

# ***BENCHMARK ENGINEERING CORP***

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*Πλαννινγ, Ενγινεερινγ ανδ Συρπεεψινγ*

296 Ελιοτ Στρεετ  
Ασηλανδ, Μασσαχηυσεττς 01721

Τελεπηον 508 881-060  
ε: 1  
Φαχσιμιλ 508 881-062  
ε: 5

Mr. Wayne Davies, Chairman  
Hopkinton Zoning Board of Appeals  
18 Main Street  
Hopkinton, MA 01748

16 April 2004

**Re: Comprehensive Permit  
“Stagecoach Heights”, Hopkinton, Massachusetts**

Dear Mr. Davies:

Please find the following information as discussed at the last Zoning Board of Appeals meeting:

1. **Stagecoach Heights Site Development Plan for Comprehensive Permit in Hopkinton, Massachusetts**, dated 19 March 2001, last revised 16 April 2004, (20 sheets), prepared by Benchmark Engineering Corp. (18 sets);
2. **Plan and Profile of Paul Revere Path, Minuteman Lane, and Patriots Boulevard in “Stagecoach Heights”, Hopkinton, Massachusetts**, dated 06 February 2004, last revised 16 April 2004 (5 sheets), prepared by Benchmark Engineering Corp. (18 sets);
3. **Sketch Plan, Cross Section A-A, Stagecoach Heights, Hopkinton, Massachusetts**, dated 16 April 2004 (1 sheet), prepared by Benchmark Engineering Corp. (18 copies).
4. **Supplemental Drainage Computations, 100-Year, “Stagecoach Heights, Hopkinton, Massachusetts**, dated 16 April 2004, prepared by Benchmark Engineering Corp. (18 copies);
5. **Traffic Impact & Access Study, Proposed Stagecoach Heights, Hopkinton, Massachusetts**, Updated March 2004, (5 copies).
6. **Required Permits, “Stagecoach Heights”, Hopkinton, Massachusetts**, dated 16 April 2004, prepared by Benchmark Engineering Corp. (18 copies).

The plans and documents have been revised based upon comments and recommendations made at the ZBA meeting on 10 March 2004. The street names have been revised based upon comments from the Police and Fire Departments.

Benchmark Engineering Corp. offers the following responses to comments contained in Fay, Spofford & Thorndike's letter dated 10 March 2004:

### ***Roadway Alignment***

1. *Traffic Roundabout/Circle. FST recommends the applicant consider the elimination of the Roundabout proposed at Kings Way/Patriots Boulevard intersection and extend the Patriots Boulevard double lane roadway section to the roundabout proposed at the intersection of Minuteman Lane. We also recommend additional documentation such as traffic circulation, signage, pavement markings, landscaping, lighting and typical cross-section be added to the site development plans.*

At the meeting on 10 March 2004, the ZBA concluded the following:

- a. Proposed Roundabout: The ZBA concluded that the proposed roundabout is adequate considering the low volume of traffic that will utilize these roads.
  - b. Traffic Circulation: The ZBA concluded that the roadway layout provides for satisfactory traffic circulation within the development.
  - c. Signage & Pavement Markings: The ZBA concluded that the only necessary pavement markings are stop lines and cross walks. A road layout plan has been added to the plan set showing proposed pavement markings and signage.
  - d. Lighting: As requested by the ZBA, street lighting has been added at the intersections. A detail of the proposed street light has been added to the Landscaping Plan and the Detail Sheets.
  - e. Landscaping: The ZBA concluded that landscaping is adequately depicted on the Landscaping Plan. The species of evergreen trees for the buffer has been varied, as requested by the Planning Board.
  - f. Typical Cross-Section: A Typical Traffic Circle Section has been added to the Detail Sheets.
2. *We recommend the issue of available clear sight distance within these roadways be documented by the applicant and issues such as traffic circulation, signage, pavement markings, landscaping, lighting and vehicle speed be discussed by the applicant.*

The 20-foot wide access drives provide a minimum of 125 feet of horizontal clear sight distance, conservatively measured within the edge of pavement. The horizontal clear sight distance approaches 150 feet if the 6-foot shoulders of the access drives are utilized in the measurement. A horizontal clear sight distance of 125 feet meets the minimum stopping sight distance on wet, level pavements for a design speed of 23 MPH, as defined by the American Association of State Highway and Transportation Officials (AASHTO). All 20' wide access drives will have posted speed limits of 15 MPH.

All vertical curves for the access drives provide a minimum of 195 feet of clear sight distance. The issues of traffic circulation, signage, pavement markings, landscaping were addressed in item 1 above.

3. *Cuts and fills exceeding 8 feet in depth.*

At the meeting on 10 March 2004, the ZBA concluded that the excessive cuts and fills are unavoidable due to the natural topography of the site.

4. *As previously discussed, construction of Patriots Boulevard will result in grading within 10 to 20 feet of the easterly property line that abuts Route 495 at several locations. The applicant has proposed a single row of Jack Pines to buffer the proposed buildings and roadway from Route 495. FST still questions if the proposed tree plantings will provide an adequate buffer at these locations.*

At the meeting on 10 March 2004, the ZBA concluded that a row of tree plantings atop a three foot berm will provide an adequate buffer. As requested by the ZBA, a cross-section of the development is included with this submittal. The species of tree plantings has been staggered as requested by the Planning Board in their letter dated 27 February 2004.

### ***Stormwater Management System***

a) *The on-site storm drainage and piping system have been designed for a 25-year storm event according to calculations submitted. The mode of transmission of peak flows in excess of the 25-year storm event to the proposed Stormwater Basins A & B need to be addressed by the applicant. The hydrologic calculations state the basins are designed to accommodate the 100-year storm event. FST is not in agreement with the applicant's statement that modifications to the storm drainage system have been made to ensure the estimated drainage areas are tributary to these basins during the 100-year storm event. We recommend additional documentation be provided by the applicant.*

Supplemental Drainage Computations are included in this submittal which verify that the proposed storm drainage system will convey the 100-year storm event to the detention basins. The computations utilize an intensity of 8 inches per hour from the Rainfall Intensity-Duration-Frequency Curve for Worcester, Massachusetts. Catch basins 5, 9, 11, 38 and 41 were changed to double grate to accommodate flows in excess of 2 CFS.

b) Adequately addressed.

c) *Review of the site development plan identifies a Downstream Defender is proposed at two on-site locations (Detention Basin A and Wood Street area). FST recommends consideration be given to the installation of a Downstream Defender as part of the drainage system for Detention Basin B.*

At the meeting on 10 March 2004, the ZBA concluded that a Downstream Defender at Detention Basin B is not necessary because Basin B is proposed with a sediment forebay.

### ***Traffic Memorandum***

1. Adequately addressed.
2. Adequately addressed
3. *Finally, FST recommends that a complete, final copy of the traffic impact study report incorporating all the revisions noted in the response to comments be submitted to the Board of Appeals.*

A final Traffic Impact and Access Study dated March 2004 has been prepared and is included with this submittal.

At the meeting on 10 March 2004, the ZBA requested that the applicant address the following comments contained in the Planning Board's letter dated 27 February 2004. Benchmark Engineering Corp. offers the following responses:

4. *The Board recommends that the Board of Appeals not grant this waiver of the 2001 OSRP at this time, and require the applicant to conduct an evaluation of the resources listed on this property within the OSRP and indicate whether or not they will be preserved within the development plan.*

In the 2001 OSRP, the project locus is described as containing "at least 3 vernal pools, an old cart path where an old road was discontinued when Rt. 495 was constructed, old foundation, and significant geologic features, such as cliffs and dramatic rock outcrops."

The three vernal pools along Wood Street will remain intact. The portion of the old cart path in the development area will be lost while the portion within the proposed open space will be preserved. The ledge cliff at the center of the proposed development area (adjacent to proposed Minuteman Lane) will be preserved to the maximum extent feasible. The numerous rock outcrops within the proposed open space will be preserved. We are unaware of an old foundation located within the proposed area to be disturbed by the development.

5. *The applicant is requesting a waiver of the entire Earth Removal Bylaw. In general, an earth removal permit is not required for residential and commercial construction projects. However, the bylaw contains several General Requirements (Sec. 96-3) which must be met by all, whether an earth removal permit is required or not. The Board recommends that items A, C, H, and I be waived and that items B, D, E, F, and G not be waived if a comprehensive permit is granted.*

The applicant agrees with the Planning Board's recommendations with the exception of item E, which states that "the depth of excavation for any earth removal operation shall not be closer than seven feet above the spring high water table, as determined by observation of soil profiles or test wells". Cuts for roadway construction will most likely result in finished grades less than seven feet above the spring

high water table. Therefore, the applicant requests that item E be included as a waiver as well as items A, C, H and I.

6. *The Planning Board recommends that the evergreen species proposed to be planted on the three foot tall berm along Route 495 be varied. Currently, the plan shows only Jack Pines. The Planning Board and Tree Warden's Policy has been to vary species, which prevents a disease or insects from killing all of the plant materials in the area.*

The species of evergreen trees has been varied to include Austrian Pines in addition to the Jack Pines. The Landscaping Plan has been revised to reflect this revision.

7. *The Board has reviewed the unit lighting detail on the plan, and believes that the number of floodlights proposed on the units are excessive. The Board recommends that light only be directed where needed for safety and security and that additional though be put into the lighting plan.*

The Unit Lighting Detail has been revised to depict recessed lights in the locations where floodlights were previously proposed. All lighting fixtures shall be downcast or shielded.

8. *The Board recommends that a fund be established by the developer which could be used by the condominium association in the future to erect a sound barrier along Route 495, if desired. The Board has noted that such barriers appear to be increasingly erected along highways at residential neighborhoods, and the barriers are sometimes constructed at State or possibly municipal expense. The Board feels that some means should be available to the association to erect such a barrier in the future if it decides to do so, at no cost to the Town or State.*

The applicant is not willing to fund a sound barrier at this time. The applicant is willing to include language in the Homeowner's documents which state that the Condominium Association cannot request State or municipal assistance or funds to erect a sound barrier.

A complete set of this submittal package has been forwarded directly to Fay, Spofford and Thorndike.

If you have any questions or need further information, please contact me at 508-881-0601 x 17.

Sincerely,

Scott P. Miccile  
Project Manager

Cc: Stagecoach Heights LLC

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