

# STRAFFORD ELDER HOUSING

SOUTH STRAFFORD, VERMONT

## SITE SELECTION STUDY

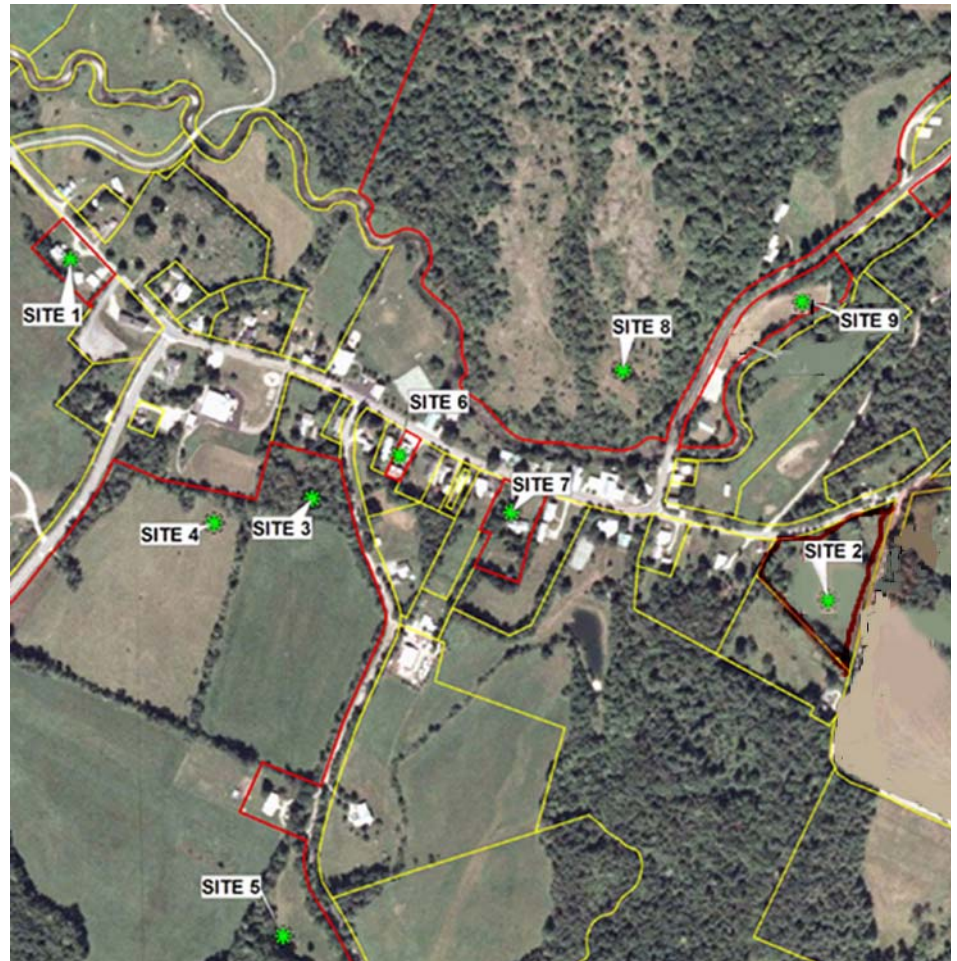
Prepared for:

*Strafford Affordable  
Housing Committee*

Submitted by:

*Stevens & Associates, P.C.*

December 1, 2006



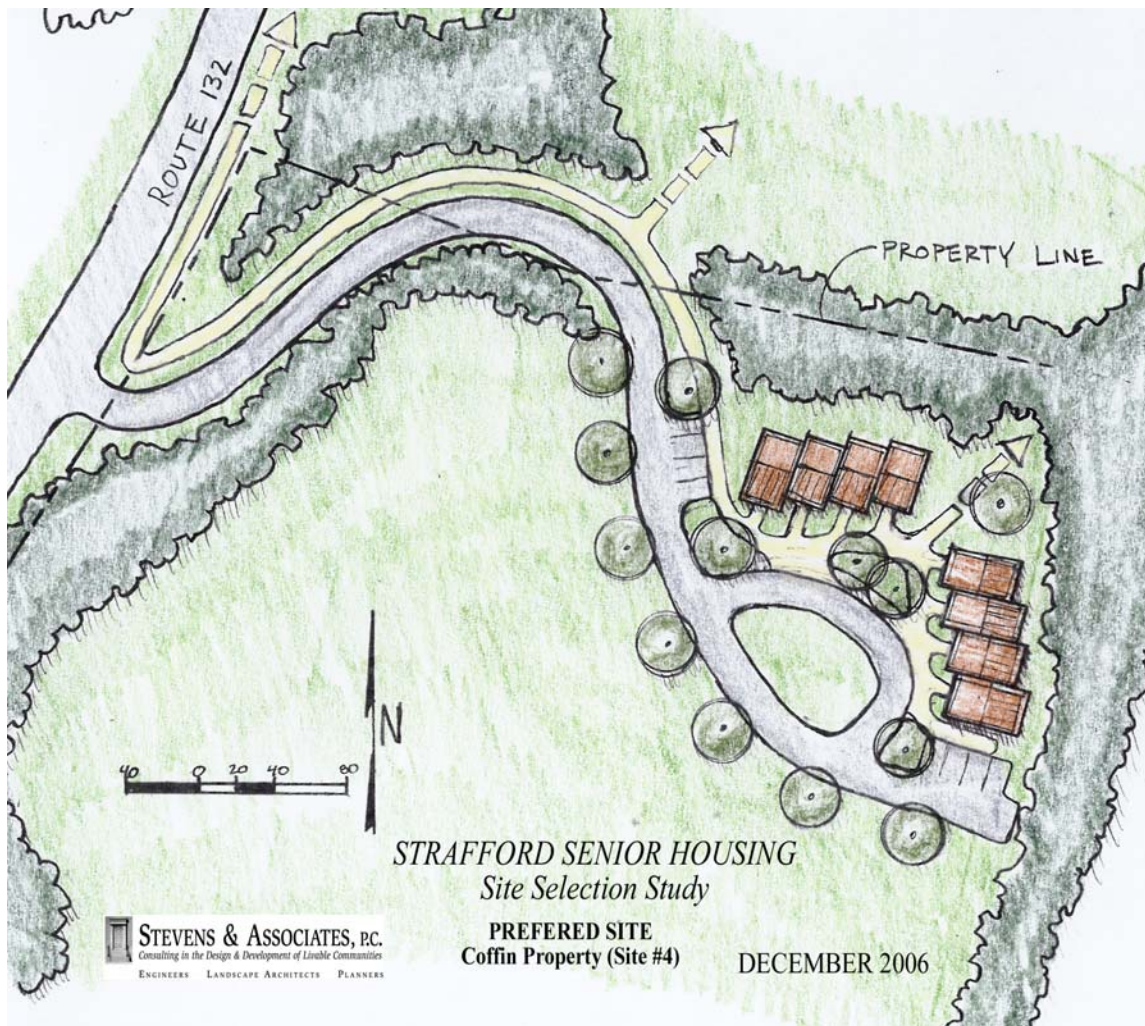
Strafford Senior Housing  
Site Selection Study  
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## I. EXECUTIVE SUMMARY

A total of ten different sites were reviewed for the location of an affordable senior housing project in the Village of South Strafford. The main criteria for site selection were pedestrian connection to the village, minimal environmental impact, on-site water and sewer capability, property availability and characteristics that support a high quality of life to residents. Three sites received the most discussion. The Town Garage site is an in-town compact site, however it has issues regarding septic feasibility, property acquisition and competing town needs. The Coffin Lower Field site is in a buildable and versatile country setting but with more difficult connections to the village. The Town Sandpit site is a town-owned site located four-tenths of a mile from the Village and would require bridge and path improvements to provide pedestrian connections.

The preferred site is the Coffin Field site, as shown below. The property is adequately sized to meet the project needs, while still preserving the majority of the pasture. Pedestrian connections to the village and school can be enhanced. The site and topography allow a project with good public community space and possible private space for each unit. The preliminary site costs per unit to develop this alternative were estimated to be less than the other two sites.



## II. INTRODUCTION

The Town of Strafford has been working toward developing six to eight units of affordable senior housing in the Village of South Strafford. Town leaders realized that members of the community had to leave when their housing needs changed as they grew older. Funding sources for such a project have been identified and several potential sites have been reviewed. However, a clear consensus of where to locate the facility was needed.

This study attempted to evaluate all viable sites and build consensus on a preferred location. A project purpose and needs statement was developed to help focus the goals of the committee in choosing and evaluating different sites. Ten viable sites in and around the Village of South Strafford were identified. Of the original ten sites, four were considered to best meet the project's purpose and needs.

## III. PROJECT PURPOSE AND NEEDS

### A. Purpose

Create an independent living senior housing development in the Village of South Strafford, Vermont that will incorporate the senior housing into the village. The project should connect to the village, protect natural resources and have adequate site characteristics that support a high quality of life for the residents.

### B. Needs

Village Connection: The location of the project should connect to the village so that the residents can be active in the community and access the churches, schools, recreational center and general store. Pedestrian connections should be accessible, of reasonable grade and preferably within a one-quarter mile walking radius.

- Accessible Walkway
- Grade of Pathway
- Distance

Natural Resources: The project needs to respect natural resource constraints including floodplains, riparian buffers, wetlands and critical wildlife habitat. Adequate on-site water and sewer facilities are critical to project feasibility.

- Respect Natural Resource Constraints
- Water & Sewer Feasibility

Site Characteristics: The site or sites need to be large enough for 6 to 8 units with parking. Reasonable vehicular and utility access is needed. Preferably, the property will offer opportunities for the residents to have semi-public space along a public road, private outdoor space and recreational walking on-site or in close proximity.

- Size
- Access

- Public Realm
- Private Realm
- Recreational Opportunity

Other Criteria:

- Property Availability
- ROM (Rough Order of Magnitude) Costs (1-9)

#### IV. FINDINGS

Ten feasible sites located around the Village of Strafford are shown on the following map. Six of the ten sites were ruled out for the following reasons:

Site 1. Tilles Property. This site was pursued early on. However, the property owners are no longer interested in selling. The barn has the potential for commercial use and, as a historic structure, would be difficult to demolish or move to make room for the project. The soils did not support onsite wastewater and the area below the cemetery was problematic for use as a leachfield. Any sewage disposal system for this property would need to be located off site.

Site 2. Clarke Property. The site is moderately sloped with limited septic system capability. It is remote from the village and poses challenges for pedestrian connections. Based on the location of suitable onsite soils, the building would have been closer to the existing residence than they desired.

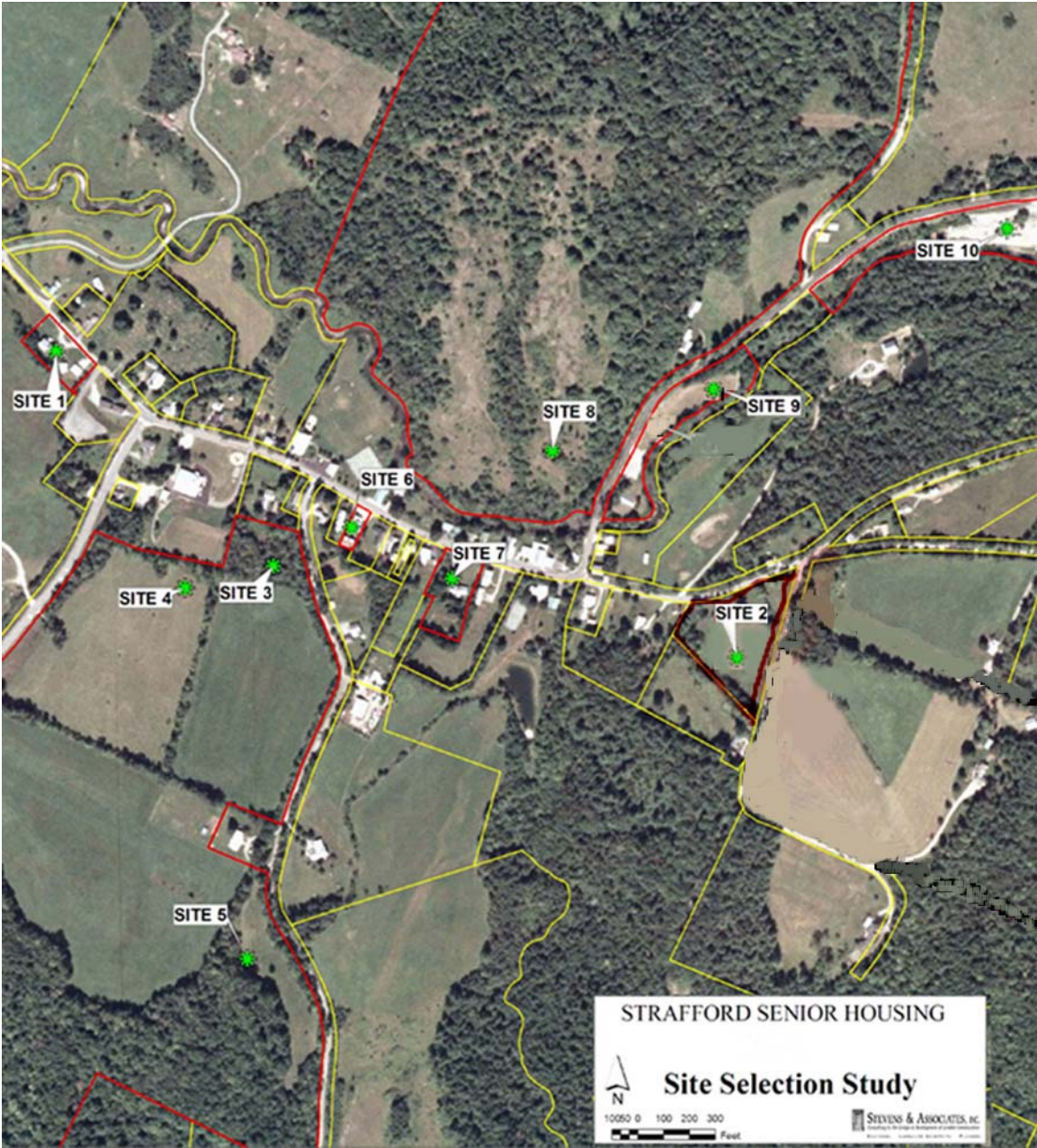
Site 5. Downer Forest Road/Coffin Property. This site is remote from the village, making pedestrian access difficult. The abutter's spring was along the boundary line between the parcels and 500' separation distance wasn't achievable. The property owners would prefer other sites that they have offered.

Site 7. Lewis Property. This property was for sale but has since come off the market.

Site 8. Shoemaker Property. The owners are in the process of conserving this property.

Site 9. Catholic Church Field. The property is in the floodplain. With a 45 ft. front yard zoning setback and a stream buffer, little buildable land remains.

Concept plans were developed for the four remaining viable sites and the committee reviewed and analyzed each site. The plans developed are not intended to represent final designs, only to provide sufficient layout to evaluate the relative merit of each site. On September 26, 2006, a public alternatives meeting was held to gather input on these four sites. Public meeting notes are included in the appendix.



### **Site 3- Coffin Wooded Hillside**

*Description:* This site is moderately steep so site access and layout would be limited by the topography. It is large enough to support the project, but some additional costs are expected due to building on a sloping site. There is some neighbor resistance to this site and a potential conflict with a spring and several other water supplies.

This site is located within the Wellhead Protection Plan (WPP) for the Newton Elementary School; however, the project would have no adverse impact to the WPP, nor does the well have any significant constraint on the project. These management plans are prepared to identify potential contamination sources within proximity of a public well and then manage these risks. For a housing project within the well protection zones, there are no building setbacks or additional water testing that would be required of the school. The project's sewage disposal system would need to meet regulatory setbacks from the well.

#### *Advantages:*

- Close to the village
- Available property
- Easier walk to the village

#### *Disadvantages:*

- Limited flexibility
- Moderately steep
- Limited size
- Creation of outside gathering space difficult
- Abutter opposition due to unknown location of private water supply (spring)
- Cost of providing a replacement water supply for abutter(s)



#### **Site 4- Coffin Lower Field**

*Description:* This site is large enough to support the program and offer flexibility for a mix of housing types. Access would be from Route 132 and would require some earthwork to traverse the steep bank up to the field. The buildings are shown tucked into the northeast corner to preserve views across the field from future Coffin home sites to the south. This design affords a good opportunity for private outdoor space and good community space. Pedestrian access to the village is limited due to the field's elevation above the village streets. To provide an accessible route would require a long walk with switchbacks to negotiate the slopes.

This site is also within the Wellhead Protection Plan for the school and the same comments apply as noted in Site 3.

#### *Advantages:*

- Property control letter in place
- Adequate size
- Good private/public space
- Available septic
- Natural setting with field views
- Proximity to the Newton School and Barrett Hall
- Flexibility of site

#### *Disadvantages:*

- Difficult pedestrian access
- Auto oriented
- Development of a driveway to roadway standards



## **Site 6B- Town Garage**

*Description:* The town is currently constructing a new garage south of the town and this in-town property is now available. The property by itself would only support a 4-unit building with parking. The neighboring Olsen property to the east is potentially available for purchase. If the Olsen property was purchased and some of their land added to the garage site, the property could support six (6) units in a traditional setting.

This is a small in-town property that would allow some communal outside space for residents. It would also provide excellent pedestrian access to the village amenities and, therefore, more independence as residents age in place. Off-site septic would be needed and there is more risk in purchasing a marketable home to have a large enough lot. As a former town garage there is the potential for petroleum contamination although the risk from this should be limited because of the states petroleum reimbursement fund. The town also has funding for a competing use of this land as a park-and-ride facility.

### Advantages:

- Village setting
- Town owned
- Good pedestrian access
- Brownfield site funding potential

### Disadvantages:

- Off-site water and sewer
- Risk of additional acquisition
- Compact site
- Brownfield site cleanup of unknowns
- Site is shaded from trees to the South
- Parking is needed in village
- Lack of flexibility of site
- Maintenance of septic pumping system
- Risk of purchasing abutting residence (Olsen)



## **Site 10- Town Sandpit**

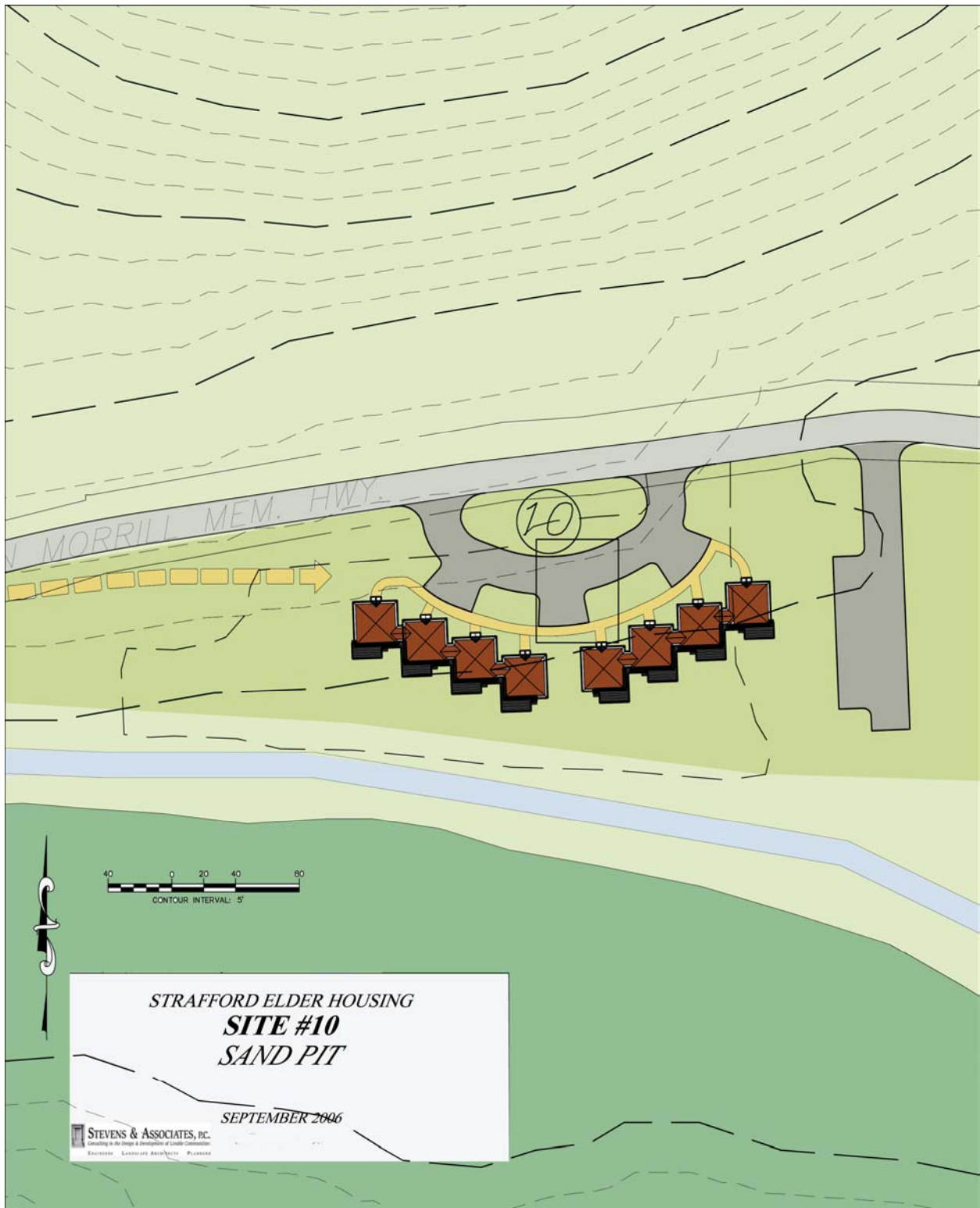
*Description:* This site is also owned by the town and is coming available at the completion of the town garage. This site abuts a small ball field and is close to a stream. It is large enough to support the project. Parking for the ball field and new recycling area would need to be provided as part of the project. Traffic is thought to move quickly at this site and be noisy. Pedestrian access to the village is currently limited by the bridge at Coburn's store and the 4/10ths of a mile distance.

### *Advantages:*

- Town owned
- Good sewage capability on site
- Adequate size
- Adjacent recreational activity

### *Disadvantages:*

- Traffic noise and speed
- No safe pedestrian route
- Cost of pedestrian improvements (Route 132 is not a State road)
- Distance from village
- Costs of relocating the recycling center
- Narrowness of site if riparian buffers are provided
- Lack of flexibility of site



## V. CONCLUSIONS

The preferred site is either Site 4 on the Coffin Field or the Town Garage. Additional information is needed to determine if the Garage/Olsen site can be assembled and economically developed.

The garage site offers the potential for a senior housing facility fully integrated into the village. Residents can interact on the street with a front porch and grade and distances are desirable to other village uses. It is more complex as a redeveloped compact site and will therefore take more effort to develop.

The Coffin Field is a very usable site for this use and can be arranged in a manner to offer residents private outside space, common outside space and views across the natural setting. It can be a very peaceful site and form its own compact community with flexibility and room to adapt. However, pedestrian access to the village will either be fairly long or steep. As such, it will tend towards an auto-oriented site and may be more challenging as residents age in place.

## **APPENDIX A**

### **PUBLIC MEETING NOTES**

TRORC – Stafford Meeting Notes  
9/26/2006

Contact abutters.

Site 4 – Proximity to school well is a concern.

Septic can be pumped uphill if separation distances are maintained.

Lots of water drains through Sites 3 & 4.

Sandpit site is dangerous for pedestrians: traffic speed, narrow corridor, visibility.

Drainage would enhance Sites 3 & 4.

Could speed bumps be used to slow traffic? There are other ways to slow traffic (speed table).

Square footage, public costs, advantage/disadvantage.

Number of possible units affects cost.

Look at cost of site & buildings.

Committee has looked at premiums.

Site constraints will have costs associated.

Market study found absorption for 6-8 units

USDA → 10 units is minimum to manage effectively.

Can a café be incorporated?

Using sandpit site would require improvement at Coburn's Corner.

Could sandpit have a two-story building?

Ball field has tested favorably for septic.

Any research on the desire to stay in this town? Any interest in going to a neighboring town?  
Willingness for other towns' residents to come to Strafford?

Where your kids are located affects decisions.

Market study said Strafford could do more units, but what is appropriate for Strafford/Act 250?

Expansion exists at Site 4 and sandpit.

Two sites could be developed over time.

Town garage used as parking? No news on park-n-ride grant.

Build further out and use bus service? Sandpit & Site 4 are further out.

Café involves parking requirements.

Sites further out aren't as attractive to funders.

Being in town center allows for part-time employment/volunteering.

Discernable cost difference between 1-story & 2-story.

Will cars be allowed?

Getting rid of pressures of ownership will be a relief.

What's easier? Walking on flat or hills? Town garage & sandpit are flat.

What's next? – Concept design & cost estimate

A cost estimator (use locals for cost savings) will help put the costs together.

Pursue two sites → Two cost estimates to compare.

Contact Harris' about town garage.

K.C. & M. T. – Not fond of sandpit.

Olsen's are willing to talk.

**List of Attendees**

Strafford Affordable Housing Committee

Steve Willbanks  
Mary Thompson  
Gretchen Rittenhouse

Other Attendees

Hazel Lewis  
Jill Michaels  
John Freitag  
Ned Coffin  
Rosalind Finn  
Steve Campbell  
Kay Campbell  
Peggy Thorp  
Ann G. Kynor, P.E. (Strafford resident and Pathways Consulting)  
Tom Gerlach  
Nancy Gerlach  
Marion Sweetser and Judy Kehoe (Sharon, VT)  
One resident from Thetford, VT

Bruce Pacht (Director, Twin Pines Housing Trust)  
Kathleen Kanz (Planner, Two Rivers - Ottauquechee Regional Commission)  
Robert K. Stevens, P.E. (President, Stevens & Associates)

## **APPENDIX B**

### **COMPARATIVE COST ESTIMATES FOR:**

- **COFFIN FIELD SITE #4**
- **TOWN GARAGE/OLSEN #6B**
- **SAND PIT SITE #10**

## Strafford Senior Housing Preliminary Site Cost Estimate

Code	Description	Unit	Unit Cost	Coffin Field Site #4		Town Garage/Olsen		Sand Pit Site	
<b>Fixed Costs</b>									
	Hydrants	ls	5,000	1.0	\$5,000	1.0	\$5,000	1.0	\$5,000
	Water Source: development, well, storage, pumps								\$0
	Source Development and well pump	ls	10,000	1.0	\$10,000	1.0	\$10,000	1.0	\$10,000
	Water Storage Tank (average day demand)	gal	2.0	1,800.0	\$3,600	1,800.0	\$3,600	1,800.0	\$3,600
	Fire Storage Tank (200 gpm for 2 hours)	gal	2.0	24,000.0	\$48,000	24,000.0	\$48,000	24,000.0	\$48,000
	Pump Station (pumps, hydro tanks, chlorine, elect/tel)	ls	5,000	1.0	\$5,000	1.0	\$5,000	1.0	\$5,000
	Water Line from development to Well	ft	10	20.0	\$200	20.0	\$200	20.0	\$200
	Landscaping: plants, loam & seed	ls	20,000.00	1.0	\$20,000	1.0	\$20,000	1.0	\$20,000
	TOTAL FIXED COSTS				\$91,800		\$91,800		\$91,800
<b>Variable Costs</b>									
	Acquisition Costs Differential	ea	10,000.00	2.0	\$20,000	6.0	\$60,000	2.0	\$25,000
	Petroleum clean-up	ea	10,000.00			1.0	\$10,000		\$0
	Clear/Grub & erosion control	ac	5,000.00	2.0	\$10,000	0.5	\$2,500	1.4	\$7,000
	Site Excavation and grading	cy	8.00	1,000.0	\$8,000	500.0	\$4,000	1,300.0	\$10,400
	Building Foundation/Basement Excavation	cy	8.00		\$0		\$0		\$0
	Common Fill	cy	6.00		\$0		\$0		\$0
	Ledge/Boulder Removal (allowance)	1	2,000.00	1.0	\$2,000	1.0	\$2,000	1.0	\$2,000
	Allowance for Stream Bank stabilization	1	20,000.00					1.0	\$20,000
	8" Sewer Pipe	lf	25.00	50.0	\$1,250		\$0		\$0
	Sewer Force Main	lf	20.00	400.0	\$8,000	1,200.0	\$24,000	300.0	\$6,000
	Sewer Manholes	ea	1,300.00	2.0	\$2,600		\$0	2.0	\$2,600
	Pump Station	ea	5,000.00	1.0	\$5,000	2.0	\$10,000	1.0	\$5,000
	Septic Tank 2500 gal	ea	3,500.00	1.0	\$3,500	1.0	\$3,500	1.0	\$3,500
	Leach Field	sf	12.00	2,400.0	\$28,800	1,800.0	\$21,600	1,200.0	\$14,400
	Drain Pipe								
	15"	lf	25.00	200.0	\$5,000	80.0	\$2,000	240.0	\$6,000
	Drain Manholes	ea	1,300.00		\$0		\$0		\$0
	Catch Basins	ea	1,200.00	4.0	\$4,800	2.0	\$2,400	3.0	\$3,600
	Drainage Mitigation: treatment, infiltration, retention	ls	35,000.00	1.0	\$35,000	0.2	\$7,000	1.0	\$35,000
	Utility Connections (allowance)	ls	10,000.00	1.5	\$15,000	0.5	\$5,000	0.5	\$5,000
	Underground Utilities						\$0		\$0
	Pull-boxes	ea	500.00	4.0	\$2,000	4.0	\$2,000	4.0	\$2,000
	Buried Conduit (2-4")	lf	20.00	300.0	\$6,000	300.0	\$6,000	300.0	\$6,000
	1" service connections, pipe, valves	lf	15.00	150.0	\$2,250	150.0	\$2,250	150.0	\$2,250
	Roadway (18" gravel and 3" bituminous)	lf	60.00	640.0	\$38,400	80.0	\$4,800	120.0	\$7,200

## Strafford Senior Housing Preliminary Site Cost Estimate

Code	Description	Unit	Unit Cost	Coffin Field Site #4		Town Garage/Olsen		Sand Pit Site	
	Parking (18" gravel and 3" bituminous)	sf	2.50	3,400.0	\$8,500	2,000.0	\$5,000	3,400.0	\$8,500
	Ball field Parking (18" Gravel)	sf	1.25					5,040.0	\$6,300
	Granite Curbing (4" wide)	lf	25.00	160.0	\$4,000	160.0	\$4,000	340.0	\$8,500
	Sidewalk - 6' wide	lf	20	300.0	\$6,000	100.0	\$2,000	300.0	\$6,000
	Pedestrian Connections	ls	10,000	3.2	\$32,000		\$0	9.5	\$95,000
	Site Lighting: poles and buried wires	ea	2,200	6.0	\$13,200	3.0	\$6,600	6.0	\$13,200
	<b>TOTAL VARIABLE COSTS</b>				\$261,300		\$186,650		\$275,450
	<b>TOTAL CONSTRUCTION COSTS</b>				\$353,100		\$278,450		\$367,250
	25% Contingency				\$88,275		\$69,613		\$91,813
	<b>TOTAL PROJECT COSTS</b>				<b>\$441,375</b>		<b>\$348,063</b>		<b>\$459,063</b>
	<b>NUMBER OF UNITS</b>				9		6		8
	<b>COST PER HOUSING UNIT</b>				\$49,042		\$58,010		\$57,383

**Notes:**

1. Acquisition cost assume that the project would lose \$60,000 in purchasing the Olsen property, subdividing and re-selling. There is no allowance for paying the town for the project or compensating for the loss of the park and ride. The \$20,000 allowance for the Coffin parcel is based upon the past generosity of the Coffins and should be verified if possible. The \$25,000 for the gravel pit is to relocate the Recycling and demo existing facilities.
2. The cost for providing a pedestrian connection to the village on the Coffin alternative includes a sidewalk back to the entrance at approximately \$8000 and an accessible path through the woods at \$24,000.
3. The petroleum clean-up cost for the town garage assumes that the petroleum reimbursement fund from the state will cover any cost beyond \$10,000.
4. The cost for providing pedestrian connection to the Village on the gravel pit site includes a sidewalk along the road until the Church field estimated at \$30,000 and a pedestrian sidewalk cantilevered off the two existing bridges estimated at \$65,000.
5. A \$20,000 allowance is included in the Gravel pit site to account for higher foundation walls, retaining walls or other stabilization methods along the stream bank.

**ATTENTION:**

These estimates are not intended to represent a realistic budget for the project.  
 The estimates are provided as a comparison of the cost premiums for the different sites.  
 The level of accuracy is likely plus or minus 50%.  
 There is not enough mapping or design data to do a more accurate estimate at this time.