

*Concord Square Planning & Development, Inc.*

**Memorandum**

To: Petersham Town Residents  
Henry Woolsey, Vice Chair Petersham Selectboard, Town of Petersham  
Nichewaug Inn & Academy Property Consulting Team  
From: Ted Carman & Yuqi Wang from Concord Square Planning & Development  
Subject: Analysis for the Nichewaug Inn & Academy Property Public Information Meeting #2  
on May 23, 2016  
Date: May 23, 2016

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**Summary**

This memo provides an analysis of the issues and comments from our first public meeting on April 13, the extensive interviews and meetings held in Petersham on May 6, and e-mails and phone calls from residents. It sets forth a framework for considering the various choices and options for reusing the Nichewaug Inn property and the site (the “Property”).

This memo will be the basis of the presentation to be made at the Public Information Meeting #2 (the “Meeting”) for the Nichewaug Inn & Academy Property consulting project which is planned to be held on Monday, May 23, 2016, at 7 pm at the Petersham Town Hall, lower level.

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## Topics

### 1. Potential Uses of the Sites and Preliminary Assessments

#### 1.1. Housing

##### 1.1.1. Single Family Homes

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

In the last several years, the Planning Board has considered what would make sense for the site starting with a blank slate. They evaluated the existing patterns of development and home construction in the Village Center. The finding from this evaluation was that the average lot size was about 25,000 square feet, with frontage of 90 feet. Using this metric for the layout of the Nichewaug site results in the layout of 4 single family building lots fronting on Common Street.

*The consulting team's preliminary assessments:*

This is an option to be seriously considered. The market analysis should identify the potential for sale of these lots, both in terms of sales velocity (how long it would take to sell four lots), and the potential sale price of the lots.

Part of the analysis should be a suggested solution to the water and septic needs of these four homes. It is likely to be the case, according to Doug MacLeay, that each lot could be served by its own well and its own septic field. If this were to be the case, the Library could be granted an easement for a portion of the site to the west of the Library for a septic field, and it might be able to put a new well in front of the Library, between it and Common Street.

In addition, Concord Square and Albert Righter and Tittmann will offer an approach to design standards to govern the appearance of the new homes to be built. These design standards would be, in some fashion, built into the deeds for the sale of the lots and / or the new zoning that will allow such uses. There would also be Historic District Commission review of the plans for the new houses.

A further option would be for allowing two to four additional homes to be built along the South side of the access driveway into the site.

##### 1.1.2. Rental Housing

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

Each of our presentations to the citizens and officials of Petersham has started with a discussion of rental housing and the prospect of using State and Federal Historic Tax

Credits. The tax credits can only be used with rental housing, they are not available for use with homeownership, such as would be the case with condominiums.

*The consulting team's preliminary assessments:*

Concord Square and Joanne Shelton from Bonz & Company have done market studies on rental housing in recent years in Greenfield, Fitchburg, Northampton, Worcester, and Southbridge. These communities surround Petersham to the North, South, East and West. As a result, we have a very good idea of the rent levels in these communities.

Petersham is isolated from the adjacent population centers, has a population of 1,234 (2010) and despite the village center being charming, exquisite, and in many ways unchanged over the last 100 years, it does not have a commercial town center as such centers are typically understood, with a collection of shops and services.

As a result, without doing additional Market Studies, we can conclude with a high degree of certainty that market rate rents in Petersham will be lower than the rents in Greenfield, Northampton, and Worcester.

It is also clear that regardless of rent levels, the depth of demand in Petersham is shallow. Because of the limited population, the distance from major highways, the distance from public transportation and the distance from jobs, demand will be shallow. Petersham is a case of "if you build it, they probably will NOT come". Nice apartments could be built and simply sit empty regardless of how low the rent was set.

Concord Square has prepared financial pro formas for actual rental housing projects in Greenfield, Northampton, Springfield, Worcester and Fitchburg that have been used for Tax Credit Applications for State and Federal Historic and New Market Tax Credits. This work has made it abundantly clear that rental housing proposals involving major renovation work are not feasible using just the State and Federal Historic Tax credits unless rents are as high as in the best locations in Northampton – on the order of \$1,400 for one bedroom units and \$1,800 per unit for two bedroom units.

Since it is clear that rents at these levels **cannot** be achieved in Petersham, regardless of the quality of the housing provided, we conclude that market rate rental housing is not a viable option in Petersham.

Rental Housing could be feasible provided there were sufficient subsidies available, such as from the Low Income Housing Tax Credit Program. However, such subsidies are in short supply, and are unlikely to be available in Petersham (see below for more discussion on this issue).

Our conclusion is that rental housing as a form of ownership is not a feasible option, and our analytical efforts should therefore be concentrated on the ownership of single family homes or a condominium form of ownership.

### 1.1.3.Senior Housing

(Market rate or affordable, targets senior people in town and/or from the region)

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

Many seniors in Petersham are looking to downsize, but there are few if any workable alternatives in town. In the past several years, there have been 3-4 seniors (senior households) who moved to Athol because they could not afford to stay in their previous houses in Petersham. A survey conducted by the Petersham Committee found that many seniors in town find it inconvenient to live in and maintain their current big houses, and are willing and would like to downsize their living accommodations and remain in Petersham.

It was suggested that the new senior housing should give priority to people in town. It was also suggested that the new housing should be affordable, otherwise some town residents won't be able to afford it.

*The consulting team's preliminary assessments:*

It is a clear priority to take care of the needs of the town residents. In addition, local needs generate the true local demand. Demographic data shows a higher percentage of seniors in Petersham compared to State-wide averages. Many of the elderly are looking to downsize from large houses that are expensive to heat and maintain. Some could benefit from community living which might be able to provide options such as meals, health care, community activities, etc. Accordingly, housing for seniors is clearly a viable option, and potentially the most significant local demand from a real estate point of view. We expect to look carefully at this option and to develop a financial analysis, market analysis, and site plans to explore several scenarios.

In terms of affordability, the development of affordable housing requires significant subsidies from the Low Income Housing Tax Credit program, the HUD Section 202 program, and / or other sources of funds. In general, obtaining the allocation of the subsidy source is highly competitive, and typically requires, at best, a long waiting period.

In addition, Petersham is disadvantaged when competing for such subsidies because of its low density, low population, and no downtown commercial center with a concentration of services and shops. Therefore, it is not likely to score highly in requests for scarce subsidy resources when competing with places like downtown Athol or downtown Orange – which in themselves are not large communities. Therefore, we believe it would be very difficult and time consuming (a multiple year effort), if not impossible, for this project to receive affordable housing subsidies sufficient to provide the financing for the Nichewaug.

Thus, it is not likely to be feasible to develop the project as an “affordable” project. Most of the units will need to be market rate. However, creative thinking may result in approaches that could provide for affordability for some of the units.

For instance, if the overall project was targeted to but not exclusively for the elderly it would be possible for an individual or a group of individuals to purchase multiple units and

then lease them to residents at affordable rents. We understand that this option has been discussed in the Community and bears further exploration.

The goal in our planning will be to give priority to Petersham residents. In fact, the goal will be to get potential purchasers to sign up early, ensuring priority. We are hoping to identify 12-15 people in town who are willing to sign up for the new housing by the end of the summer. To the extent there are units not committed, however, we would recommend that they would be marketed to people outside of Petersham and to all age levels.

#### 1.1.4. Seasonal/vacation housing or other alternatives to single family dwelling in town

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

There is a potential market demand for week-end / vacation housing. This type of housing echoes the Town's history when many were drawn to the open rural landscape, country air, and tranquility of the area. Such market demand appears to have, in fact, inspired the construction of the Nichewaug Inn in 1898.

*The consulting team's preliminary assessments:*

We think senior housing is a more pressing need for existing town residents. However, the depth of demand of senior housing may not be sufficient to acquire all the units that could be fit into renovated parts of the Inn and Academy Building. Accordingly, the market study will examine the potential from vacation / second homes as potential buyers of condominium units or single family homes.

#### 1.1.5. Other types of ownership (co-housing, rent-to-own, etc.)

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

The following ownership models have been proposed:

- Co-housing characteristics combined with condo structure: all the units will be condo, and co-housing is optional.
- "Rent to own"
- "Village to village" (membership-based senior living)

*The consulting team's preliminary assessments:*

Ted Carman spent over a year working with a co-housing group during the nineties, and attended many organizational and planning meetings. He prepared detailed financial analyses for potential co-housing communities. This experience led to the conclusion that it is difficult for a group of people to start a co-housing project from scratch. However, co-housing has worked in situations where a developer builds the project and then opens it up to and requires buyers to accept a co-housing form of ownership and operations.

Membership-based living also needs a developer as a lead. Cohousing would therefore require a developer committed to such a concept.

However, we believe that elements of co-housing living could be incorporated into a potential renovation of the main part of the Nichewaug Inn, with more extensive kitchen and dining facilities built into the Music Room renovation. This would allow those residents who chose to have jointly prepared meals to do so, while not limiting sales of the condominiums to buyers who want a co-housing life-style.

“Rent to own” has difficulty with the financial structure, because a “rent-own” requires the unit be sold at the then market price when the sale takes place. It is impossible to know for certain what the eventual sale price will be, which is a problem for both the developer / and the renter / prospective buyer. It is therefore hard to finance and obtain up-front commitments. Furthermore, rent to own requires that the economics of the rental transaction provide for a feasible project, which, as noted above, does not appear to be the case in Petersham.

## 1.2. Commercial & Office (including mixed-use)

### 1.2.1. Municipal and other public office use

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

It was suggested that the Town needs better, additional office space. The existing town office doesn't meet with handicapped accessible standards. Another suggestion is to provide office space for local groups such as “Aging in Place”.

*The consulting team's preliminary assessments:*

It appears that the Center School building might have empty space that could potentially accommodate a Town need, if any, for additional office space. The school is designed for 175 students and currently has about 110 students. A new school is being completed in Athol which may draw “Choice” students from Petersham's school, leaving more space that could potentially be used for Town administrative office.

Space at the Nichewaug Inn or in the Academy Building would be expensive – it would presumably be sold to the Town as a Condominium form of ownership, and is likely to cost as much or more than the proceeds that might be realized from the sale of the current Town Office Building. It would therefore not likely be a net plus for the Town's financial situation.

### 1.2.2. Private commercial uses

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

A number of commercial uses have been proposed, including small inn, restaurant, retail store, business space or studio space for providing business support services to town residents who are running home businesses, and small businesses which provide services such as hair dresser, cleaning, and health care to both seniors and the non-seniors. It is also suggested that the existing buildings could be renovated into a multi-use, perhaps multi-phase project that incorporates these commercial uses, town office, and several different types of housing.

*The consulting team's preliminary assessments:*

It would be difficult to finance a mixed use development in this location and at this scale. As is the case for rental apartments, the ability and willingness of commercial tenants to pay a rent high enough to support the cost of the acquisition and renovation of commercial space is suspect. Given the cost of construction, commercial rents would have to be in excess of \$20 per square foot per year in order for the transactions to be financially feasible.

Because of the limited population in Petersham and the relative isolation from nearby population centers it is unlikely that commercial tenants could be attracted that could pay rent at \$20 per s.f. per year and be viable businesses.

The residents in the renovated buildings will not support even a small store. Typically, even 200-300 housing units are not sufficient to support a store.

### 1.3. Open Space, Recreational, and Non-commercial Uses

*Information from the 1st Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

A number of non-commercial uses have been proposed, including new development and the restoration of previous uses on the site:

- Renovate the Inn building into a Senior Center which can be used as a town gathering space;
- Restore the Community Garden on the site and open it to public use;
- Restore the Tennis Court on the site and open it to public use;
- Keep a portion of the site as open space which will continue to be owned by the Town;
- Tear down the buildings, build a cemetery in the back part of the site, modeling on the Mt Auburn Cemetery in Cambridge, and use the front part of the site as recreational space.

*The consulting team's preliminary assessments:*

A Senior Center as a town gathering space is unlikely to be able to generate revenues to pay for the initial construction and acquisition cost, or for its own maintenance. Such a use would therefore increase the financial burden on the Town.



In one of our preliminary scenarios, the Chapel (the Music Room) will be converted to a common room for the use of the condo community. The Condo Association will pay for its operation and maintenance. Opening this building to the broader Petersham community would have implications for the residents that need to be assessed.

In all the scenarios, it appears feasible for the Community Garden to be retained.

Asking the developer to refurbish the Tennis Court for public use or keeping a portion of the site as Town's owned open space may make the project less attractive to potential condominium buyers, and therefore also to developers, because it could depress sale prices.

Cemeteries are expensive to design and lay-out, and expensive to maintain, particularly if they have the overall quality of the Mt. Auburn Cemetery. The initial financial costs can be significant.

## 2. Important Issues

### 2.1. Water Supply and Septic

#### 2.1.1. Strategies to get DEP approval for water/septic systems

*Information from the 1st Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

The types of water/septic system that meets with DEP's standards are dependent on the scale of demolition, the type and amount of new development, and the condition of the existing well. In all cases the well will be considered a Public Water Supply ("PWS"), except in the case of total demolition and the re-use as single family homes. It has been strongly recommended that we consider the water supply simultaneously with the analysis of various development plans because the options for a well are severely constrained, and the solution will impact the overall development. It is essential to talk with DEP early in the process, and to ensure that there is a viable solution for the PWS and Septic that goes with each development scenario.

Ideally, the DEP will not identify the development as a "new project," which would trigger more strict requirements.

It is also suggested that we make an assessment on the upper limit of the number of bedrooms based on septic system capacity, and then look at various ways to configure the same amount of bedrooms.

Many people also suggested to explore new technologies and alternative methods for waste water disposal, such as gray water reuse, artificial wetland, a greenhouse system, Silo system, sand filter, etc. Doug MacLeay is fully familiar with new technologies and with current DEP thinking.

*The consulting team's preliminary assessments:*

Our initial assessment is that the upper limit for density would be 30-40 bedrooms.

Doug MacLeay will discuss various scenarios with DEP.

Many of the new technologies are not widely used yet, and require special maintenance. However, within the consulting budget we will explore alternative solutions.

### 2.1.2. Resolving the Library's water/septic needs

*Information from the 1st Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

The Library is open 19 hours/week, with the peak number of visitors occurring on Tuesdays. Currently the well for the library is in the dirt-floor basement, and the water is not potable. There is one bathroom on the 2nd floor which requires an improved septic system. There are plans to build a bathroom (ADA standard) on the first floor.

In the conceivable future, the library is unlikely to have other functions or have a change of use that would trigger a larger water/septic needs.

*The consulting team's preliminary assessments:*

In most cases, there should not be a problem in providing water and septic for the Library from a new Inn/Academy building renovation project. The goal should be to have the developer pay for the initial cost, which should be minimal compared with the total project cost. Then the Library would pay yearly maintenance fee to a condo association. The fee would probably be based on the usage of water/septic, proportionally allocated between the Library and the condo component.

However, in the total-demo + single-family house lots scenario, it may be more difficult to require the builder to provide such infrastructure. However, as suggested above, in such a case it might be possible to provide an easement area on the Nichewaug site for the location of a new septic system for the Library, and the Library could investigate putting a new well into the area in front of the building.

### 2.2. Scale, Density and the Character of Town Center (Single-family vs. Townhouse vs. Condo)

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

Currently Petersham has very few condominiums or townhouses. Most residents believe that Petersham is defined by its country scenery, open space, and the lack of more densely developed housing, such as condominiums. This character is what attracted many families to move to the community in the first place.

There is major, deeply-held concern that higher density housing (or other uses) would not have enough open space, and would degrade the unique quality of the town's village center.

There are different options regarding the proposed densities. Some people think that 30-40 bedrooms (as potentially supportable by onsite water/septic system) is too dense and will add too much activity to the town center. Others believe that the proposed density won't add significant activity and vehicle trips to the town center.

There is also concern about the market demand for the units, especially in the scenario with the highest number of units.

*The consulting team's preliminary assessments:*

The character of Petersham, particularly in the village center, is evidenced by the remarkable collection of 19<sup>th</sup> and early 20<sup>th</sup> century buildings around the Town Common and in the Town's Historic District. Uniquely for Petersham, there are very few instances of later 20<sup>th</sup> or 21<sup>st</sup> century buildings intruding into this attractive landscape.

The Nichewaug Inn, although vacant for over 30 years, is an important part of the character of the Village Center. It is an excellent example of late 19<sup>th</sup> century shingle style architecture. Losing this building to demolition would profoundly change the character of the Village Center.

All the options being considered contain substantial demolition of existing structures on the site. Consequently, the built density of the site will be reduced regardless of what option is chosen by the Town.

From a transportation infrastructure point of view, it appears clear that all the roadways are being used at levels substantially below capacity. Demonstrating this, there is no traffic light in the center of the Town. Adding even as many as 30 new housing units to the site would not put significant strain on roadways or traffic. None of the streets would see a reduction in service capacity.

The types of housing being proposed are not likely to contribute many new school aged children to the Town. Further, the school system is substantially under capacity, so the incremental or marginal cost of a modest number of new children in the school system is likely to be small.

In planning new developments, typically adding more square footage, more housing units (or more office space) is the direction taken to make projects more financially feasible. In this case, however, as noted above, there is a major question regarding the depth of the market for new housing units.

The development / financing challenge is to determine an optimum balance between saving a portion of the Nichewaug Inn, possibly developing the balance of the site, and proposing a type of housing that will be supported by the market, and which can afford to be built.

The approach being proposed is to identify four separate development options, and to look at the overall feasibility of each, including doing a market analysis to indicate the depth of demand and what sale prices might be.

The priority in our thinking is to find an economically feasible solution for the property that will eliminate the Town's financial burden in maintaining the existing buildings and also generate future and ongoing tax revenues. An ideal scenario would be one that has a limited amount of development, but is large enough to make the numbers work.

All the preliminary scenarios currently being considered will reduce the footprint of the existing structures. The Town can use zoning and design guidelines to control the look and amount of open space of future development.

If the number of units (bedrooms) is too low, the lack of density and sale proceeds may not be sufficient to cover the costs of construction, potentially leading to proposals being not economically feasible. The cost of demolition and construction ideally would be recovered from future property tax revenues, and more units would potentially generate more revenues. The key is a market evaluation to determine the depth of demand for particular uses.

Concord Square will prepare a financial analysis to test the feasibility of each option being considered. It will also make tax revenue projections for the options that are feasible to finance and build. The market study will be focused on estimating potential prices and the depth of demand for specific housing products.

### 2.3. Demolition + New Construction vs. Rehabilitation

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

A suggestion has been to demolish the existing building and build new townhouses, presumably along the access road along the north boundary. Arguments for this approach include: total tearing-down would make it easier to do a better site plan, and new construction could achieve higher overall quality with ADA accessibility standards.

There was also recommendation to conduct a building structure assessment, particularly in the Inn itself, to determine whether the building has a solid structure and to help estimate the renovation costs.

There were questions regarding who will pay for the demo, and if it is the Town, how would the Town finance the demo cost.

*The consulting team's preliminary assessments:*

Townhouses are typically well suited for young families with children. They are a good way of providing affordable "starter homes" at lower costs for couples starting out. However, it is believed that there is minimal demand for such housing in Petersham, for all the reasons set forth earlier. There are no jobs nearby, few services or retail establishments, and it is a long way to the supermarket. We plan to briefly consider Townhouses in the market study, but anticipate that there will be minimal demand for this type of housing.

It would appear that a small number of single family homes are likely to evidence more market acceptance, as described in 1.1.1 above. In the case of total demolition, it would appear that the concept of four single family homes along Common Street, would be the most feasible alternative.

With regard to total demolition, the existing Inn building has great historic and architectural value and makes an important contribution to the entire Village Center. There are strong reasons to preserve the building, which have been articulately described by a number of residents, as well as by the Massachusetts Historical Commission in their 2010 comments to the Town’s proposal to demolish the Property.

Rehabilitation and reuse, if financially feasible, will preserve the building, restore it to its initial beauty, and enhance the unique character of the town. It is believed that renovation can achieve the same level of quality as new construction. The Academy building is in better physical condition, and has the right dimensions for high-quality residential. It should cost less on a per square foot or per unit basis, and therefore the housing units can be sold for less, or if sold for the same price as units in the Inn, would have higher margins.

Total demolition plus new development is likely to trigger more strict DEP “new project” water/septic standards, which will make it harder to accommodate the water/septic needs on site.

However, we will consider the demo + new construction option in our analysis, comparing the cost of total demo + new construction versus partial demolition and renovation.

It is not recommended that the Town do demolition before having a developer ready to proceed with a specific plan. After responding to a Town RFP, it is likely to be less expensive for the developer to do the demolition because the developer would not have to pay prevailing wages and comply with the public bidding laws. However, having the developer do the demolition is likely to adversely affect project viability. More analysis and creative thinking will be required on this issue.

#### 2.4. Securing the Town’s interest in later stages

*Information from the 1<sup>st</sup> Public Information Meeting, Focused Group Meetings, Emails, and online Feedback:*

In the past, the Town issued an RFP to seek developer/ development proposals. This approach did not succeed in producing a viable plan that was acceptable to the Town. The question is – how to ensure that a future RFP would be successful at identifying a capable developer, who would be prepared to and capable of carrying out the plan approved by the town?

*The consulting team’s preliminary assessments:*

As part of its report, Concord Square and its team will provide information about site conditions, local needs, local markets, development plans, and financial feasibility analysis for four Development Options. These options will be considered by Town Boards,

residents, and eventually Town Meeting. It is anticipated enough information will be provided to the Town Meeting so that, if successful, a definitive plan can be accepted, which include terms and conditions for potential developers.

An RFP would then be issued for a plan that the Developers will know, with assurance, ahead of time, that the Town will accept. This will give developers much more information than has been available in the past. It will hopefully be potentially profitable enough so that there will be multiple proposals from prospective developers.

Concord Square will provide a list of requirements and standards to be incorporated into the RFP so that all potential developers will understand the operating framework. Concord Square is likely to also recommend an option or Purchase & Sale Agreement that is conditional on the developer showing evidence of financing, detailed plans, and financial capacity. The project should be close to being ready to start construction before the property is transferred. The Town may also decide to require some level of bonding.

### 3. Next Steps

#### 3.1. Scenario Proposals for Further Financial Analysis and Plan Development

Concord Square proposes to further investigate four options, as follows:

1. Retain portions the Nichewaug Inn and the Academy Building; renovate with 26 condominium units (14 and 12, respectively). Demolish the newer brick connector building, the kitchen wing, the northern flat-roofed part of the dining room wing and the ‘Mother Superior’ addition of the Inn, and the garage. Utilize the existing well, if possible;
2. Retain only part of the Nichewaug Inn, with 14 condominium units. Demolish the balance of the site;
3. Retain part of the Inn, as above, demolish the balance of the buildings, and provide for the development of three homes on individual house lots on the northern access road;
4. Demolish all the buildings, and allow for the construction of four homes on single family lots along Common Street, as outlined by the Planning Board.

#### 3.2. Water/Septic Strategy

The following summarizes the options of water supply and septic systems under the currently proposed development scenarios, and the recommended process for the Town and the consulting team to work with DEP to decide on a preferable option for each scenario.

### 3.2.1. Public Water Supply

#### *a) Options for four scenarios*

Public water supply is necessary to support future development in Scenario 1, 2, and 3. Potential options include using the existing well on site, and drilling a new well on the site or off the site.

Scenario 4 will not necessarily need a public water supply. Below are each option's requirements, potential costs, and the impact on future development.

Existing well on site –

While the DEP is not encouraging the reuse of the existing well on the site, they have not completely ruled it out. The existing well supplied the existing facility at the time of its closing as a school. The current water supply rules went into effect in the early 1990's. Had this well been in active use and registered with DEP it would continue to be grandfathered as a water supply as long as it tested satisfactorily. The lack of continuous use has left its status in limbo. If the DEP were to consider allowing its use as a Public Water supply a pump test would have to be conducted to determine both the quantity and quality of water available. Estimated cost to test is \$10,000.00. The pump test is a series of four 1-hour tests at different pump rates followed by a 48-hour test at a stable pumping rate.

If this well were to be re-activated its presence would affect the location and cost of a subsurface sewage disposal system to serve the property.

There would also potentially be restrictions on activities near the well. The actual restrictions will need to be negotiated with DEP, especially given the fact that this is a historic site, and the projected water use under any scenario would be significantly less than the historic peak level on this site.

A new well on the south end of site –

In Ann Lewis's 2010 meeting with Mass. DEP, she understood that they would consider allowing a new well to be drilled and tested with a Zone 1 contained on the property, in the back (southwest) corner by the R Nilson property line. Estimated cost is \$20,000.00. Zone 1 prohibits any structure within a certain radius which is subject to the designed water flow of the well. The minimum radius is 100 feet which applies to 1,000 gallons/day water use; a project of 30 bedrooms would result in a design flow of 3,300 gallons/day and a Zone 1 radius of 178 feet.

Locating a Public Water Supply Well in this area would limit the siting choices for a new subsurface sewage disposal system to serve the facility. The use restrictions which would be imposed would likely be a negative to the use of this area.

A new well off-site –

Because of the size of the lot, arrangement of the buildings, and proximity of neighbors' structures, septic systems, and wells, the site has "difficult conditions without much flexibility" according to staff from DEP in the 2010 meeting. Siting a PWS without any

structures, parking, etc. within Zone I would be very difficult, if the entire septic system is placed on the same parcel.

Therefore, the Town may consider drilling and testing a new well on Trustees of Reservation Land across Route 32 (estimated cost is \$30,000.00), or obtain a nearby parcel on which to site a new well either by purchase or easement (estimated cost is \$30,000.00 + land cost).

In Scenario 4, an additional option is to subdivide four single-family house lots within the site, and leave it to future land purchasers and builders to drill private wells and provide a septic field for their individual use. The well needs to be at least 100 feet away from any septic installation. It is conceivable that this approach could be feasible based on the current Scenario 4 site plan of four house lots, each of which has 25,000 square feet land area and 90 feet street frontage.

#### ***b) Process and schedule***

It usually takes one month to get the water quality results from testing an existing well. It is recommended that the test is conducted in June so that the results would be available by the end of July.

Before the test, the Town needs to get DEP's approval that they would allow the well to be used as a Public Water Supply well if it passes the test. In order to make this judgement, DEP will need concept site plans and development programs, presumably of the four options being considered (the number of units, bedrooms, and estimated water use).

Therefore, we recommend that the Town decide on several potential development scenarios in May, and then have Doug MacLeay discuss with DEP about the water supply options that they would permit/recommend under each scenario.

#### **3.2.2. Septic**

The septic system was and is no longer functional and is not in compliance with current regulations because it violates more than one current requirement for septic systems. Therefore, a new septic system needs to be installed.

Estimated on a development scale of 30 bedrooms which will result in 3,300 gallons/day sewage discharge, a standard leaching area design would require 10,000 square feet of leaching surface. In terms of leach fields this would equate to two fields of 50 feet x 100 feet or equivalent. Given the site Doug MacLeay recommends that the most cost effective system for this site would be a more modern approach called the Ad-Vantex. Using this system would allow the size of the required field to be reduced by 50%.

This system requires a contract with an operator having a class 3 treatment plant operators license to ensure regular monitoring and servicing. The system also has an advanced control panel which would be connected to a dedicated phone line allowing the master computer to report operating issues to the operator and the owner as they occur. An added benefit is that the authorized operator can access the panel remotely to adjust the process. The construction of a system to



serve this property would be considered to be the repair of an existing failed system as long as the design did not increase flows from the historical flow for the property.

In Scenario 4 with the individual well option, individual septic systems can be installed on each lot. Presumably, the Library could address its well needs in the same fashion, with, potentially an easement over land behind the library for a new septic field.