focuses on the compliance of the proposed project with the requirements and performance standards set forth in the State wetland regulations.

As described in the preceding sections, recommendations are provided with respect to the following regulated resource areas:

- Bordering Vegetated Wetlands
- Bordering Land Subject to Flooding
- Riverfront Area

Finally, recommendations are presented relative to vernal pools and wildlife/wildlife habitat.