

CANAAN, VERMONT

MUNICIPAL PLAN

Adopted by Australian Ballot
March 6, 2012

**CANAAN MUNICIPAL PLAN
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2011**

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I. INTRODUCTION

This Plan is intended to provide the basis for the enactment of local land use controls that will guide the future development of Canaan. It is hoped that this Plan will ensure that growth in Canaan will benefit rather than burden the community.

The original Town Plan was written in 1979. Vermont statutes require that Town Plans be updated every five years. Canaan's Planning Board began the review process during the winter of 2011 and on March 30, 2011 the Board mailed out 598 surveys to every registered voter and to every taxpayer of the Town of Canaan. The completed surveys were returned by mid April and the Board was pleased with the return rate of 35.9%. Survey results were tabulated and the public was invited to a June meeting where the results were shared.

There were many great ideas included as narratives by the respondents. The Planning Board has tried to incorporate many of the general ideas in our ongoing reviews and some of the specific tabulations are included in this revision.

It's important to the Planning Board that the Canaan Town Plan be a true reflection of the ideas of the citizens of Canaan.

We have maps available for public use in the Town Office that feature roads, water and sewer lines, electrical power lines, town buildings and properties, public buildings and other information about the villages of Canaan and Beecher Falls.

With all the information gathered, the Planning Commission has developed several growth policies. These policies are not intended to remain static. Conditions and trends will inevitably change and growth policies will need to be revised accordingly. The Regional Planning Commission will assist us as development trends and plans for adjacent towns change. Planning is a continuing process and this Plan simply represents the current state of that process in Canaan.

II. TOWN PROFILE

Canaan is located in the extreme northeastern corner of Vermont in the County of Essex. It is bounded on the north by the Province of Quebec, Canada; on the east by the Connecticut River and the Towns of Clarksville, Stewartstown and Colebrook, New Hampshire; and on the west and south by the Towns of Norton, Averill, and Lemington, Vermont. The land area of Canaan is 21,992 acres.

Canaan had a population of 972 as of the 2010 census. There are two unincorporated villages in the Town of Canaan: Beecher Falls and Canaan, of which Canaan is the larger. Beecher Falls is on the Canadian border approximately one mile northeast from the village of Canaan.

The majority of Canaan is hilly woodland. Open farmland runs along the Connecticut River from the village of Canaan to the southernmost border of the township and from the village of Beecher Falls to the northeast corner of the township, and along Leach Stream from the village of Canaan northwest to the Canadian border. Vermont Route 102 begins at Canaan village and continues south along the Connecticut River to Lemington on the southernmost border. Vermont Route 114 also begins at Canaan village and runs west to Averill. Wallace Pond, Canaan's only recreational lake, is situated on the Canadian border, with more than half of the pond in Canada.

Canaan was chartered by the State of Vermont in 1782 with actual settlement occurring in 1795. Most of the early settlers were farmers who initially established farms in the hilly areas away from the Connecticut River. Gradually, settlement dispersed throughout the Town. Lumbering was a major economic activity with annual log drives on the Connecticut River. In 1888, a railroad line began operating through Beecher Falls with connections to southern New England and extending north to Lime Ridge, Quebec. Six years later, the Beecher Falls Manufacturing Company, taking advantage of the rail service, began furniture manufacturing operations with initial employment of about 150 people. The combination of the railroad, the furniture factory and lumbering resulted in further settlement being concentrated in the river valleys, particularly the villages of Beecher Falls and Canaan. The furniture factory now operates under the name Beecher Falls Division of Ethan Allen, Inc.

The Beecher Falls Division of Ethan Allen stopped manufacturing furniture in late August of 2009. At that time 238 employees were laid off, of which 153 were New Hampshire residents. The sawmill operations remained and continue to this day with the milled products being delivered to the Orleans, Vermont plant. The sawmill and peripheral operations currently employ approximately 100 people. The buildings have had some of their manufacturing equipment sold and/or transferred to other Ethan Allen manufacturing facilities. In August of 2011 Ethan Allen listed the finishing building, located on the south side of RT 253, and are marketing only that building

Additional sources of employment include the federal Department of Homeland Security, small businesses, forestry and agricultural occupations. Though Canaan has attracted people from

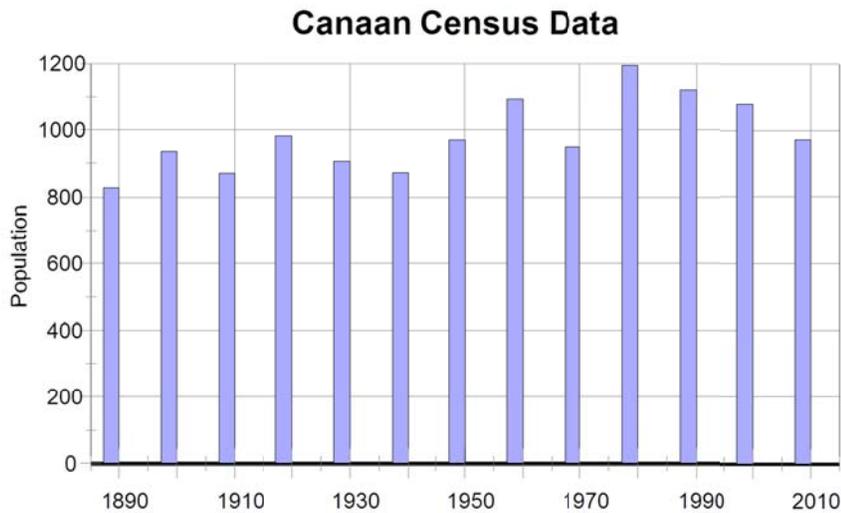
II. TOWN PROFILE (CONT'D)

around the U.S. and Canada for local employment, the town's population is, by and large, descended from local families. There is a prominent French-Canadian lineage resulting in many bilingual families.

Most retail stores are located across the border in New Hampshire which has no sales tax. This has resulted in particularly strong economic ties with the neighboring Towns of Colebrook and Stewartstown.

A. POPULATION

The population of Canaan has fluctuated near 1000 for the past century reaching a peak of 1194 in 1980. The following graph indicates population trends over the past century:



Future trends in the population of Canaan will be largely dependent upon economic factors, namely the level of activity at Ethan Allen Inc. and job opportunities in Colebrook, New Hampshire.

II. TOWN PROFILE (CONT'D)

B. NATURAL RESOURCE FACTORS

An important consideration in the town development plan is the natural resources of the community and limitations they place on future land development. In Canaan, shallow soils, steep slopes, stream banks, and flood plain areas limit prime agricultural land and favor forestry.

The natural resources of Canaan are integral both to its current existence and to its future potential.

2011 Canaan Town Survey Excerpt

How important is the effect of development on the natural environment?

73% Very Important or Important

How do you feel about:

	<u>Very Positive or Positive</u>
Groundwater quality and supply	70%
Pollution of nearby water sources	58%
Forests	78%
Agricultural lands	73%
Wildlife habitat	78%
Air quality	83%
Scenic areas	77%
Ridgelines/scenery	58%

1. Soils

Soil conditions which can limit future development of land include: shallow depth to bedrock, instability, inability to absorb water and excessive wetness.

Information from the Soil Conservation Service indicates that the existence of these conditions vary widely throughout the town. In general, the best soils are found in the valley regions with the soil becoming increasingly shallow and unstable as the land slopes up and away from the valleys.

Soil conditions are extremely important away from the village centers where on-site water supply and sewage disposal are required. However, except for the river valley bottom land, most of the remaining land area is moderately to steeply sloped which limits the density of development which can be supported in these areas.

II. TOWN PROFILE (CONT'D)

2. Steep Slopes

Land with slopes in excess of 15 percent tends to erode once disturbed and presents limitations in terms of road construction and other types of excavations thus making it unsuitable for intense development.

The largest area of steeply sloped land is in the central portion of the town. Within this area there are four hills, all over 1500 feet high. In addition, most of the land west of Vermont Route 253 between Canaan village and Beecher Falls is steeply sloped. Steeply sloped land also occurs around numerous other hills scattered throughout the town.

3. Prime Agricultural Land

The Connecticut River valley land is particularly good agricultural land and accounts for most of the land currently in agricultural production in Canaan. Other areas of agricultural land include the land along Vermont Route 114 from the village of Canaan to the Canaan-Hereford international border crossing on Vermont Route 141. Other than these areas, agriculture is severely limited. In 1998, the development rights to approximately 371 acres of land adjacent to the village of Canaan along Vermont Routes 102 and 114 were sold to the State of Vermont.

4. Forest Lands

Areas with good forestry potential comprise over 80 percent of the land area in Canaan. The two largest areas are found in the Morrill and Hudson Brook watersheds and are in various stages of timber growth and harvest. In most cases, the prime forestry lands are relatively inaccessible and therefore unsuitable for other types of uses with the exception of outdoor recreational activities.

5. Connecticut River

The Connecticut River and its major tributaries represent an important natural resource in the Town of Canaan. Canaan actively participates in the Connecticut River Joint Commission whose mission is to preserve and protect the resources of the Connecticut River Valley.

6. Streambanks

The streambanks of the Connecticut River and its major tributaries are important in terms of outdoor recreation as well as contributing significantly to the natural beauty of the Town. The major tributaries of the Connecticut include Willard, Leach and Hall streams. Minor tributaries include Keyer and Capon brooks and their tributaries. In addition, the upper portion of Leach Stream, with its tributary Morrill Brook, drains into Wallace Pond.

Intense development too close to the banks of these streams would limit their accessibility for recreational purposes and decrease their attractiveness.

II. TOWN PROFILE (CONT'D)

7. Flood Plain Areas

In the event of a major flood, most of the land lying between Vermont Route 102 and the Connecticut River would be flooded. Fortunately, practically all of this land is currently in agricultural use. In order to insure against the damage and inconvenience a major flood would cause, other types of development should be somewhat limited in this general area. Substantial flooding also occurs along the banks of Leach and Hall Streams. There are wetlands encompassed in many of the flood plains, some of which are currently under plans for protection. These wetlands are important natural resources and should continue to be protected from development.

8. Wallace Pond Area

Wallace Pond represents an important natural and recreational resource for Canaan. While it possesses the potential to serve as a site for expanded recreational and seasonal development, development in this area must be guided in such a way as to protect the water quality and visual appearance of the pond.

9. Air Quality

With the lack of heavy industry and a relatively open terrain, Canaan enjoys clean air which contributes to the scenic values of the area. Although air quality must be balanced with other concerns when development is considered, it is important that it remain a factor to be considered with any new or changing development.

10. Scenic Values

The forested and agricultural lands that make up Canaan define its scenery. The landscape of Canaan also contributes to its recreational offerings. Although scenic values must be balanced with other concerns when development is considered, it is important that it remain a factor to be considered with any new or changing development.

C. POLICIES

1. Analysis of Compatibility

An analysis of information has indicated that the consensus is to maintain Canaan's rural character as is. Keeping Canaan as a rural New England town with two village centers and the economic efficiencies that go along with that remain a top priority for Canaan citizens.

Since Canaan is in an interdependent relationship with its neighboring towns, we are obliged to evaluate potential obligations and opportunities that are created by certain economic and social trends. The Town of Canaan plans to keep the current communication lines open concerning any developing trends or plans with all adjacent municipalities. The neighboring towns of Norton and Averill and Lemington currently have town plans that are compatible with Canaan's.

II. TOWN PROFILE (CONT'D)

The areas we would be most affected in are housing, schools, water supply and sewage treatment. In the event of economic development in a neighboring town, Canaan could benefit by providing affordable housing as addressed in Policy #C below. Since R-1 and R-2 lands adjacent to the village of Canaan were excluded from potential development by conservation easements, agricultural land near the town center should be considered for conversion to residential use.

Canaan's school could be affected by a decrease in any neighboring school's ability to accommodate their current level of enrollment. Our school could benefit from a limited number of additional students while still maintaining present quality standards and programming. This issue is addressed under Section IV. C. EDUCATIONAL FACILITIES.

2. Scenic, Natural and Historic Features

Canaan has natural areas where scenic vistas and rare wildlife may be viewed. Some of these include Wallace Pond and sections of Vermont Routes 102 and 114 where moose are regularly seen. Historical sites include cemeteries, village parks, the Alice Ward Library building, two Customs Houses, as well as other properties listed by the Vermont Division for Historic Preservation.

3. Statement of Policies

The following policies are put forth:

- a. To maintain services and facilities at or above current levels.
- b. To accept our responsibility for our waste by maintaining a recycling plan and other related programs.
- c. To review certain land uses provided by the current Zoning Bylaw. In particular:
 - (1) Provide for additional residential housing adjacent to the existing villages;
 - (2) Review the range of lot sizes to encourage more efficient land use;
 - (3) Consider and review the possibility of designating a historic district;
 - (4) Consider and review possible revisions to ensure the availability of safe and affordable child care and to integrate child care issues into the planning process [ref Ch.117 Para 4302(c)(13)].
- d. The implementation of the above policies will be consistent with the preservation of scenic natural and historic features and resources.

III. LAND USE

This section is divided in two parts - an overview of present land uses, followed by a description of the desired Zoning Districts.

A. Present Land Uses

(Note: Detailed maps may be seen at the Town Office.)

1. Agriculture

Canaan owes its natural good looks to farming. While much of the countryside was once open land, today's farms are concentrated on those fertile areas better suited to intensive use of machinery, mainly the flat terraced soils of the Connecticut River valley. There are at present four working dairy farms in the town with approximately 1400 acres under intensive tillage and hay field management (about 6.4 percent of the town land area).

Recent sale of individual farms has seen the better farm land absorbed by neighboring farmers and kept in agricultural use.

There are a few small scale gardening operations which meet family needs. Many residents have always grown their own food and more are raising poultry and livestock.

2. Forestry

Roughly 18,000 acres or 82 percent of the town land area is wooded, supplying renewable forest resources to mills in the area. The larger tracts of woodland are owned by woods contractors and other private parties. Under reasonable management the total forest (assuming an average growth rate of 1/3 cord/acre/year) could sustain an annual harvest of 6,000 cords or 3,000,000 board feet. This points to the considerable economic value of our forests.

There are about ten Christmas tree farms in the area, ranging from small part-time businesses to larger full-time businesses, making tree farming a major forest crop in Canaan.

Equally important to the town are forest fringe benefits, notably clean water, fish and wildlife, firewood and outdoor recreation of various types. Not the least contribution to the town's welfare is the exceptionally attractive setting provided for the village areas by the surrounding forested hills.

3. Commercial

The Residential-Commercial (RC) districts in the villages currently have a mixture of residential and commercial uses:

1 surveyor	3 restaurants
1 dance hall	1 membership club
1 bowling alley	1 motel
1 small engine repair shop	1 service station
1 insurance/real estate agency	1 sugar house

III. LAND USE (CONT'D)

Commercial enterprises outside the villages include:

1 auto body repair shop	1 motel
1 sporting camp complex	1 recreational vehicle sales and service
1 printer	

4. Industrial

Ethan Allen, Inc., maker of Ethan Allen furniture, is the main industrial employer in Canaan. An industrial wood harvesting contractor has headquarters and shop facilities in Canaan. Public Service of New Hampshire operates a hydroelectric plant (1,100 KW) on Power House Road. The wooden penstock was replaced with steel in 2010.

5. Year-Round Residential

Population is concentrated in the two village areas of Beecher Falls and Canaan. One mobile home park with 18 units is situated in the village of Canaan. In reviewing population statistics relative to housing units in Canaan, there is sufficient moderate income housing to satisfy current demand for growing families.

A Housing for the Elderly project was built in Canaan village in 1982 consisting of 10 single and 2 double units.

New homes, consisting of both frame dwellings and mobile homes, are occurring mostly in outlying locations.

6. Seasonal Residential and Camps

These are located primarily around Wallace Pond and along the Canaan Hill and Kemp Hill roads, with a few others scattered throughout the Town. While some are owned locally and used primarily as summer cottages, hunting camps or winter retreats, others are owned by vacationing non-residents who may be tempted to convert to year-round use at some later date. Second home development has been modest in Canaan and surrounding towns.

2011 Canaan Town Survey Excerpt

How much of the following would you like to see in Canaan?

	<u>MORE OF</u>	<u>LESS OF</u>	<u>NO CHANGE</u>
Housing	31%	5%	54%
Vacation home development	37%	9%	44%

What type of new housing do you feel should be encouraged in town, if any?

Single family: 31%	Facility for elderly/retired: 23%	Vacation homes: 13%
None: 12%	Condominium: 6%	Multi-family: 6%
Two-family: 6%	Mobile homes: 2%	Other: 2%

II. LAND USE (CONT'D)

7. Federal and State Agency Properties

U.S. Customs and Border Protection maintains two border stations in Canaan: one on Vermont Route 141 and another on Vermont Route 253. Both of these buildings are listed on the National Registry of Historic Places and were constructed in the early 1930's. Construction of a new Border Patrol station in Canaan began in 2011. There are United States Post Offices in both Beecher Falls and Canaan.

The Vermont Agency of Transportation maintains equipment and two salt/sand storage facilities on Vermont Route 141 built in 1998. The Vermont Department of Fish and Wildlife maintains a boating and fishing access on Wallace Pond.

8. Proposal

Our policy is to encourage the wise use of natural resources including rare and irreplaceable natural areas.

B. PROPOSED LAND USES

1. The Tillotson Land Proposal

During 2010 the Tillotson Trust informed the Canaan Superintendent of Schools and the Canaan Select Board of the possibility of transferring 424 acres of land that formerly was owned by Neil and Louise Tillotson to the Town of Canaan. The land is located west of Vermont Route 253 and extends to the Canadian border and north to the Ethan Allen plant in Beecher Falls.

A committee has been formed to develop a proposal for the use of the land. It needs to cover certain goals that have been identified from the Canaan Town Survey of 2011 and those identified by the Tillotson Trust. This plan is being developed with multiple uses for the land. These potential uses have been discussed:

- a. Educational: study of the landscape, the geology, the natural resources and to include maple sugaring;
- b. Preservation: to set aside some acreage from development and in particular to protect the area that is near the Towns' drinking water sources;
- c. Energy Park: that the potential for producing low cost electricity, perhaps by tapping into the
- d. Recreation: to retain the existing snowmobile trail and to encourage additional uses for all ages and to make it accessible to all;
- e. Town Forest: the land would be managed for long-term sustainability.

The committee continues to meet and welcomes comments and suggestions. Much work has been done and continues to be a priority for the group.

III. LAND USE (CONT'D)

The addition of this acreage to the Town of Canaan can complement our existing properties: the baseball fields and the Community Recreation Park, with a natural resource that is enjoyable and usable to residents and tourists alike.

2. Zoning Districts

The desired zoning districts are:

- a. Industrial
- b. Residential-Commercial
- c. Residential One-Half
- d. Residential One
- e. Residential Two
- f. Agricultural
- g. Rural Lands
- h. Wallace Pond District

a. Industrial

The Industrial (IND) District encompasses the lands occupied by and in the immediate vicinity of Ethan Allen Inc. in Beecher Falls village, an area on the south side of Vermont Route 114 west of Canaan village, and an area on the north side of Vermont Route 114 between Harriman Hill and Wallace Pond. These areas serve as locations for the establishment of a variety of types of manufacturing and commercial activities to provide employment opportunities and broaden the tax base in Canaan. All uses within this district are subject to site plan approval which requires that certain standards with respect to traffic areas, circulation and parking, landscaping and screening are met. An area of land within the Tillotson Land Proposal may be added to the Industrial District.

b. Residential-Commercial

The Residential-Commercial (R-C) District provides for a mixture of residential and commercial uses at a high density of development in four locations:

- (1) an area within the village of Beecher Falls;
- (2) an area within the village of Canaan;
- (3) an area adjacent to Vermont Route 141;
- (4) an area adjacent to the Canaan Post Office on Vermont Route 253;
- (5) an area at the east end of Wallace Pond.

Uses are subject to site plan and/or conditional use approval which require conformance to certain standards with respect to impact on the community and the character of the area.

c. Residential One-Half

This district (R ½) is intended to be primarily for single and two family dwellings at a higher density of development than Residential-1. Various other uses that complement the district may be allowed. The R ½ district includes areas within both village centers and along the west side of Vermont Route 253 between Canaan and Beecher Falls.

III. LAND USE (CONT'D)

d. Residential-One

The Residential-One (R-1) District is primarily for residential use in a rural setting at a higher density of development as the Residential-2 District. All other uses within the district are conditional and require site plan approval. The R-1 District includes areas within the villages of Beecher Falls and Canaan.

e. Residential-Two

The Residential-Two (R-2) District is primarily for residential use in a rural setting at a higher density of development as the Rural Lands. This district includes areas which are served by an adequate year-round road system.

f. Agricultural

The Agricultural (AGR) District is intended to preserve major areas of prime agricultural land while allowing other uses that are secondary to agricultural use. Areas designated AGR begin in Canaan village and continue south on the east side of Vermont Route 102 to the Lemington Town line.

g. Rural Lands

The Rural Lands (RL) District includes areas of the town that have a low density of development as they are generally mountainous, remote from densely developed areas and generally not served by an adequate year-round road system.

h. Wallace Pond District

The Wallace Pond District (WPD) includes that area of town where the lake is situated on the north side of Vermont Route 114 and a section on the south side of the road.

i. Flood Hazard Areas

The Zoning By-Law also includes requirements with respect to development in flood hazard areas. While these requirements do not prohibit development in such areas, they do insure that damage due to flooding is minimized.

j. Proposal

It is recommended that the existing zoning by-law be reviewed and amended as necessary to allow additional industrial areas adjacent to the village of Canaan.

IV. FACILITIES AND SERVICES

A. TOWN BUILDINGS

1. Town Hall

The present Town Hall is a brick building located on Vermont Route 253 next to the Post Office. It was initially constructed and used by the Community National Bank who sold it to the Town in 1980 for \$60,000 including 1.12 acres of land. The single story building has a finished basement with rest rooms, storage room, conference room and a vault. The ground floor of the building houses the Town Clerk and Treasurer's office, another vault, a large conference room and three rooms used by the Superintendent of Schools. A new rest room was added on the ground floor in 1997 in compliance with the Americans With Disabilities Act and a new metal roof was installed in 2000. A handicapped entrance was added in 2008 and a chair lift in 2010. Numerous local clubs and organizations make good use of the building throughout the year

2. Town Barn

The Town Barn, including 1.33 acres of land was purchased in 1966 from Hermas Gendreau as storage space for the Town road maintenance equipment. It is located off Vermont Route 253 near the Town Hall. In 1997 the original barn was torn down and a new pole barn, 24'X 72', was built by the Canaan Building Trades class and was completed in 1998. Concrete pads were installed in 2009.

3. Town Library

In 1933, Alice M. Ward willed her home to the Town of Canaan for use as a public library. The library is located adjacent to Fletcher Park in the center of Canaan village and in 1980 was recognized as a building in the National Register of Historic Places. This building is owned and maintained by the Town.

4. Old Town Hall Building

The two story building was built in 1872 with "School District No. 3" on the first floor and the Town Hall on the second floor, where Town Meetings were held until March 4, 1947, when the Canaan Memorial High School gymnasium was first available. From 1947 until 1984, the building was used for and by several different businesses, including a medical clinic, a law office, the Superintendent of Schools office and an apartment. In 1984, the Town sold the building to a Land Surveying business, with the same business selling it back to the Town in 1995.

On September 28, 1994, the Town of Canaan voted to re-purchase the former Town Hall located at the southerly end of Fletcher park and adjacent to the Alice Ward Library. The purchase was fully funded by State and Federal grants and took place in 1995.

The reason for the purchase was to restore the appearance and utility of the historic building; furnish a site for the High School Building Trades students to learn and practice restoration and renovation of old structures; and, upon completion, to serve as space for Interactive TV course work, and for rest room facilities for the adjacent Town Recreation Park and Fletcher Park, where frequent public

IV. FACILITIES AND SERVICES (CONT'D)

functions are held. It is no longer an Interactive Television site but continues to be used by the School for off-site classes. In 2003, extensive repairs were made to the building sill and a handicap access ramp was installed and in 2006 the building was transferred to the School District. In September of 2003, the Canaan Community Education Center moved into the building. The Center, funded by the Vermont Department of Education, operates in partnership with the Canaan School District. It offers continuing education and serves not only high school students but also adults in the area. Since it began, there have been 105 graduates with a high school diploma.

5. Proposal

Current Town buildings should be maintained to provide the current level of services.

B. TOWN PROPERTIES

The Town owns several properties including:

Fletcher Park (donated to the Town in 1896) at the junction of Vermont Routes 102 and 114 in Canaan Village;
Beecher Falls Park at the junction of Vermont Route 253 and River Road and;
Playing fields that adjoin the school buildings.

In 1988, the Town purchased a total of 10.6 acres of open land across Vermont Route 102 from the school playing fields to use as a recreational park. The park was named the Community Recreation Park in memory of Don Sipe, a former Superintendent of the Canaan Schools. It consists of:

1 Baseball field	1 Little League field
2 Soccer fields	2 Tennis courts
1 Basketball court	1 Batting cage
1 Picnic pavillion	54 Parking spaces

In 2001, the Catholic Diocese of Burlington donated a parcel of land which was incorporated in a new paved walking/running path constructed that year. A playground/swings area and a portable restroom were installed in 2002. In 2009 log dugouts were built.

The Town currently has three open cemeteries: the Alice Hunt Cemetery west of the village on Vermont Route 114, the Canaan Village Cemetery on Vermont Route 253, and the South Canaan Cemetery on Vermont Route 102. In 2000, the Town purchased additional land doubling the available space in the Alice Hunt Cemetery. The Town also has several older cemeteries whose locations can be found on the maps located at the Town Office.

1. Proposal

These properties represent certain areas of the community which may have scenic as well as historical features that the Town has long recognized and maintained and should continue to do so.

IV. FACILITIES AND SERVICES (CONT'D)

C. EDUCATIONAL FACILITIES

The Canaan Schools serve approximately 2000 people and 200 K-12 students. Canaan Memorial High School is a receiving high school accepting students from Norton, Lemington, Brunswick and Bloomfield, Vermont as well as from neighboring New Hampshire town.

The elementary and high schools are located in two adjacent buildings on a five-acre lot overlooking the Connecticut River in Canaan village.

The high school building, built in 1946, is a wood and steel framed masonry building. A gymnasium and library were added in 1977 replacing the original gym. Basic facilities in the high school include: 8 general classrooms; a stage and gym with locker and shower facilities; a library/media center; a science laboratory; an art classroom; a home economics classroom; and offices for the principal, athletic director and a mail/copy room.

The elementary school building, constructed in 1960, is a steel framed masonry building with a three-room addition that was completed in 1986. It has 7 general classrooms, a multi-purpose room/cafeteria (shared with the high school) and office space for special services.

In 2006 a \$26,000 emergency management grant was obtained to purchase a back-up generator for the high school. The generator was operational by the spring of 2007 and this allows the high school building to be used as the Community Shelter in the case of an emergency.

During 2010 the boiler plants in the high school and the elementary school were specified and installed with essentially identical equipment to allow easy parts access and common operating practices on both facilities. The Town of Canaan now has two well constructed and installed boiler plants that should prove reliable, simple to operate and energy efficient for years to come.

Current projections for the use of our classroom facilities indicate that we can absorb an increase of approximately 40%, on average, without altering our program offerings. As a receiving school district for the Essex North Supervisory Union and neighboring New Hampshire communities, we are susceptible to population shifts due to economic and social conditions beyond our control. With a 30% decrease in Canaan's enrollment in the past decade and no way to project where that trend is headed, it is essential that collaboration and communication among the local areas schools continues. History has indicated that we have been able to absorb these fluctuations with minimal effect on our educational program but staff reductions have started and may need to continue if this trend does not reverse.

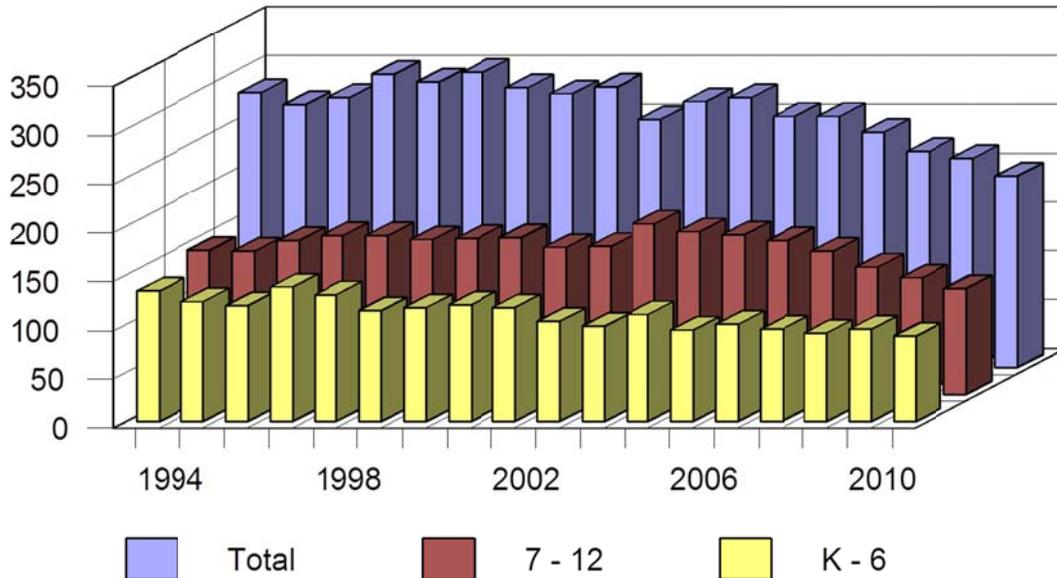
Per pupil costs in Canaan for 2009/2010 are among the lowest in our immediate area because we are one of the few districts that has not had a significant construction project in the last several years. Equalized per pupil cost is projected at \$10,285 for FY12.

IV. FACILITIES AND SERVICES (CONT'D)

Schools are required to evaluate student achievement scores. Act 60 suggests that schools evaluated achievement not only be test results and grades, but also community surveys, demographic data, drug and alcohol use surveys, student surveys and teacher evaluations. Canaan has a Steering Committee that performs these duties. This committee writes the School-wide Action Plan, which is updated every two years.

The website for the Canaan schools (<http://www.canaanschools.org>) is maintained and updated on a regular basis and is intended to provide the latest information about our schools. You are encouraged to visit this site, review the information found there and offer your comments and suggestions.

School Population



The Canaan Community Education Center, located in the Old Town Hall Building, offers the only continuing education center in Essex County. It offers continuing education for high school students and for adults in the area, as well as assistance obtaining a GED and other services. The Center is also able to offer workplace training, which is a vital resource as the work opportunities in the community shift.

1. Proposal

Canaan Educational facilities should be maintained and efforts made to strive for cost effective solutions to offer quality education for the citizens of the community.

IV. FACILITIES AND SERVICES (CONT'D)

D. WATER SUPPLY

The Canaan and Beecher Falls villages are served by separate water systems.

1. Beecher Falls village

The Canaan Selectboard voted on August 20, 2004 to establish a new water district: Canaan Fire District #2 (CFD#2) comprising all of the Vermont assets of the former Riverside Waterworks from Ethan Allen Inc. It consists of a gravel packed well, a small reservoir and distribution pipes ranging from eight to two inches in size. Well capacity is two hundred gallons per minute with a maximum yield estimated to be over 250 gallons per minute. The District serves approximately 120 households, including Riverside village in New Hampshire.

The Town acquired Riverside Water Works from Ethan Allen in 2007 and has been awarded a grant/loan from USDA to study/construct updates to the system. Phase 1 of this was completed in 2010 with a new 150,000 gallon storage tank being constructed above Route 3 in Stewartstown and a new eight inch main on Route 3 including fire hydrants. Phase 2, involving continuing waterline replacement is to be completed in 2011.

2. Canaan village

Canaan Fire District #1 was formed in 1986 and currently supplies water to about 140 dwellings, two school buildings, a motel, and several small businesses in Canaan village as well as the village of West Stewartstown, New Hampshire. It should be noted that the Green Hill apartment complex on Vermont Route 253 is not a water system user.

The primary source of supply is a group of springs located northwest of the village in Canaan, augmented during dry periods by a 180 gallon per minute driven well located in Ethan Allen Park near Leach Stream. In 1987, a 100,000 gallon covered concrete reservoir was constructed and master meters were installed at both the new reservoir and the well to provide improved monitoring of usage and to alert personnel of possible leaks in the system. A new chlorine system was installed in 1997.

In 1988, a new eight inch line was installed from the fire hydrant on Reservoir Road to the fire hydrant near the Town Office on Vermont Route 253 to increase system reliability by providing a complete loop of a large section of the Fire District, with resulting increased water pressure.

In 1998, the Town used the Global Positioning System (GPS) to map the location of the springs. The Canaan Fire District Committee also adopted a Source Protection Plan around the springs and well house which reduced the number of State mandated tests.

In 2002, a solar powered system was installed to coordinate operation of the well to maintain reservoir level.

IV. FACILITIES AND SERVICES (CONT'D)

In 2003, a backup pump was purchased to minimize system down time and a call plan was setup to notify users when reduced usage is necessary.

Hydrants providing fire protection in the major portion of the village are located along the six inch line. Pressures range from fifty to seventy pounds per square inch.

An engineering study is being done in 2011 to determine the extent of improvements/upgrades necessary to meet State standards.

3. Proposal

The current level of water supply should be maintained. As funding becomes available the line from just south of the Town Office building north on Vermont Route 253 and into Holmes Street (one of the oldest and least reliable sections) should be replaced.

E. WATER POLLUTION CONTROL

The service area of the Canaan-West Stewartstown wastewater treatment facility includes single family residential customers, apartments, two mobile home parks, motels, restaurants, offices, schools, gas stations, a Homeland Security border station, a bowling alley, the Ethan Allen Furniture Company and the Coos County Nursing Hospital and Correctional facility. The estimated residential population served is approximately 1,000 persons.

The sewage collection system and treatment facility was initially built in 1973 and was expanded in 1981 to serve West Stewartstown, New Hampshire. At that time, West Stewartstown purchased 48% (88,000 gallons per day) of the system's total capacity of 185,000 gallons per day and made a commitment to pay 48% of future capital expenditures. The current state discharge permit, in effect until March 31, 2014, sets limits of 185,000 gal/day monthly average flow, 30 mg/l monthly average 5-day biochemical oxygen demand, 45mg/l monthly average total suspended solids, as well as other discharge parameters. Monthly average discharge for 2009 was 97,900 gpd and 94,300 for the first 6 months of 2010.

The treatment facility, located between Vermont Route 102 and the Connecticut River, consists of three lagoons aerated by forced air blowers. The plant effluent discharges into the Connecticut River through a submerged outfall pipe.

Collection of raw sewage is accomplished through a system of gravity and force mains. The force mains are operated by one pneumatic injector station and three pump stations. The two stations along Vermont Route 253 between Beecher Falls and Canaan have emergency power generators but the injector station and pump station in Beecher Falls do not. The majority of the mains are eight inches in diameter with some sections of ten inch pipe. Collection of sewage is separated from storm drain collection. West Stewartstown has two pumping stations with a combination of eight and ten

IV. FACILITIES AND SERVICES (CONT'D)

inch lines. The treatment facility serves a population of approximately 1200 including the employees of Ethan Allen Inc. Under the current sewer bylaw, any new structures located within 100 feet of the collection system are required to connect to the system. Maintenance costs and debt service for the sewage treatment facility are paid by user fees.

In 1994, the Town hired an engineering firm to do a 20 year State mandated evaluation. In 2004, the Selectmen entered an agreement with a local septic firm to reduce the amount of solids entering the town system and compost them, thus substantially reducing the cost of maintaining the lagoon aeration system.

In 2011, the Towns of Canaan and Stewartstown voted to fund an extensive overhaul of the wastewater treatment facility. The Town of Canaan is seeking to purchase additional land to accommodate the proposed wastewater treatment plant upgrade.

1. Proposal

The current water pollution control facility should be maintained and upgraded as necessary to provide adequate capacity and maintain compliance with all regulatory guidelines.

F. TRANSPORTATION

1. Highways

There are 46.1 miles of highway in Canaan of which Vermont Routes 102, 114 and 253 account for nearly half or 17.84 miles. Town Highways consist of:

- Class II: 2.35 miles
- Class III: 15.08 miles
- Class IV: 10.86 miles

The State Agency of Transportation began a major reclamation and paving project on part of Vermont Route 114 in 2001, completing it in 2009. Vermont Routes 253 and 102 are badly in need of reconstruction/repaving due to increased truck traffic in recent years due to the closing of the bridge in Beecher Falls connecting to U.S. 3. The State highways handle a substantial amount of local traffic as well as through traffic.

In general, those portions of Town highways within the villages of Canaan and Beecher Falls are paved and those outside the villages unpaved, the exception being River Road in Beecher Falls which was paved in 2002. The bridge on Clay Book Road was upgraded in 1990 with State Aid funds. The Hall Stream bridge was upgraded for an anticipated thirty to fifty more years of service in 2000. The Keyer Brook bridge at the junction of the Canaan Hill and Clay Brook Roads was washed out in the heavy rains of 1998 and was replaced. Most Town highways are in good condition for present levels of traffic.

IV. FACILITIES AND SERVICES (CONT'D)

a. Proposal

Current Town highways should be maintained as necessary to provide safe and sufficient passage.

2. Bus, Rail and Air Service

The nearest bus stops are in Littleton and Berlin, New Hampshire with service to points south in New Hampshire and in Newport, Vermont with service to western and southern Vermont, southern New England and Quebec.

Limited unscheduled commercial air service is available in Newport, Vermont and Whitefield, New Hampshire. There is a private landing field in Colebrook, New Hampshire without commercial service. There is no longer any rail service available north of North Stratford, New Hampshire.

a. Proposal

Canaan residents travel frequently outside town to obtain commercial and professional services and at various times the need for some sort of public transportation has been expressed, but current demand is not sufficient to make it possible.

G. FIRE PROTECTION

The Beecher Falls Volunteer Fire Department (BFVFD) was organized in 1943 to protect the Beecher Falls Manufacturing plant (now Ethan Allen Inc.). The coverage area eventually grew to include the Towns of Averill, Avery's Gore, Canaan, Norton and Warrens Gore in Vermont as well as West Stewartstown, Clarksville and the Halls Stream area in New Hampshire and a total of 5 adjacent towns in Quebec. In 1993 a Rescue Squad was formed as an integral part of the BFVFD.

911 fire and rescue dispatching is currently managed by the Colebrook Communication Center.

In January 1976, the building and all equipment was destroyed by fire. A new building was constructed at the same location consisting of a six bay garage with a meeting room and toilet facilities, expanded to eight bays in 1999.

Apparatus currently owned by the department includes:

1989 Spartan 1500 gpm pumper	1973 PEM FAB 1250 gpm pumper
1986 Mack tanker	1996 Grumman Rescue Van
1998 Snowmobile w/rescue sled and trailer	2005 4 Door Rescue
2006 EZ Pumper	2006 Ford 550 Brush & Rescue
2006 HME Command Pumer & Heavy Rescue	2007 Vtech Tanker
2010 Polaris Ranger ATV/Rescue	2010 Volvo vacuum tanker
District 2 MCI Trailer	
Hazardous materials trailer with decontamination and containment capabilities	

IV. FACILITIES AND SERVICES (CONT'D)

The BFVFD is governed by a 5 member board of directors and currently has 40 members including 3 chiefs, 6 captains and 6 lieutenants. This includes 21 Level 1 certified firefighters. A representative from the department serves on the 45th Parallel Emergency Medical Services.

2011 Canaan Town Survey Excerpt

Satisfaction with the current level of services:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Fire protection	43%	45%	7%	1%

1. Proposal

The BFVFD's commitment to maintaining and increasing the high level of service provided should continue to be supported by the Town, with special attention paid to the department's long range funding needs.

H. POLICE PROTECTION

The Town has its own part-time Chief of Police for routine police protection. The Essex County Sheriff is located in Lunenburg, some forty miles from Canaan, there are, however, two deputies (including the Chief) presently living in Canaan.

The nearest State Police Barracks is about 45 miles away in Derby. There are four State Police Troopers residing Essex County, one in Canaan, one in Norton, and two in Island Pond.

U.S. Border Patrol Agents provide support and assistance to state and local officers as needed. Currently, the Border Patrol Station is housed in Beecher Falls at the Port of Entry, but in June of 2011, there was a ground-breaking ceremony for a new facility located on Vermont Route 114 on the north side of Town. The new facility should be completed by November of 2012 and will provide a garage, a small dog kennel, and all the sitework to support the Border Patrol in their work, as well as enough space for the current 25 agents with room for some expansion of numbers.

1. Proposal

The current level of service should be maintained. The current level of service should be maintained. Canaan has a Basic Emergency Operations Plan, which should be regularly reviewed for accuracy.

I. SOLID WASTE DISPOSAL

In 1991, Canaan joined the "Piggery Recycling Center" project in neighboring West Stewartstown, New Hampshire, a cooperative effort involving several neighboring New Hampshire Towns. At Town Meeting 2007, the voters approved a "pay-by-the-bag" system for solid waste as well as a fee based system to pay for construction debris, tires and electronics. All metals and recyclables are accepted at no charge.

IV. FACILITIES AND SERVICES (CONT'D)

In 2006, the Town purchased land next to the wastewater treatment plant for a solid waste transfer station. The town also voted to build a transfer station, which began operating in August 2008.

Canaan voted to withdraw from the Northeast Kingdom Waste Management District (NEKWMD) at the 2009 Town Meeting and had a solid waste implementation plan (SWIP) approved in 2011 as well as a new “stump dump” management plan. The Town provides two household hazardous waste disposal days annually.

1. Proposal

Continued vigilance has to be maintained in order to contain costs, reduce waste and continue our successful recycling system.

J. ROAD MAINTENANCE

One full time person and one part time person (as needed during the winter) as well as additional summer help are responsible for road maintenance. Equipment owned by the Town includes:

2011 one ton truck	2000 Backhoe/loader
2002 one ton truck	1985 Grader
2 stainless steel road sanders	2 snow plows
Misc. tools, machinery etc.	

Equipment is housed in the Town Garage on Vermont Route 253.

An aggressive graveling plan was implemented in 2005 with the intention of resurfacing the Class 3 roads on a 5-year cycle as follows:

2006 Todd Hill Rd	2007 Kemp Hill Rd, Cook St, Judd Rd
2007 Canaan Hill Rd (part)	2009 Wallace Pond area class 3 roads
2010 Remainder of Canaan Hill Rd, Clay Brook Rd, Fund Rd	

2011 Canaan Town Survey Excerpt

Satisfaction with the current level of services:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Road/street maintenance	10%	44%	22%	20%
Snow removal	17	53	16	9

1. Proposal

The current level of service and maintenance should be maintained.

IV. FACILITIES AND SERVICES (CONT'D)

K. LIBRARY

In 1933, Alice M. Ward willed her home to the Town for use as a public library. The library is located adjacent to Fletcher Park in the center of Canaan village and was placed on the National Register of Historic Places in 1980. The building is owned and maintained by the Town.

The Town appropriated \$15,000 for a new roof in 1989 and, in 1991, the Selectmen obtained a grant to repair eight of the building's original 1846 windows. The Library Trustees and the Canaan Historical Society Executive Committee have designated four rooms on the second floor for the development of a museum to preserve our local heritage. In 1998, the previous rented apartment on the first floor was converted to additional library space. Renovations are ongoing and have been funded by Town tax appropriations as well as grants and generous donations by organizations such as the Tillotson Foundation and Ethan Allen, Inc. In 2003 the carriage house was stabilized through installation of a full perimeter concrete foundation with a \$13,000 matching grant from the Vermont Division of Historical Preservation and funds from the Canaan Revolving Loan Fund (no local tax money).

Entirely paid for with grant funding, the outside of the library and carriage barn saw fresh paint in 2004 and 2006. With funds from the Preservation Trust of Vermont and labor of the Canaan School's Building Trades Department, the southern half of the library was gutted, insulated and renovated in 2007. New carpet was installed on the north side of the library in 2011.

The library holds a playgroup for young children and their families on Monday mornings. Special workshops for youth to adults are routinely held and advertised in our regular newsletter, Facebook page and the local newspapers. There is regular outreach to local daycares and consistent collaboration with the Canaan School. The library director is a founding member of Vermont's Early Literacy Initiative and a strong proponent of the subject. Thousands of dollars are brought into the library for programming every year with diligent grant writing by library staff and trustees.

The library has high-speed wireless Internet with three patron computers and plenty of space for those with their own electronics. We are a fully automated library with over ten thousand titles and if we do not have it, with interlibrary loan, we can usually get it for you. The library recently added two Kindle electronic books for circulation. Current library hours are Monday through Thursday 12-5, Friday 12-4 and Saturday 9-1.

1. Proposal

The costs of maintaining both School and Town libraries needs to be addressed by the Trustees of the Library and the School Board Directors.

IV. FACILITIES AND SERVICES (CONT'D)

L. HEALTH FACILITIES AND SERVICES

2011 Canaan Town Survey Excerpt

How much of the following would you like to see in Canaan?

	<u>MORE OF</u>	<u>LESS OF</u>	<u>NO CHANGE</u>
Health care facilities	54%	3%	37%

Please rate your satisfaction with the current level of services:

	<u>EXCELLENT</u>	<u>GOOD</u>	<u>FAIR</u>	<u>POOR</u>
Health services	3%	30%	35%	21%

Canaan's population is becoming older, particularly with the loss of family-sustaining jobs in the area. The 2010 census shows that Canaan's population, with 17.1% past their 65th birthday, is older than the Vermont state average of 14.6% age 65 and over. To ensure that children got care, Canaan worked hard to get programs into the schools. The increasing number of older people makes local availability of geriatric care particularly important and suggests that some needs of elders may not be adequately addressed.

Getting to health care providers requires travel. Canaan residents go to Colebrook, Berlin and Lancaster, New Hampshire; Newport, Island Pond and St. Johnsbury, Vermont; and Coaticook, Quebec for dental care, outpatient treatment and hospitalization. Tertiary care is available in West Lebanon, New Hampshire; Portland, Maine; Burlington, Vermont; or Sherbrooke, Quebec. The nearest pharmacy is in Colebrook, New Hampshire. Transportation to medical appointments is provided by Rural Communities Transportation. There are no transportation charges but donations are welcomed.

Veterans who use VA medical services must travel to the VA hospital in White River Junction, or use clinics in Newport, Vermont or Littleton, New Hampshire. Transportation for veterans may be arranged through the Disabled American Veterans, which operates a largely volunteer service.

Twenty-four hour ambulance services are available from the 45th Parallel Ambulance Service in Colebrook, New Hampshire supported by an annual contribution from Town taxes and a user service charge. Weather permitting, emergency air ambulance service is available from Colebrook to tertiary care centers.

Home health care is provided by the Orleans-Northern Essex Home Health Agency in Newport, Vermont. Long-term care that allows people to stay in their homes requires coordination; those services are available through the Area Agency on Aging for Northeastern Vermont, based in St. Johnsbury, and Northeast Kingdom Human Services. Nursing homes are located in West

IV. FACILITIES AND SERVICES (CONT'D)

Stewartstown, New Hampshire; Barton, Newport and St. Johnsbury, Vermont.

Northeast Kingdom Human Services in Newport, Vermont provides services to Canaan residents with mental disabilities. These services are supported by user service charges and an annual contribution from Town taxes.

School health programs include speech, occupational, and physical therapy provided through the Visiting Nurse Association and dental referrals, screening and special education. There are other programs offered through grants which vary from year to year.

1. Proposal

Due to Canaan's demographic shift to older citizens, it would be advisable to work on getting health care providers to work in Canaan, at least part time.

M. ENERGY

1. Energy Resources

Energy for heat, light and hot water comes from several sources. Electricity is provided by Vermont Electric Cooperative, Inc. Basic house current is available in the villages and along the highways; far up in the hills, there are "off the grid" dwellings. Three-phase electrical service, necessary for heavier uses, is available along sections of Vermont Routes 114, 102 and 253.

Heating oil, propane gas, wood pellets and other stove fuels are supplied by a number of area distributors. Firewood is also locally available. Motor fuels are sold at service stations in and around Canaan.

A large natural gas pipeline is located in Beecher Falls. Also in Beecher Falls, Vermont Electric Co-op owns an electric cogeneration plant which currently is not being used.

2. Needs

Canaan's residences and businesses are currently able to meet their energy needs with existing providers.

3. Scarcities

Vermont Electric Cooperative is working to upgrade the transmission lines in their service area. A transmission line upgrade, they argue, will improve reliability and flexibility to buy from lower-cost power producers, allowing for better rates and better reliability.

4. Costs

Costs of all forms of energy are comparatively high in Canaan and environs due to a variety of factors beyond local control. Motor fuel costs depend on the distributor's price for delivery of a

IV. FACILITIES AND SERVICES (CONT'D)

certain quantity plus taxes. The power line capacity problem impacts costs of distributing electricity, making energy a high-cost item to businesses that might want to locate here.

5. Problems

Paying for heating fuels is increasingly problematic for Canaan residents and businesses alike. The cost of electrical power has become a focal point in Ethan Allen's decision-making process regarding the future of the Beecher Falls factory, the major employer in town. Those who commute to and from Canaan also struggle with higher gasoline prices.

6. Conservation of Energy

The Planning Commission advocates the conservation of energy including using energy saving products such as compact fluorescent lighting, weather stripping, window plastic, and water heater wraps. Turning down thermostats at night, shutting off lights in empty rooms and other energy saving strategies should be taught and practiced in schools, at home and at work. When building, renovating or redecorating, energy efficient products and design strategies should be used. For example, a south-facing wall with lots of tight windows will help heat a building in winter, while an overhanging roof to shelter those windows somewhat in the summer will cut down on unwanted heat then. Insulated shades and draperies, pulled closed, also help by blocking passive solar heating when it is hot, and opening them lets the heat in when the temperatures drop.

8. Land Use and Energy Conservation

Using the terrain to help conserve energy should be considered in land development. Building on south facing hillsides exposes buildings to more solar energy, reducing the need for conventional heating. Earth sheltered homes can also be less costly to heat and cool. Planting deciduous trees to the west also provides shade and reduces the need to expend energy to cool homes in summer.

9. Proposal

The Planning Commission should review desirable locations for commercial development and modify the Zoning Bylaws accordingly.

Energy audits of town buildings have helped the town identify energy saving improvements. The town office should make available contact information for home weatherization programs and publications of the State conservation utility. These entities should be invited to participate in public gatherings to get their message out.

N. COMMUNICATIONS AND MEDIA

As is common in most parts of the County, Canaan has two kinds of communication services: Direct link methods such as telephone and cable television connections using poles and wires and broadcast methods relying on satellite or tower transmission and antennae for reception.

IV. FACILITIES AND SERVICES (CONT'D)

Telephone lines are located along all the state highways and nearly all the Town's Class 2 and 3 roads. Canaan has had Enhanced 911 service since November 1998. The Derby communications center, one of six regional dispatch centers that grew from State Police dispatch units provides regional coordination and dispatch for Canaan and other area towns. E-911 provides caller location information if a conventional telephone is used. A tower on Ben Young Hill in Clarksville, NH provides limited pager coverage. There is very little cellular telephone coverage in the area, but demand for it continues to increase.

Personal computer links to the Internet are a widespread and growing communications tool but are available mainly as dial-up service over ordinary voice-grade telephone lines, an area network, or satellite link. The data transmission rates on a dial-up connection are comparatively slow, making this mode unattractive for high-volume business traffic. The area network is limited because of financing issues and has had capacity problems in the past, causing many potential users to look elsewhere. Satellite link internet service is faster than dial-up but has delays in connection that sometimes cause problems with data transfers. Also, with satellite, weather can obstruct the system's operation. The Town offices, the School and the Library share a network that has broadband access to the Internet and public access is available at the Library.

Canaan residents who use television subscribe to cable or, in outlying areas, satellite services for television. This is necessary as digital signals are lower-powered than analog ones that sometimes came in, leaving Canaan residents unable to receive over-the-air broadcast television any more.

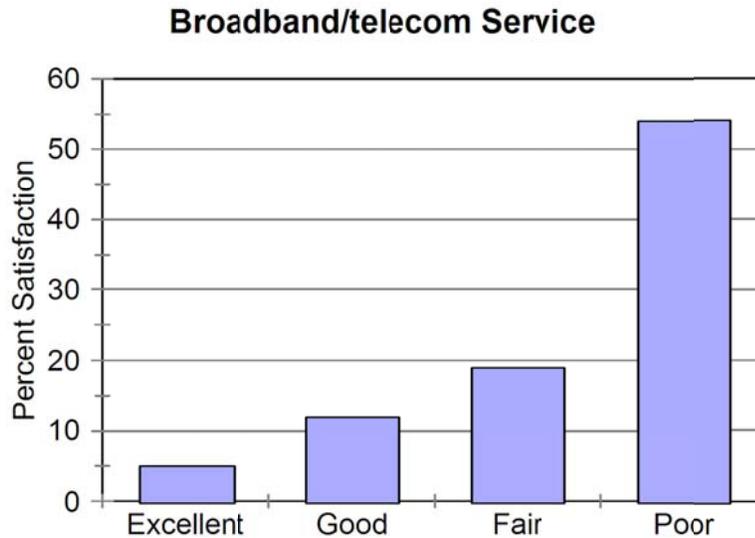
Emergency personnel use two-way radios linked to local transmitters. In 2011 a new transceiver for utility crews was permitted for installation near Canaan village in order to improve emergency response. Loggers and other contractors use citizen band radios. Satellite telephones are also occasionally used.

Although basic needs are currently being met with existing resources at competitive cost, the area has fallen behind in availability of more advanced telephone and data transmission technologies. This limits economic development in Canaan and surrounding areas. Broadband Internet access still does not exist in most parts of the township. DSL internet service is possible in South Canaan due to proximity to the Colebrook phone office; however most of the Town is too distant to use this connection mode. Despite the presence of fiber optic cable on Vermont Route 114 from Norton and assurances from the State and the telephone service provider that it is coming, true broadband eludes most Canaan residents.

Cellular service is patchy at best due to lack of antennae. Currently cellular service from Colebrook, NH is available to some people in South Canaan. The hilly terrain interferes with line-of-sight transmissions such as cellular telephone signals. The current low population may be viewed by provider companies as a disincentive to development or improvement.

IV. FACILITIES AND SERVICES (CONT'D)

2011 Canaan Town Survey Excerpt



The 2011 survey shows widespread dissatisfaction with current Internet service options and strong demand for high-speed Internet. Residents likewise have shown increased interest in cellular phone technology for themselves and for tourists who would enjoy maintaining contact with home while up visiting the area. Finally, the need for economic development requires that Canaan develop the technological milieu that is considered normal and necessary in the rest of the country. The Town is receptive to innovations and new technologies in communications that will better serve residents' personal and professional goals and that will enhance the quality of life in Canaan.

1. Proposal

It is recommended that the zoning bylaw be revised to include provisions to ensure that communications infrastructure blend into the landscape while serving the community. In particular:

- a. All such facilities should be located in appropriate areas, respecting the integrity
- b. Towers and related infrastructure should only be as tall as necessary. Where surrounding treetops.
- c. Unless required by the FAA, towers should not be illuminated. When required,
- d. Structures should be designed in order to minimize aesthetic impacts.

IV. FACILITIES AND SERVICES (CONT'D)

O. RENEWABLE ENERGY

Canaan has historically used water power. Public Service Co. of NH has an active hydroelectric generating station in Canaan village, making clean electricity when there is sufficient flow. Renewable energy for Canaan means using local resources responsibly to control the cost of living and working here.

Recent developments in wind power technology have stimulated interest in locating wind farms along high ridge lines in the Northeast Kingdom. Proximity to high volume transmission lines and fairly constant high wind speeds are required to make wind projects commercially feasible. Drawbacks can include visual impact on scenery and radio frequency interference if the wind turbines are in line of sight with transmission towers. Vermont has a State review process governing the location of public utility generating equipment, Act 248, which addresses most concerns.

Canaan does not appear to have large tracts that favor commercial development as the technology and transmission system currently stand; however, as improvements are made, commercial wind generating may become viable in the future. If such development is proposed, the desires of Canaan residents regarding maintaining the scenic, recreational and agricultural feel of the Town will be considered.

Meanwhile, small wind generators and solar panels are used in some areas of town as individual landowners seek to reduce their dependence on the grid. Unlike solar panels, which usually stay close to building surfaces, wind generators need to be freestanding in order to work. Most are tower-mounted to ensure the rotor blades reach the wind. Because of their relatively low power, the smaller turbines are less likely to interfere with radio frequency transmissions. They also tend to be designed to turn themselves off if ice collects on the blades, reducing the danger of ice being flung off.

Vermont's Public Service Board has authority to regulate any electrical generator that connects to the grid, including the residential generators that put excess power from the house back onto the grid. Thus, the zoning bylaws will have very limited jurisdiction over them. However, some residential systems are self-contained and off the grid. It may be useful to have the zoning bylaws address their use.

1. Proposal

If such development is proposed, it is recommended that the Planning Commission address the regulation of energy producing systems according to the regulatory capabilities reserved to the Town by law. Additional consideration should be given in the zoning bylaw for the impact on the scenic and agricultural values in the Town.

ADOPTION

On _____, 20____, the Town held a ballot vote to adopt the Proposed 2011 Municipal Plan. Article ____ read: Shall the Town of Canaan adopt the 2011 Proposed Municipal Plan.

_____ voted in favor.

_____ voted in opposition.

The Municipal Plan was voted in on _____, 20__

Attest: _____, Town Clerk _____, 20__