

DRI Application
for
Douglas R. Hoehn
&
Schofield, Barbini & Hoehn Inc.

***DeBettencourt Way & State Road,
Vineyard Haven, Mass.
March 26, 2008***

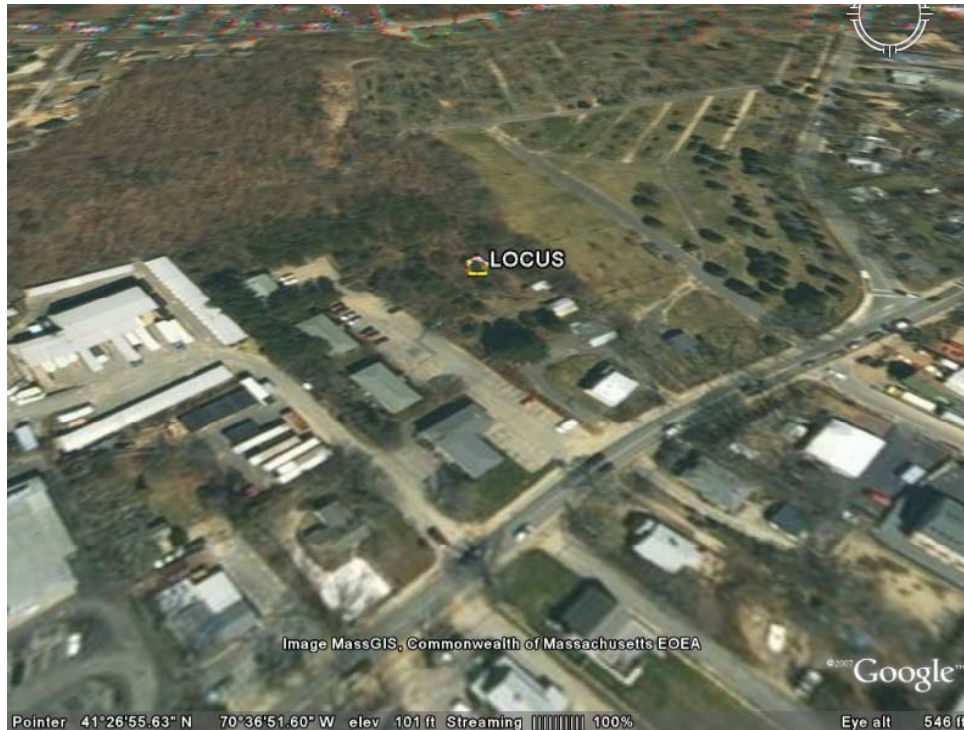


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Introduction

Schofield, Barbini & Hoehn Inc is a land surveying and engineering firm located in Vineyard Haven, Mass., which currently employs 10 people year round. Along with it's predecessor firm of Schofield Brothers Inc., Schofield, Barbini & Hoehn Inc. has been in business on Martha's Vineyard since 1965. Schofield Brothers Inc. had numerous branch offices throughout New England over the years, and originally came to the Vineyard in 1965 to work with Hollis Smith on the development of the Mink Meadows residential subdivision. Doug Hoehn began working in the Vineyard office in 1978. On January 1, 1991, Doug Hoehn and Richard Barbini purchased the Vineyard branch and gave the company its current name. On January 1, 2008, Doug Hoehn purchased the ownership interest of Richard Barbini and is now the sole owner of Schofield, Barbini & Hoehn Inc.

The company is located on State Road in Vineyard Haven (technically at 12 Surveyor's Lane) in office space it has rented for 32 years. In October 2007, Doug Hoehn signed an agreement to purchase 1.11 acres of commercial land from Raymond DeBettencourt, Sr., the abutter to the northeast. Hoehn proposes to construct an office building with a footprint size of 2,688 square feet. The main level will be occupied by Schofield, Barbini & Hoehn Inc. The lower level will contain 2 office spaces for rental to other, compatible tenants, a one bedroom staff apartment, and storage space for Schofield, Barbini & Hoehn Inc. The site is a sloping site and the building is designed to achieve handicap access for the lower level and main level with a minimal amount of alteration to the topography.

As part of the application, Hoehn proposes to re-divide the 2 existing lots into 3 lots. This re-division puts each of the 3 building sites on the property on a separate lot and allows for a small commercial building on each of the 3 lots. This layout, along with architectural and development review being retained by Hoehn, is intended to insure that the remainder of the property will be developed with compatible uses, designs and layouts. Creating a third lot actually restricts the buildable area on the property by imposing additional setback requirements that would not exist if the property were to be developed as one or two lots. A preliminary master plan has been created to establish parameters and guidelines for building siting, parking layout, traffic flows and wastewater flows for the entire site. The remaining 2 lots could be developed as one, but the parameters and guidelines established in this process would still apply.

Project Description

2.

▪ **Property Address and Owner**

- o Current owner is Raymond DeBettencourt Sr.
- o Contracted Purchaser is Douglas R. Hoehn
- o Land is shown as lots 3, 4 and "Way (private)" on a "Plan of Land in Tisbury, Mass., Surveyed for Raymond J. DeBettencourt et. als., April 17, 1972" recorded at the Dukes County Registry of Deeds in Book 278 Page 64
- o Land is also shown as Assessors Parcels 23 A (19.3, 19.4 & 19.5)
- o Total land area = 48,151 s.f. (1.11 acres)
- o Surrounding uses are 2 residences owner by Mr. DeBettencourt to the south, the town cemetery on the east and north, and a complex of office and commercial uses to the west

▪ **Proposal**

Lot A

- o 2,688 s.f. footprint
- o Main level
 - Surveying/engineering office, Schofield, Barbini & Hoehn Inc.
- o Lower level
 - 2 offices spaces
 - one bedroom staff apartment
 - storage space for Schofield, Barbini & Hoehn Inc.

Division

- o Re-divide the property from 2 lots into 3 lots

Master Plan

- o Establish parameters and guidelines for siting, layout, traffic flows, wastewater flows, etc. for lots B & C

▪ **Zoning District**

- o B2 Zoning District
- o 0 s.f. minimum lot size for commercial uses, 10,000 s.f. minimum lot size per residential dwelling unit
- o 0 ft. road frontage requirement
- o Structure setbacks = 30 ft. front, 15 ft. side, 15 ft. rear
- The property is not located in any zoning overlay districts or special Board of Health districts, and there are no wetland resource areas at or near the site.
- The property is not located in any estimated or priority habitat areas as listed in the atlas of the Natural Heritage and Endangered Species Program
- A Phase 1 Environmental Site Assessment has been performed by Saunders Associates and this assessment "has not revealed any conditions indicative of releases or threatened releases of oil and/or hazardous materials in connection with this property".

MVC Energy Policy

The following steps are being developed as part of the proposal:

- Applicant has consulted with Kate Warner of Under the Sun as an energy consultant and will continue to do so during the design and construction of the project
- Applicant is working with Matthew Viaggio, insulation consultant and contractor, to design and install a system of cellulose and high density foam insulation and venting.
- The architects for the applicant, Sullivan & O'Connor, have been asked to incorporate energy efficient windows and doors that exceed the requirements in the Mass. Building Code and utilize techniques outlined in the EnergyStar building program.
- Energy efficient lighting, such as compact fluorescents, will be used wherever possible.
- Tankless (on-demand) hot water units are proposed.
- Options for a high efficiency heating and air conditioning system are being discussed with the architects and consultants
- Thermostats will be put on timers to save heating and cooling costs when the building is unoccupied
- The building has been oriented to take advantage of southern exposure and the applicant is proposing an 8 panel Grid-Tied Solar Electric System, if it is determined that it is economically feasible to do so.
- The applicant will continue to work with the architects, consultants and the MVC to create a design that maximizes the energy efficiency of the building and the site.

Traffic Impact

4.

- Sight Lines
 - There are excellent sight lines in each direction from DeBettencourt Way along State Road.
 - Sightlines are over 300 feet to the northeast and over 1000 feet to the southwest.

- Trip Generation
 - According to ITE trip generation numbers, as presented to Doug Hoehn by Jim Miller, former MVC staff member, the trip generation numbers for office and light industrial uses are 11 one-way trips per 1,000 square feet of facility per day (an average of 1.4 one-way trips per 1000 square feet per hour).
 - The complex of buildings where Schofield, Barbini & Hoehn Inc. is currently located consists of 4 buildings that share a common access from State Road. There is 12,800 square feet of year round commercial space in the complex, which is almost entirely office space. Also included in that space is a dentist's office and hairdresser. Uses in this complex are similar to the potential uses of the lots subject to this application.
 - The applicant had vehicle trips in and out of the complex counted on 3 separate days in December 2007 and January 2008, at 2 hour intervals during the 3 peak traffic times of the day – 7:30 am to 9:30 am, 11:30 am to 1:30 pm, and 3:30 pm to 5:30 pm. The average per hour trip generation of all of the peak traffic hours was 18 one-way trips per hour (an average of one trip per 3.3 minutes during a peak hour for the entire complex). These numbers appear to be consistent with the ITE numbers since the trip generation is considerably less during the non-peak traffic hours.
 - The anticipated trip generation and traffic impact created by the development of lots A, B & C will be minimal and similar to the existing commercial complex served by Surveyor's Lane.

- Alternate Access
 - The applicant has prepared alternate access plans that combine the entrances of DeBettencourt Way and Surveyor's Lane into a single, two-way entrance. Discussions with the other users of DeBettencourt Way and Surveyor's Lane are ongoing.

MVC Affordable Housing Policy

5.

- The Affordable Housing contribution for lot A, based on the Martha's Vineyard Commission Affordable Housing Policy, is:
For a non-residential building of between 2,000 s.f. and 3,999 s.f.;
\$1,000 for the first 2,000 square feet = \$1,000.00
\$0.50 for each each additional square feet = \$800.00
Total contribution according to MVC policy = \$1,800.00

- To satisfy the policy recommendations listed above, **the applicant offers to start an annual scholarship at the Martha's Vineyard Regional High School of \$2,000.00 for a graduating senior entering a college degree program in Surveying or Engineering.** The scholarship will be paid in 2 segments - \$1,000.00 before the freshman year, and \$1,000.00 before the sophomore year. The first year, the donation will be \$1,000.00, and the donation will be \$2,000.00 per year after that.
The applicant proposes that the first scholarship satisfies the affordable housing contribution for lot A, and that the next two scholarships satisfy the affordable housing contributions for lots B & C.
The applicant hopes to continue this scholarship for many years after the initial three years, as long as he is financially able to do so.

- The applicant proposes a one bedroom staff apartment in the lower level, subject to economic feasibility and water quality policy issues raised above. We have had a need for staff housing quite often in the past. When the apartment is not used for staff housing, the applicant may rent the apartment to another person or couple.

- The property is located at approximately the 100 foot contour. Groundwater depth is approximately 90 feet. According to the Soil Conservation Service atlas, soils in the area of this site are Carver Loamy Sand, which are “poorly suited to cultivated crops”, “poorly suited to woodland productivity”, and have “few limitations for use as a site for buildings with or without basements”. Soil testing by Schofield, Barbini & Hoehn Inc. showed well drained soils which are suitable for the design and installation of on-site septic systems.
- The property is subject to Title V regulations and Tisbury Board of Health regulations, and there are no special town or state overlay regulations that affect this property. For non-MVC projects, the permitted wastewater flow is governed by Title V and is limited only by soil conditions and space on the property.
- **MVC Tashmoo Watershed**
 - o MVC Tashmoo Nitrogen load limit = 5.6 kg / acre / year
 - o 1.11 acres x 5.6 = **6.2 kg / year** total nitrogen load limit for this property as per MVC Water Quality Policy
- **Nitrogen Loading from Lot A and DeBettencourt Way**

Nitrogen Load from Lot A Building (with advanced treatment)

Interior office space square footage = 3,600 sf +/-

Use 30 gal per 1,000 sf per day for office use (3 year average water meter readings for existing office complex housing Schofield, Barbini & Hoehn Inc.). This works out the same as using 45 gall per 1,000 sf per day (60% of Title V as per MVC policy) for 250 days (days per year that office is open).

$3,600 \text{ sf} / 1,000 = 3.6 \times 30 \text{ gall per day per } 1,000 \text{ sf} = 108 \text{ gall per day}$
 $108 \times 365 \text{ days} = 39,420 \text{ gall per year} \times 3.79 \text{ lit per gall} = 149,402 \text{ lit per yr}$
 $149,402 \text{ lit} \times 19 \text{ mg per lit} = 2,838,638 \text{ mg nitrogen}$
 $2,838,638 \text{ mg} / 1,000,000 = \mathbf{2.8 \text{ kg nitrogen per year}}$ from office use

One bedroom apartment = **1.1 kg nitrogen per year** (based on MVC policy, page 12, 4.4 kg nitrogen for a 4 bedroom house)

Nitrogen load from Lot A Building = 3.9 kg nitrogen per year

Nitrogen Loading from Roof, Parking and New Road on Lot A

12,000 sf +/- of roof, parking and new road

Stormwater runoff directed to vegetated bioretention areas

Annual rain = 46.9 inches x 90% (MVC Policy, pg 15) = 42.2 inches rain

42.2 inches / 12 = 3.5 feet x 12,000 sf = 42,000 cu.ft. rain

42,000 cu.ft. x 7.48 gall per cu.ft. = 314,160 gall per year

314,160 gall per year x 3.79 lit per gall = 1,190,666 lit

1,190,666 lit x 0.75 mg per lit (MVC pg 15) = 892,999 mg nitrogen per year

892,999 / 1,000,000 = **0.9 kg nitrogen per year**

Total Nitrogen Load from Lot A Building, Roof, Parking and DeBettencourt Way = 3.9 + 0.9 = 4.8 kg per year

- **Nitrogen Loading from Lots B & C**

Nitrogen Loading from Lots B & C Buildings (with advanced treatment)

Interior office square footage = 6,000 sf +/- (3,000 sf per lot)

6,000 sf / 1,000 = 6 x 30 gall per 1,000 sf = 180 gall per day

180 x 365 = 65,700 gall per year x 3.79 lit per gall = 249,003 lit

249,003 x 19 mg per liter = 4,731,057 mg nitrogen per year

4,731,057 / 1,000,000 = **4.7 kg nitrogen per year** from office use

2 – one bedroom apartments = **2.2 kg nitrogen per year**

Nitrogen load from Lots B & C Buildings = 6.9 kg per year

Nitrogen Loading from Roofs, Parking & Roads on Lots B & C

13,000 sf +/- of roof, parking and road

Annual rain = 46.9 inches x 90% = 42.2 inches rain

42.2 inches rain / 12 = 3.5 feet x 13,000 sf = 45,500 cu.ft. rain

45,500 cu.ft. x 7.48 gall per cu.ft = 340,340 gall per year

340,340 gall per year x 3.79 lit per gall = 1,289,889 lit

1,289,889 lit x 0.75 mg per lit = 967,417 mg nitrogen per year

967,417 / 1,000,000 = **1.0 kg nitrogen per year**

Total Nitrogen Load from Lots B & C Buildings, Roofs, Parking & Roads = 6.9 + 1.0 = 7.9 kg per year

Nitrogen Load from Buildings, Roofs, Parking & Roads on Lots A, B & C = 4.8 + 7.9 = 12.7 kg per year (advanced treatment)

Nitrogen Load from Buildings, Roofs, Parking & Roads on Lots A, B & C (without advanced treatment) = **21.8 kg per year**
 $3.9 + 6.9 \times 1.84$ (35 mg / 19 mg) + 1.9 = 21.8

▪ **Mitigation**

Based on Title V and Tisbury Board of Health regulations, the wastewater flow from the proposed building on lot A and potential buildings on lots B & C would roughly equal that of a 3 bedroom dwelling on each lot.

The applicant understands the importance of protection of the water quality of the Vineyard's coastal ponds. However, the applicant raises the following concerns and questions regarding the MVC Water Quality Policy, as it relates to this application:

- The policy applies only to MVC projects. Single family dwellings in the same watershed, even those much closer to Tashmoor and much closer to groundwater, are not subject to the policy and can create nitrogen loads through wastewater flows, fertilizers, roof and parking runoff, that far exceed the nitrogen loads of the MVC policy. The property that is the subject of this DRI consists of two existing lots, each of which could have, as a matter of right, a 1,999 square foot commercial building, and two dwelling units – assuming 4 bedrooms per dwelling unit and the roof, parking and driveway runoff, this would generate 34.4 kg of nitrogen per year without review by the MVC, which far exceeds MVC nitrogen loading limits and far exceeds what is proposed in this application.
- Existing uses in the B2 district, even though they far exceed the nitrogen loading limits, are allowed to expand as long as they have no net nitrogen increase. In other words, they can expand square footage and use to the extent that they can provide advanced treatment. Vacant lots, of which there are only a handful remaining in B2, do not have this protection.
- The water quality policy imposes very restrictive nitrogen loading limits and very restrictive land use limitations. In the past, these types of regulations that protect sensitive areas have been created as Districts of Critical Planning Concern, with review and approval by the towns affected. The Water Quality Policy is a useful tool if used as a recommendation and guideline for development, and to raise awareness of applicants about the importance of protection of water quality of Vineyard coastal ponds.

Mitigation measures proposed by the applicant:

- 1) Applicant offers to **tie all 3 lots into town sewer** if town sewer becomes reasonably available in the B2 zoning district / State Road corridor
- 2) Applicant offers to **remove one or more of the apartments** from the proposal to reduce the nitrogen load
- 3) Applicant offers to investigate the feasibility of a **rainwater harvesting system** to recycle roof stormwater runoff for use for irrigation and non-potable water uses, and to implement that system if it is physically and economically feasible.
- 4) Applicant offers to **create bioretention areas**, directing stormwater runoff to naturally vegetated areas and areas planted with mulch and native vegetation wherever possible.

Alternate possible mitigation measures:

- 1) Make **a reasonable monetary contribution** to a study that contributes to improving the water quality of Tashmoo Pond or to a study of the feasibility of a town sewer system in the B2 district
- 2) **Tie DeBettencourt house lots** (6 bedrooms) **into town sewer**, if town sewer becomes reasonably available in the B2 district
- 3) Add **advanced treatment** to septic systems on lots A, B & C – estimated cost for installation and testing = \$20,000 per lot
- 4) **Dentrify a property in the same watershed**
 - a) Based on MVC Policy, a 4 bedroom house with advanced treatment = 4.4 kg nitrogen per year. Therefore, a 6 bedroom house with treatment = 6.6 kg nitrogen per year. Without advanced treatment, the 6 bedroom house generates 12.2 kg nitrogen per year (35 mg per liter without treatment / 19 mg per liter with treatment = $1.84 \times 6.6 = 12.2$ kg). Therefore, the reduction in kg nitrogen per year by providing advanced treatment for a 6 bedroom dwelling = $12.2 - 6.6 = 5.6$ kg nitrogen per year.
 - b) A six bedroom dwelling located at 100 Stonegate Lane, Vineyard Haven (estimated cost for installation and testing = \$20,000 to \$30,000 – retrofitting an existing use is more expensive than new construction)
 - c) One septic system for the two DeBettencourt residential dwellings, which total six bedrooms, at such time as the septic systems for those lots require upgrading (see estimated cost in b)