BETA Group, Inc.
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315 Norwood Park South
Norwood, MA 02062
(781) 255-1982, fax (781) 255-1974
www.BETA-Inc.com

April 24, 2006

Mr. Hans Larsen
Director of General Government
Board of Selectmen Town of Wellesley
525 Washington Street
Wellesley, MA 02481

Re: Wellesley Country Club Redevelopment – Peer Review Job # 3016 - 14

Dear Mr. Larsen:

At your request, BETA Group, Inc. has completed its review of the traffic and pedestrian safety components of proposed improvements to the Wellesley Country Club (WCC) as submitted by Vanasse Hangen Brustlin, Inc. (VHB) in their report dated March 29, 2006. On December 21, 2005 VHB submitted an initial traffic evaluation memorandum as part of the Project of Significant Impact (PSI) process for the WCC. BETA reviewed the initial traffic evaluation and our comments were documented in a letter dated February 1, 2006. The updated report dated March 29, 2006 includes revisions to the previous submission and incorporates additional information requested by BETA.

The Wellesley Country Club is a private, 18-hole golf course situated on 163 acres off Wellesley Avenue in Wellesley, Massachusetts. The plan to upgrade the country club includes replacing the existing 33,317 ft^2 clubhouse and 5,600 ft^2 cart storage building with a new 53,825 ft^2 clubhouse. Based on the information provided, we have the following comments.

GENERAL/SITE LOCATION

The redevelopment of the Wellesley Country Club will consist of replacing the existing clubhouse and cart storage building with a new clubhouse. The new clubhouse will represent a 14,908 ft^2 increase over the existing area. The majority of this increase will consist of storage areas; however, there will be an expansion in capacity of the dinning/function hall facilities (479 seats to 514 seats) and a 2,500 ft^2 exercise room will be added. The report indicated that because the WCC is a private club and there is no planned increase in membership associated with the redevelopment, the proponent believes that the only increase in traffic to the facility will result from a modest increase in dining/function hall capacity. The WCC would need to provide assurance to the Town that there will be no new marketing campaign to promote the new facility to attract new members and that there will be no increase in traffic associated with the new facility.

The Wellesley Country Club is located along Wellesley Avenue. In the vicinity of the WCC, Wellesley Avenue is classified as an urban minor arterial per the Massachusetts Highway Department classification. This roadway classification is intended for roadways that augment primary arterial systems. The western side of the WCC is bordered by the intersection of Wellesley Avenue and Forest Street; on the opposite side of this intersection is Babson College. Currently

there are no pedestrian facilities that connect the WCC to the Wellesley Avenue/Forest Street intersection.

In addition to the site drives, the only intersection included in the study is Wellesley Avenue at Forest Street. Some traffic may seek alternate routes to avoid the Route 16 and downtown Wellesley areas traffic congestion. For this reason, consider adding the intersections of Wellesley Avenue at Brookside Road and Wellesley Avenue at Hunnewell Street to the study area.

TRAFFIC COUNTS

Traffic counts for this project were conducted in February and March of 2006. The Wellesley Country Club is not open for golf during these months and there is limited utilization of the clubhouse. The traffic data collected during these counts does not reflect the peak operating conditions of the club. To account for the existing (and future) trips to the site, 2005 operations data supplied by the WCC was factored into the traffic analysis. This methodology is described in detail in the "TRIP GENERATION" section of this memo.

CRASH HISTORY

A complete crash history for the most recent three years was provided by both the Massachusetts Highway Department and the Wellesley Police Department for VHB's report. It should be noted that the data provided did not reflect a fatal accident that occurred at the Wellesley Avenue and Forest Street intersection in 1992 in which excessive speed appeared to be the primary cause. This accident has been confirmed with the Wellesley Police Department.

TRIP GENERATION

Typically, the Institute of Transportation Engineers' (ITE) Trip Generation Manual is used to determine future trips from a proposed development. The manual estimates trips to a site by different land use types depending upon a specified variable. For this project the most appropriate land use type is "Golf Course". Estimated future trips for this land use type are provided for three different variables: total acres of the course, total number of holes and total number of employees. In this instance, the total acres of the course and the total number of holes are to remain constant. It is unknown if the total number of employees will increase. For this reason the ITE Trip Generation Manual was not used to determine trip generation.

As mentioned previously, when the traffic counts were conducted for this project, the Wellesley Country Club was not open for normal business. The existing trips to the site during peak periods needed to be calculated and added to the roadway network.

Raw operations data for the year of 2005 was provided by the Wellesley Country Club and was used to determine both the existing and proposed site generated trips. To develop the existing and additional proposed vehicle trips to the WCC, all of the services provided at the club were considered. These services and facilities include golf, tennis, swimming pool, meals, functions and employee trips. The report considered both normal functions as well as large special events in the WCC function hall. For example, in 2005 the WCC hosted 270 events in their function hall. Of these events only 22 had more than 100 guests.

To determine trip generation rates from the 2005 operations data, it was necessary for VHB to make a series of assumptions including vehicle occupancy rates and shared trips percentage (for example the percentage of trips that may be made for both golf and a meal). These assumptions appear to be reasonable; however, we recommend that a follow-up traffic study be performed six months after the opening of the new facility. This study should be conducted during the peak operations period of the Wellesley Country Club. Any impacts identified during the follow-up study shall be mitigated accordingly by the WCC.

The report indicated that the only increase in traffic to the Wellesley Country Club would be the result of the 35 seat (8%) increase in capacity of the dining/function hall space. To account for future trip generation, the trips associated with these uses were increased by 8% over the volume calculated for the existing conditions. The proponent is assuming that there will not be a general increase in utilization of the WCC upon completion of the redevelopment; however, the proposed tavern space would have a higher utilization rate than the dining space it would be replacing. Also, the exercise room would be an entirely new service. Additional trips would most likely be generated based on entirely new services and updated facilities available at the WCC. Hence, the baseline trips should reflect a higher utilization rate in addition to the increase in capacity to the dining/function hall space.

PARKING

The methodology used to determine both the existing and proposed parking demand was similar to the trip generation methodology. The proponent made an assumption regarding the number of vehicles that park per trip use and the distribution throughout the day in which they park. The proponent does not propose to increase the existing 268 parking spaces with the expansion of the dining/function hall facilities. It is our understanding that some spaces will be relocated to the swimming pool area. Will this impact the parking needs at the main parking lot during large events? It is unclear how many of these spaces will be assigned to employees or patrons of the Wellesley Country Club. Under Town of Wellesley Zoning By-laws the WCC would be responsible to expand their parking capacity:

> Enlargements or alterations which result in an increase in the ground coverage or the usable floor area of a building or structure shall require additional off-street parking spaces in accordance with the provisions of this Section, but only to the extent that such increase exceeds 5% of the ground coverage or 15% of the floor area existing at the time this Section becomes effective; and provided that property included in a Business or Industrial District on March 31, 1982 shall require additional off-street parking spaces in accordance with the provisions of this paragraph 3, only for any ground coverage or floor area in excess of that in existence on March 31, 1982;

It is unclear if the ground coverage will increase by 5% but the increase in floor area will exceed 15%. The WCC would be required to increase parking by 1 space for every 100 ft^2 of floor area

added where food is served. The increase in dining space is 1,670 ft^2, which would require 17 additional parking spaces. To be exempt from this parking requirement, the WCC would need to apply for a special permit. For the town to accurately determine if there is ample parking available they may require that a parking study be performed during a peak operating day during existing conditions. The calculations included in VHB's report indicate that the parking demand may exceed capacity when the club hosts large events in the function hall. In these circumstances the WCC would make arrangements for their employees to park elsewhere. No further information is provided. Existing and future proposed parking conditions associated with both special events and peak operating periods needs to be specified.

INTERSECTION ANALYSIS

The intersection analysis indicates that the expansion of the Wellesley Country Club would have little effect on study area intersections. The intersection of Wellesley Avenue at Forest Street will operate at a Level of Service (LOS) F during both the AM and PM peak hours regardless of the redevelopment of the club. The site driveways are expected to experience negligible change in LOS or delay. The intersection of Wellesley Avenue and Forest Street is currently under evaluation by Babson College as part of their dormitory expansion project. We suggest coordination with Babson College be held to ensure proper mitigation for this impacted intersection. A signal warrant analysis should be performed for this intersection. The intersections of Wellesley Avenue / Brookside Road and Wellesley Avenue / Hunnewell Street should also be included in the traffic study.

SITE PLAN

The site plans are currently under revision, therefore it is not possible to accurately evaluate site circulation, access/egress and parking issues. Once these site plans are available, they should be provided for our review. Based on the sight distance analysis in the study, the western-most site drive has far less than the required stopping sight distance available. In the future the proponent has committed to keeping this site drive closed with a gate and only using it when a police detail is present. This will eliminate the significant safety issue caused by limited stopping sight distance. The other two proposed site drives and cart access curb cuts have adequate stopping sight distance. It should be noted that during our field visit, a large dump truck was unable to make a right turn out of the existing site drive onto Wellesley Avenue. If large trucks regularly access the site, the future site drives should be designed to accommodate them.

PEDESTRIAN SAFETY

The only pedestrian facilities along Wellesley Avenue adjacent to the Wellesley Country Club are two crosswalks. The 85th percentile speed (the speed at which 85% of the vehicles are at or below) on Wellesley Avenue adjacent to the WCC is 42 mph westbound and 38 mph eastbound. This exceeds the 30 mph prima facia speed limit for the Town of Wellesley. These high speeds are not safe for pedestrian crossings considering that the roadway divides the WCC, and golfers are regularly required to cross the roadway. One of the crosswalks is directly located at the cart access curb cut which is used by WCC patrons to cross Wellesley Avenue. There are two advanced warning signs in each direction along Wellesley Avenue before the crosswalk in addition to the push-button activated flasher for both directions at the crosswalk.

The second crosswalk is located at the western-most site drive. Its purpose is unclear as there are no sidewalks along Wellesley Avenue and there is a significant grade difference off the south side of the road which is protected by a guardrail. At this location the sight distance is limited to the east. The only signage is directly adjacent to the crosswalk. This crosswalk should be evaluated for safety concerns and the need for the crosswalks should be identified. Proper mitigation such as advanced warning signs should be considered in both travel directions preceding the crosswalk if the analysis reveals that the crosswalk is deemed necessary.

CONCLUSIONS/RECOMMENDATIONS

Our findings and recommendations are as follows:

1. The site plans should be provided upon completion for our review.
2. Coordination with Babson College on the intersection of Wellesley Avenue and Forest Street is important to ensure that any mitigation required for this impacted intersection will be mitigated accordingly by both projects. If a signal is warranted at this intersection, further discussion will be needed on participation by both projects to improve the safety of the intersection.
3. The need for the crosswalk located on Wellesley Avenue at the western-most site should be evaluated. If this crosswalk is needed, mitigation must be provided to improve pedestrian safety at this location.
4. Wellesley Avenue at Brookside Road and Hunnewell Street should be included in the traffic study.
5. The existing traffic and parking estimates are reasonable; however, we recommend a detailed follow-up traffic study be performed six months after the new facility is open. The study should also be conducted during the WCC peak operations period.
6. Parking demand and utilization need to be verified.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.

Frank Romeo, PE
President