

# SITEC

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May 11, 2007

Town of Scituate Zoning Board of Appeals  
Scituate Town Hall  
600 Chief Justice Cushing Highway  
Scituate, MA 02066

RE: Herring Brook Meadow Residential Community Chapter 40B Permit  
Application – Responses to Pennoni Associates comments, ZBA Peer  
Review Consultants

Dear Scituate ZBA:

This letter report is submitted on behalf of the applicant by SITEC Environmental, Inc. (SEI). It provides SEI responses to the Pennoni Associates, Inc. (Pennoni) March 9, 2007 project comment letter. Pennoni is one of two ZBA peer review consultants for this project. The second ZBA peer review consultant is Woodard & Curran (W&C). A second SEI letter report, which accompanies this letter report, responds to the W&C comments. The Pennoni comments focus on the site engineering issues while the W&C comments focus on the wetlands and environmental issues.

Some of the comments made by Pennoni have been addressed previously in SEI responses to peer review comments made by Horsley Witten Group (HWG), consultants for the Scituate Conservation Commission. SEI responses to HWG comments are set forth in the following three (3) documents which were submitted to the Commission:

- . March 29, 2007 report from Peter Rosen, Ph.D. addressing coastal flooding (LSCSF) issues (the SEI March 29 report),
- . April 2, 2007 report from Roderick Gaskell, AICP, PWS, RS addressing isolated flooding (ILSF) and isolated vegetated wetlands (IVW) issues (the SEI April 2 report), and
- . April 19, 2007 report from R. Gaskell and Raymond Quinn, PE, LSP addressing all remaining HWG comments (the SEI April 19 report).

Copies of each of these three attached reports accompany this response report. Whenever a SEI response has already been provided to a Pennoni comment in one of these three reports, this is so indicated below.

The level of detail requested by Pennoni in many of their review comments, in SEI's opinion, is beyond the scope of the preliminary engineering required under 40B. Accordingly, SEI has indicated this where deemed appropriate in our responses below by the following statement; "Beyond the scope of the preliminary engineering required under chapter 40B."

The SEI responses below track the numbered format of the March 9, 2007 Pennoni comment letter.

### **Pennoni SITE PLAN Comments**

#### **1.1.1**

Addressed by project traffic consultant in a separate response.

#### **1.1.2**

Addressed by project traffic consultant in a separate response.

#### **1.1.3**

Addressed by project traffic consultant in a separate response.

#### **1.1.4**

Addressed by project traffic consultant in a separate response.

#### **1.1.5**

Wheelchair ramps have been provided where all sidewalks terminate at curb lines. Refer to Site Plan designation "WHEELCHAIR RAMP (TYP.)". The ramps will be constructed in accordance with the Massachusetts Architectural Access Board (AAB) Regulations 521 CMR 21.00.

#### **1.1.6**

According to the AAB Regulation 521 CMR 23.2.1 as we interpret the code, the number of handicap accessible parking spaces is determined by the actual number of spaces on the lot, not the zoning requirement. For example, if there are one hundred (100) spaces on the lot, we must provide four (4) accessible parking spaces. Pennoni also seems to imply that the required number of accessible spaces is based on the number of units per building or the number of bedrooms per unit. This is not necessarily the case and we have not interpreted the regulations to state this. The accessible parking spaces will be located, at the time of construction, the shortest distances from the entrances. Lastly, it is our opinion that 521 CMR 10.00 would be the applicable provision for which to determine the handicap parking requirements which, in part, states that the number of accessible spaces "shall be provided in sufficient numbers to meet the needs of the dwelling unit occupants" (521 CMR 10.3).

#### **1.1.7**

Refer to response 1.1.6.

#### **1.1.8**

The designated handicap units will be indicated on the construction drawings that will be prepared at the time of construction. It should be noted that all units, according to 521 CMR 9.3, are Group 1 units and have features that can be modified without structural changes to meet the specific functional needs of an occupant with a

disability. If an occupant of an upper level becomes disabled, their unit can be transformed to a handicap accessible unit with little cost.

**1.1.9**

SEI acknowledges the sidewalk terminating at a parking space and we are of the opinion that the dumpster enclosure and sidewalk can be reconfigured to provide unobstructed pedestrian passage when preparing the construction documents.

**1.1.10**

SEI is of the opinion that a guardrail is not needed at this location.

**1.1.11**

SEI agrees that the retaining wall will need to be constructed with adequate reveal and / or a guardrail or fence, however, we are also of the opinion that this is an item that is properly addressed in the construction documents.

**1.1.12**

We understand that this item is directed to the Scituate Fire Chief and not the applicant.

**1.1.13**

Addressed by project traffic consultant in a separate response.

**1.1.14**

Addressed by project traffic consultant in a separate response.

**1.1.15**

We understand that a total of 127 bedrooms is proposed with the project. The applicant will be requesting a specific waiver regarding this issue. Refer to Item 3.1.

**1.1.16**

Addressed by project traffic consultant in a separate response.

**1.1.17**

Addressed by project traffic consultant in a separate response.

**Pennoni GRADING PLAN AND STORMWATER MANAGEMENT PLAN Comments**

**1.2.1**

The existing catch basins within the Chief Justice Cushing Highway right-of-way are within the jurisdiction of the Massachusetts Highway Department (MHD). The applicant will be required to apply for a State Curb Cut Permit and will follow the direction of MHD.

**1.2.2**

The applicant will be required to file a separate Notice of Intent Application (NOI) with the Environmental Protection Agency (EPA), Region 1 Office in Boston, MA. As part of the NOI, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared. Refer to Item 8 and Item 14 of the attached SEI April 19 report.

**1.2.3**

Refer to Item 8 and Item 14 of the attached SEI April 19 report.

**1.2.4**

Refer to the *Snow Management Plan* attachment section of the attached SEI April 19 report.

**1.2.5**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **1.2.6**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **1.2.7**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **1.2.8**

The mean high water elevation of 4.63 and the mean high high water elevation 5.07 have been drawn on the drawings included with the attached SEI April 19 report. These elevations are significantly lower than the lowest outlet invert elevation of 8.0 and a considerable distance from the outfalls, it is SEI's opinion that a tailwater analysis is not needed.

### **1.2.9**

The drainage system outfalls to an extensive, well established field / meadow whose topography is relatively flat with depressions. This topography will serve to filter the stormwater, remove sediment and dissipate the drainage, as well as provide groundwater recharge.

## **Pennoni UTILITY PLAN Comments**

### **1.3.1**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **1.3.2**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **1.3.3**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.4**

We understand that this item is directed to the Scituate Fire Chief and not the applicant.

**1.3.5**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.6**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.7**

The applicant will be required to file a Groundwater Discharge Permit Application with the Massachusetts Department of Environmental Protection (DEP) for the proposed wastewater treatment facility. Buoyancy calculations for all wastewater treatment components will be provided with this application. Once the application is filed with the DEP, it will be considered a public document and available for review at the DEP's Lakeville office.

**1.3.8**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.9**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.10**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.11**

Beyond the scope of preliminary engineering required under Chapter 40B.

#### **1.3.12**

The details of the proposed wastewater treatment facility and disposal field will be provided in the Groundwater Discharge Permit Application, which will be filed with DEP. Once the application is filed with the DEP, it will be considered a public document and available for review at the DEP's Lakeville office.

#### **1.3.13**

All components of the proposed wastewater treatment facility and disposal field that are located under paved areas will be required to meet AASHTO HS-20 loading requirements.

#### **1.3.14**

The details of the proposed wastewater treatment facility and disposal field will be provided in the Groundwater Discharge Permit Application, which will be filed with DEP. Once the application is filed with the DEP, it will be considered a public document made available for review at the DEP's Lakeville office.

#### **1.3.15**

This item will be addressed as part of the DEP's review of the Groundwater Discharge Permit Application, which the applicant is required to file.

#### **1.3.16**

Beyond the scope of preliminary engineering required under Chapter 40B.

#### **1.3.17**

The gradient of the incoming and outgoing gravity sewers lines at SMH-6 are at 2% slopes. It is SEI's opinion that with the minimally acute angle at SMH-6, the 2% slopes of the gravity lines will be more than adequate to maintain minimum scouring velocity, keeping the lines free of accumulating matter.

**1.3.18**

This item will be addressed as part of the DEP's review of the Groundwater Discharge Permit Application, which the applicant is required to file.

**1.3.19**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.20**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.21**

Beyond the scope of preliminary engineering required under Chapter 40B.

**1.3.22**

We understand that this item is directed to the Scituate Fire Chief and not the applicant.

**Pennoni LANDSCAPING PLAN Comments**

**1.4.1**

No trees have been proposed to be planted within the primary subsurface absorption system.

**1.4.2**

The plant species proposed in the Landscaping Plan are readily available in this region and they are proven plants in this region's climate. The plants should flourish in the micro-climate of the proposed project site. They have been selected because of their ability to survive without extraordinary care.

The landscape design does not propose an irrigation system and the plant selection considers this. A sprinkler system is not necessary if the plant stock is of good quality,

planted by professionals and maintained during the first growing season or until they become established. Irrigation systems are prone to disruption in many situations and can actually over water and kill plantings because of poor calibration or lack of maintenance.

#### **1.4.3**

The proposed “mowed path to trail system” is located entirely within the 200-foot riverfront resource area. It is the intent of the applicant to provide a connection between the residential community and the gravel pathway leading to the waterfront with as little disturbance to this resource area as possible.

#### **1.4.4**

In the applicant’s opinion, the referenced areas should remain as proposed.

#### **1.4.5**

The Landscaping Plan has been prepared by a licensed Landscape Architect with the intention of specifying plants that are native to the region. Also refer to Item 1.4.2.

#### **1.4.6**

A detailed children’s playground area plan will be provided as part of the final Open Space Plan yet to be negotiated with the Town. The applicant has offered to preserve a total of 5.83 acres of open space as part of the initial application subject to working out the specifics of the Plan with the Town. This amount of open space far exceeds that typically provided by Chapter 40B projects and provides more than ample area to construct a children’s playground. We continue to be available to work with the Conservation Commission, Town Planner and / or any other representatives of the Town to develop an Open Space Plan which can accommodate both passive and active recreational activities while enhancing the existing meadow habitat.

#### **1.4.7**

Refer to response 1.4.6.

## **Pennoni DETAILS Comments**

### **1.5.1**

CDS Technologies, Inc. has prepared design reports for the stormwater treatment units to be integrated into the stormwater management system and they have been included in the *Revised CDS Stormwater Treatment Unit Design Information* attachment section of the attached SEI April 19 report. Specific models of catch basins, frame and grates, manholes and covers will be included on construction drawings. This level of detail is beyond the scope of preliminary engineering required under Chapter 40B.

### **1.5.2**

Refer to Item 1.5.1.

### **1.5.3**

This information will be provided on the construction drawings. This level of detail is beyond the scope of preliminary engineering required under Chapter 40B.

### **1.5.4**

This information will be provided on the construction drawings. This level of detail is beyond the scope of preliminary engineering required under Chapter 40B.

## **Pennoni DRAINAGE REVIEW Comments**

### **2.1.1**

Page 8 of the Soil Survey of Plymouth County has been provided and is attached to this response letter.

### **2.1.2**

The F.I.R.M. has been provided and is attached to this response letter.

### **2.1.3**

A subcatchment delineation plan for individual catch basins has been attached to this response letter. Flow rates to these catch basins have been calculated for each storm event and have been provided in the *Revised Post Development Drainage Calculations* attachment section of the SEI April 19 report.

### **2.1.4**

Beyond the scope of preliminary engineering required under Chapter 40B.

### **2.1.5**

Pipe calculations have been provided in the *Storm Drain Capacity Calculations* attachment section of the SEI April 19 report. The storm drains have been sized for the 25-year storm event using the Rational Method.

### **2.1.6**

This information will be provided on the construction drawings. This level of detail is beyond the scope of preliminary engineering required under Chapter 40B.

### **2.2.1**

Revised drainage calculations have been provided in the attachment sections of the SEI April 19 report. The total subcatchment areas for existing and proposed conditions are consistent.

### **2.2.2**

Revised drainage calculations have been provided in the attachment sections of the SEI April 19 report. The flow path for the time of concentration for existing conditions Subcatchment 1 totals a distance of 445 feet.

### **2.2.3**

Revised drainage calculations have been provided in the attachment sections of the SEI April 19 report. Proposed Subcatchment 4 totals an approximate area of

1,541 square feet, not acres.

#### **2.2.4**

Proposed Subcatchment 4 is the small portion of the driveway that flows to Chief Justice Cushing Highway and is not tributary to the resource areas on the site. In SEI's opinion, the direct entry  $T_c$  noted for this subcatchment area is appropriate.

#### **2.2.5**

The existing catch basins within the Chief Justice Cushing Highway right-of-way are within the jurisdiction of the Massachusetts Highway Department (MHD). The applicant will be required to apply for a State Curb Cut Permit and will follow the direction of MHD.

#### **2.2.6**

HydroCAD software was used to calculate peak runoff rates to each resource area on the project site, which uses the TR-55 method. By not dividing the development area into multiple sub-watersheds, the analysis is more conservative. The catch basin tributary areas have been delineated so that the storm drains could be sized adequately. A subcatchment delineation plan for individual catch basins has been attached to this response letter.

#### **2.2.7**

Drainage calculations have been provided in the attachment sections of the SEI April 19 report. They have been revised to treat the ILSF as impervious and given a curve number value of 98.

#### **2.3.1**

A revised Operation and Maintenance Plan is included in the *Revised Operation and Maintenance Plan* attachment section of the SEI April 19 report. SEI has reviewed this document and maintains that it is a comprehensive and easily understood document.

### **2.3.2**

It is SEI's opinion and experience, that three to one (3:1) slopes can be stabilized and maintained without specific erosion controls. Refer to the *Revised Operation and Maintenance Plan* attachment section of the SEI April 19 report.

### **2.3.3**

SEI acknowledges that where the project will disturb more than 1-acre of land, the applicant will be required to comply with National Pollutant Discharge Elimination System (NPDES) regulations and a separate Notice of Intent (NOI) will need to be filed with the Environmental Protection Agency (EPA) Region 1 Office in Boston prior to construction. As part of the NOI application, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared. A SWPPP typically includes information on erosion control, temporary / permanent stabilization, stockpile control, project schedule, and inspection report requirements.

### **2.3.4**

Refer to the *Revised Operation and Maintenance Plan* attachment section of the SEI April 19 report. The Plan requires sweeping of the pavement with the use of a vacuum assisted sweeper a minimum of four times annually.

## **Pennoni LIST OF EXCEPTIONS TO THE ZONING BYLAWS AND OTHER LOCAL LAND USE REQUIREMENTS Comments**

### **3.1**

It is SEI's understanding that a list of specific waivers has been submitted and that the additional waivers recommended by Pennoni will be added.

## **Pennoni TRAFFIC IMPACT STUDY REVIEW Comments**

### **4.1.1**

Addressed by project traffic consultant in a separate response.

**4.1.2**

Addressed by project traffic consultant in a separate response.

**4.1.3**

Addressed by project traffic consultant in a separate response.

**4.1.4**

Addressed by project traffic consultant in a separate response.

**Pennoni OTHER COMMENTS Comments**

**5.1.1**

The plans in the site plan package that were submitted with the Comprehensive Permit Application were stamped and signed by a Registered Professional Engineer.

**5.1.2**

The Chief Justice Cushing Highway right-of-way is within the jurisdiction of the Massachusetts Highway Department (MHD). The applicant will be required to apply for a State Curb Cut Permit and will follow the direction of MHD

**5.1.3**

Beyond the scope of preliminary engineering required under Chapter 40B.

For SITEC Environmental, Inc.



Roderick Gaskell, AICP, PWS, RS  
Managing Partner



Raymond Quinn, PE, LSP  
Director of Engineering Services