Sheldon, Vermont

Town Plan

Adopted on _____

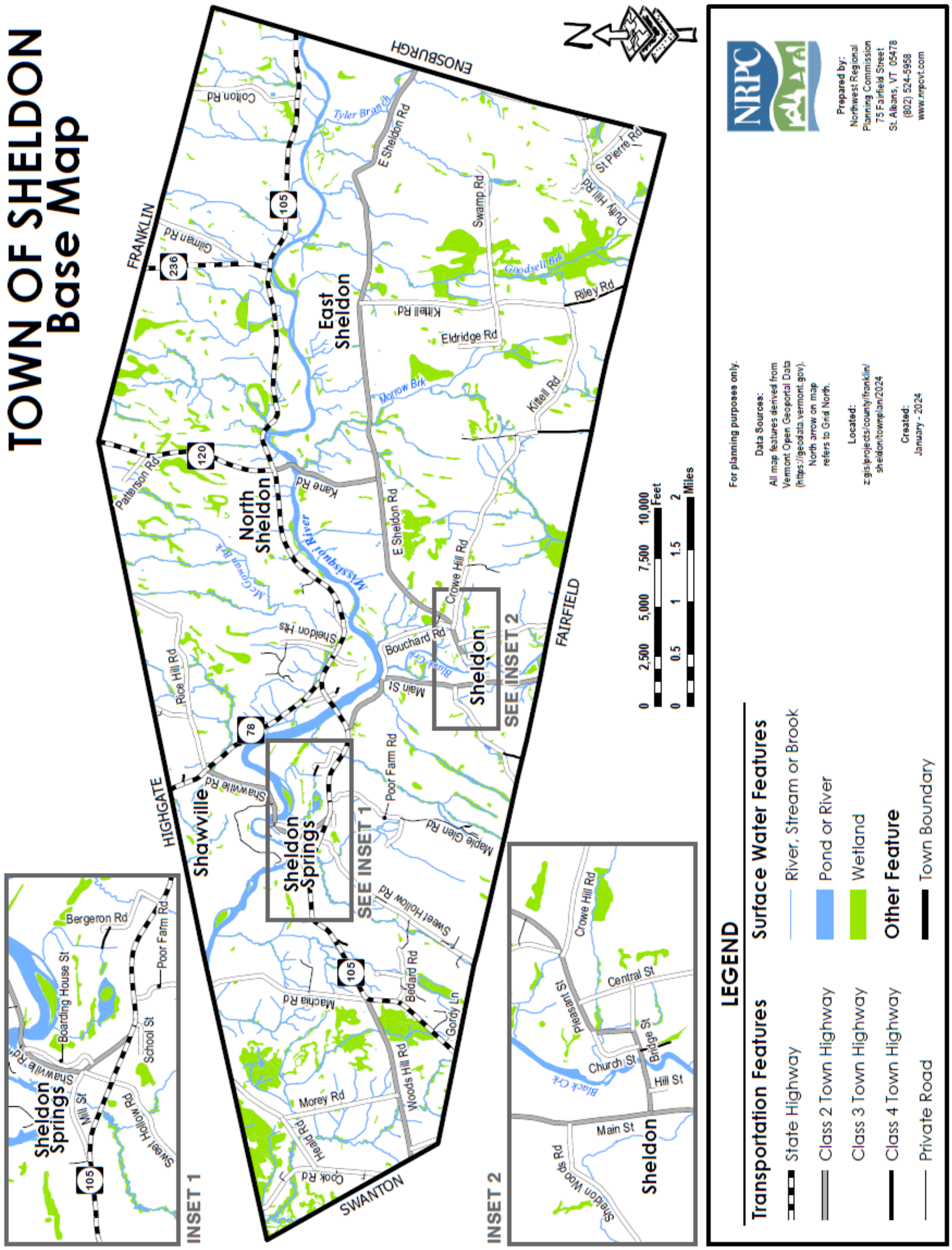
DRAFT for 6/25/2024 PC Hearing

Contents

Chapter 1: Vision for the Future of Sheldon

The following vision statement shall serve as a guideline for the future of Sheldon:

The goals and policies outlined in this plan will guide Sheldon forward as a small town with a distinctly rural, agricultural character. Residents enjoy a high quality of life that is enhanced by proximity to nature and open space, and a diverse economy that mixes outdoor recreation, agriculture, industry, and home-based businesses to provide ample employment opportunities and a stable tax base. The town's two village areas have concentrated services and small businesses walkable to adjacent residential neighborhoods, while areas designated for commercial and industrial development provide space for higher intensity uses without adversely impacting rural and residential areas.


TOWN OF SHELDON
Base Map
FRANKLIN
ENOSBURGH
HIGHGATE
SWANTON
FAIRFIELD
North Sheldon
East Sheldon
Shawville
Sheldon Springs
Sheldon
SEE INSET 1
SEE INSET 2
Missisquoi River
Tyler Branch
Morrow Brk
Goodsell Brk
McGowan Brk
Black Crk
Colton Rd
Gilman Rd
Paterson Rd
Kane Rd
E Sheldon Rd
Kittell Rd
Eldridge Rd
Swamp Rd
Riley Rd
Duffy Hill Rd
St Pierre Rd
Crowe Hill Rd
Bouchard Rd
Main St
Sheldon Hts
Rice Hill Rd
Shawville Rd
Poor Farm Rd
Maple Glen Rd
Sweet Hollow Rd
Bedard Rd
Gordy Ln
Machia Rd
Woods Hill Rd
Morey Rd
Heald Rd
Cook Rd
105
236
120
78
0 2,500 5,000 7,500 10,000 Feet
0 0.5 1 1.5 2 Miles
INSET 1
Bergeron Rd
Boarding House St
Poor Farm Rd
School St
Shawville Rd
Mill St
Sweet Hollow Rd
Sheldon Springs
INSET 2
Crowe Hill Rd
Pleasant St
Central St
Church St
Bridge St
Hill St
Main St
Black Crk
Sheldon Woods Rd
Sheldon
LEGEND
Transportation Features
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Private Road
Surface Water Features
River, Stream or Brook
Pond or River
Wetland
Other Feature
Town Boundary
For planning purposes only.
Data Sources:
All map features derived from Vermont Open Geoportal Data (https://geodata.vermont.gov).
North arrow on map refers to Grid North.
Located:
z:gis/projects/county/franklin/sheldon/townplan/2024
Created:
January - 2024
NRPC
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Chapter 2: Introduction

Purpose

The municipal plan guides the future of the town through short-term and long-term community goals, policies and actions for the future. The plan's goals and policies are based on analysis of relevant existing conditions, data trends and community needs covering the municipal planning topics of land use, natural resource protection, economic development, transportation, flood resiliency, housing, education, municipal facilities and services. The Sheldon Town Plan also serves as the legal basis for land use regulations and capital budget programs.

The Town Plan may be given effect in State and Federal regulatory proceedings, including Act 250 Hearings. The Selectboard and Planning Commission are statutory parties to Act 250 applications involving Sheldon. Determination of a specific project's conformance with the Town Plan is one method of participating in the Act 250 process. The Town Plan includes an Enhanced Energy Plan, which when approved by the Regional Planning Commission will give the town "substantial deference" in the permitting process for energy generation facilities and telecommunications facilities (Section 248 and Section 248a).

Authority

The Town of Sheldon is authorized to prepare and adopt a Municipal Plan via Chapter 117, Title 24 of the VSA (Vermont Municipal and Regional Planning and Development Act). The Act states that municipal plans shall be re-examined, updated, and re-adopted every eight years. This process should be ongoing, whereby the Plan is continually reassessed and revised to meet the changing needs of the community.

Planning Process

Sheldon first adopted a town plan in November of 1980. The most recent plan was adopted in January of 1994 with updates and readoption in 2005, 2010, and 2015. The need for involvement of Town residents in the planning process is critically important to a successful planning proces. While it is the responsibility of the Planning Commission to develop the Plan, citizens and citizen committees can have an active role in gathering information and formulating Plan policies for guiding development. This ensures that the Plan reflects the priorities and desired lifestyle of its residents. A collaborative, inclusive planning process will result in a more effective and successful plan.

Role of the Sheldon Planning Commission

The Sheldon Planning Commission members are appointed by the Selectboard for three-year terms. The Planning Commission is empowered to formulate goals and policies toward the Plan development. The Commission is responsible for the review and revision of the Town Plan and to propose amendments to the zoning bylaws and regulations in an effort to implement the plan.

Chapter 3: Summary of Goals and Policies

Archaeological, Historic, and Scenic Resources

GOAL: To Recognize the Role of Sheldon's Archaeological, Historic, and Scenic Resources in Shaping the Town's Present Quality of Life and Future Opportunities.

Policies

- Protect sites of potential archaeological, historic and scenic significance.
- Promote growth that maintains the historical land use pattern of densely settled village centers separated by open agricultural and working lands.
- Promote the use of historic buildings for public purposes whenever feasible.

Community Facilities

GOAL: To plan Ahead to meet Future Needs for Public Facilities Based upon Community Growth and Change.

Policies

- Promote efficient and functional use of existing municipal buildings and facilities.
- Provide sufficient space and facilities to carry out essential municipal functions.
- Provide a gathering place for community members to address town business.
- Ensure adequate municipal facilities for all residents.

Community Services

GOAL: To Provide Municipal Services to Meet the Needs of Local Residents of all Ages without Undue or Sudden Impacts upon Local Property Taxes.

Policies

- Provide emergency services and law enforcement to protect the health, safety, and property of residents and visitors alike.
- Provide recreational areas and facilities in convenient and reasonable locations for the use and enjoyment of all residents.
- Conserve Sheldon's recreational resources, discourage incompatible land uses, and protect the scenic qualities that contribute to recreation.
- Consider land needed for community services within the overall land use plan.

Community Utilities

GOAL: To Provide Public Utilities to Support Concentrated Residential, Commercial, and Industrial Development, and Protect Public Health and Water Supplies in Areas without Municipal Services.

Policies

- Coordinate the maintenance and upkeep of water and sewer infrastructure in areas planned for growth and development.
- Support state permitting and enforcement to ensure that individual on-site septic systems and water supplies are sited and installed in a manner that protects public health and the quantity and quality of ground water. Support innovative technologies in wastewater permitting.
- All telecommunications facilities shall respect the integrity of residential neighborhoods, aesthetic impacts, and have no undue adverse impact on natural resources and local tax rates.
- Telecommunications facilities shall be co-located with other towers or structures when feasible.

Economy

GOAL: To Promote a Diverse and Stable Economy by Helping to Ensure the Successful Operation of Existing Economic Activities and Providing Opportunities for New Ones

Policies

- Protect and encourage the continuation of agriculture by protecting the rights of farmers who responsibly use Required Agricultural Practices.
- Encourage businesses that complement recreation opportunities within the Town.
- Protect the economic vitality and importance of the villages as a community and regional asset.
- Encourage commercial development that meets local needs for retail, business, and personal services.
- Encourage siting of businesses and industries in Sheldon that will use the skills of the local labor force.

Education

GOAL: To Provide Adequate, High Quality Educational Services Relative to Anticipated Population Growth.

Policies

- Provide for the education of our school population without overcrowding or reduction in the quality of our educational programs.
- Ensure that rapid growth or development will not inflict undue impacts and hardships upon the ability of the town to provide adequate educational services.
- To broaden access to educational and vocational training opportunities for all ages, sufficient to ensure the full realization of the abilities of current and future residents.
- Ensure regulation of land development in Sheldon does not negatively impact the availability of safe and affordable childcare.

Housing

GOAL: To Provide Suitable Land Areas for Residential Development to Serve the Needs of Current and Future Sheldon Residents.

Policies

- Ensure adequate housing options for people of all income levels, ages, household types, and preferences.
- Promote low-density residential housing in areas without municipal services and higher densities in parts of town with existing services or close to existing service boundaries.
- Conserve and protect the vitality and quality of existing neighborhoods.

Land Use

GOAL: ¬ Maintain Traditional Village Areas Surrounded By A Landscape Of Farms, Forestry, And Rural Countryside. Encourage Development In Rural Areas To Be Clustered To Preserve The Open Rural Landscape That Defines Sheldon.

Policies

- Maintain the character of existing neighborhoods and avoid potential conflicts between incompatible land uses.
- Encourage and preserve the historic character and concentrated development in traditional village centers.
- Discourage strip development along state and town highways.
- Encourage industrial and high intensity commercial land uses in the Industrial District.
- Encourage small scale commercial and mixed uses in the village districts that are compatible with existing neighborhoods.
- Protect public health, welfare, and safety by limiting development in the flood plain.
- Protect water quality by limiting development in Wellhead Source Protection Areas, wetlands, and along streambanks.
- Conserve productive lands by accommodating development in areas away from most farming activity and that do not have prime agricultural soils.

Natural Features

GOAL: ¬ To Provide for Local Growth that is Compatible with the Town's Environment and Natural Resources, Including Air, Soils, Landscape, Water Resources, and Wildlife.

Policies

- Protect the quality of air, water, and land resources through development regulations where financially and ethically best for the town.
- Recognize the importance of the area's natural features to the overall quality of life enjoyed by Sheldon residents.
- Discourage development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high-water table.
- Limit development on slopes greater than 15% and maintain natural vegetation on slopes.
- Guide development away from productive agricultural or forest soils.
- Protect the water quality of the Missisquoi River and its tributary streams by preventing erosion along their banks.
- Protect ground water quality by regulating uses that could introduce contaminants into the ground.
- Limit the loss of local wildlife habitat.
- Limit infringement upon wetlands.
- Protect areas where rare, threatened or endangered species exist if possible and in accordance with state and federal regulations.

Transportation

GOAL: Provide For A Safe, Convenient, Economic, And Energy Efficient Transportation System That Respects The Natural Environment And Utilizes A Variety Of Transportation Modes. ¬

Policies

- Maintain the physical state of municipal roads and associated infrastructure in good condition.
- Provide appropriate provisions for bicycle and pedestrian use on designated routes, including sidewalks, paths, proper signage and pavement improvements.
- Protect the health, safety, and welfare of the traveling public.
- Promote the design and maintenance of transportation facilities that respect the natural environment.
- Maintain the scenic character of the Town's rural byways.
- Support the efforts of the Northwest Vermont Rail Trail Council to promote, enhance, and increase use of the Missisquoi Valley Rail Trail and the Lamoille Valley Rail Trail.

Flood Resiliency

GOAL: To Ensure Sheldon is a flood resilient community.

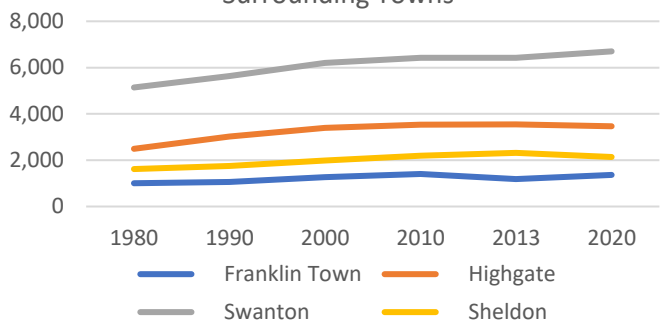
Policies

- To discourage development in identified flood hazard areas and river corridor areas. If new development is to be built in such areas, it shall not exacerbate flooding and fluvial erosion.
- To protect and restore floodplains, river corridors, and upland forest areas that attenuate and moderate inundation flooding and fluvial erosion.
- To encourage and support emergency preparedness and response planning.

Chapter 4: Community Profile

The Town of Sheldon is located in the northeast of Franklin County which is in the Northwest corner of Vermont. It is bordered on the north by the towns of Franklin and Highgate, on the east by Enosburg, on the southwest by Swanton, and on the south by Fairfield. Sheldon covers 25,177.54 acres or approximately 39.34 square miles. This amounts to 5.68 percent of the total area of Franklin County. The total area in the county is 693 square miles including 56 square miles of surface water.

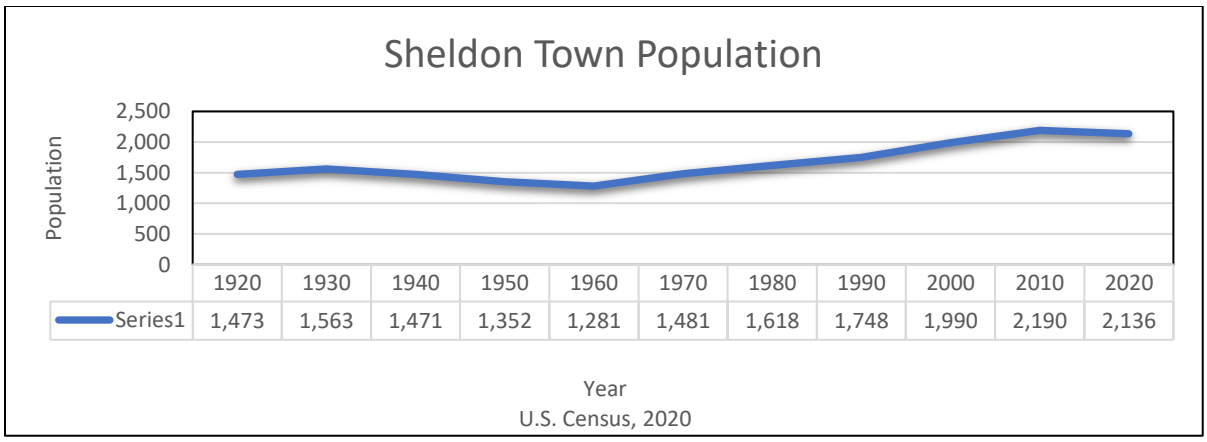
Table 1: Population for Sheldon and Surrounding Towns



U.S. Census, 2020

Population

A municipal plan must be based on an understanding of the population and its geographical distribution as it changes over time. Over the past ten years, the population in Sheldon has remained fairly consistent. The 2010 U.S. Census recorded a population of 2,142, while the latest census (2020) counted 2,136. This size is similar to all surrounding towns, with the exception of Swanton, which has a population of 6,701. Table 1 displays the population of Sheldon in comparison to the surrounding communities of Franklin County.



U.S. Census, 2020

Predicted Population

The small size of the population makes long-term forecasting difficult, especially at the local level. Most models assume that in-migration, driven in part by continued economic growth and development, will continue well into the years to come, but natural increases will level off somewhat, given the overall aging of the population. Climate migration is rising concern as more and more newcomers are citing climate change as a driving factor for their move. Vermont is slated to be one of the most climate resilient states in the coming years and is drawing new residents from the Rockies to the Atlantic who are seeking higher ground and

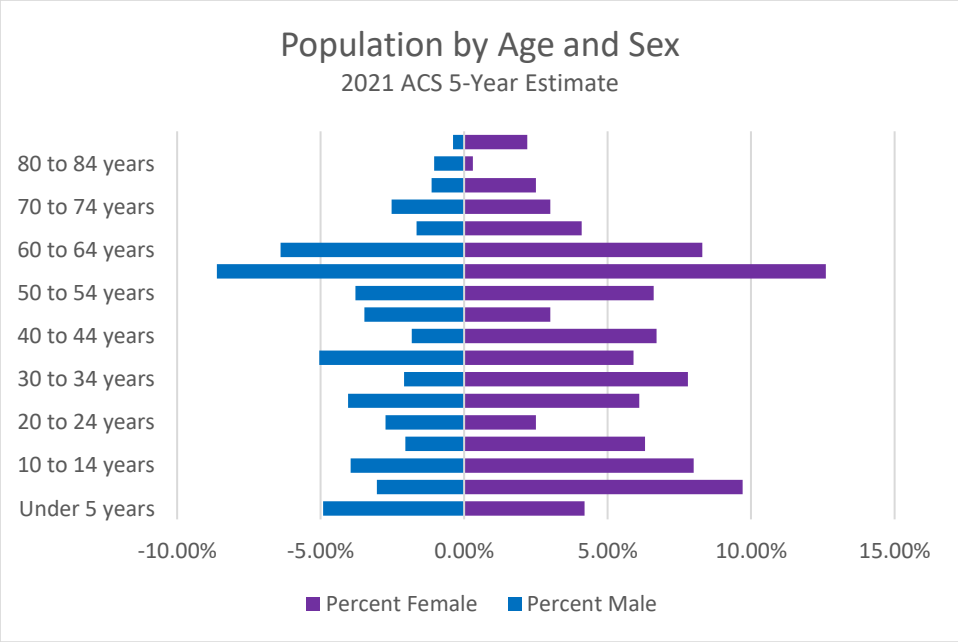
clean air. Climate migration will hopefully boost economic growth, but with the existing housing crisis, it might pose an issue for native Vermonters seeking affordable housing.

In 2013, the Vermont Agency of Commerce and Community Development released population projections through the year 2030 with a scenario for low and high economic growth. Both scenarios predicted steady population growth, but given the population updates from the 2020 U.S. Census, scenario B (lower economic growth) appears more plausible.

Current and Predicted Populations for Sheldon, VT				
	2000	2010	2020	Scenario B: 2030
Franklin Co.	45,417	47,746	49,946	50,739
Sheldon	1,990	2,190	2,136	2,354
Source: VT Agency of Commerce and Community Development and Decennial Censes				

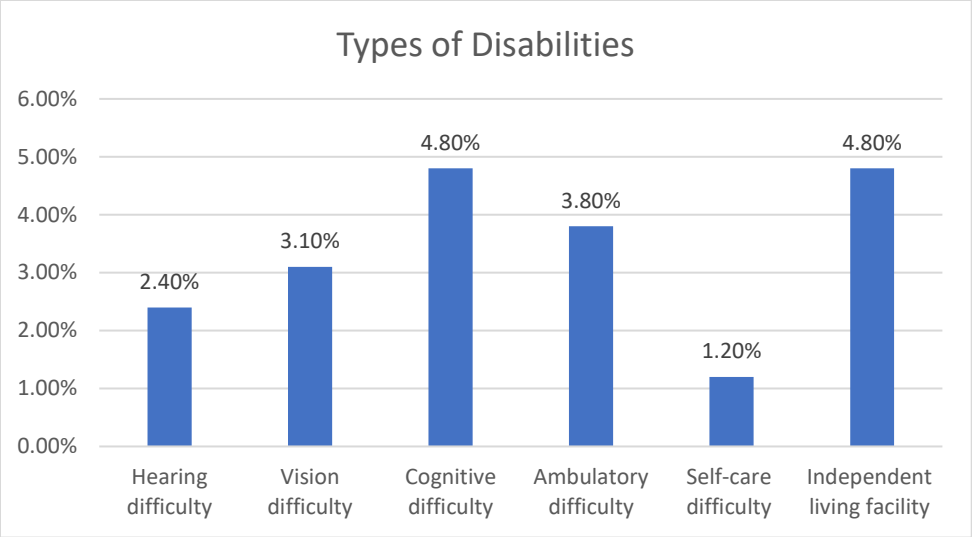
Age Distribution/Growth by Group

The median age in 2021 for the residents of Sheldon was 40.9 years. This figure is similar to Franklin County (40.4) but lower than the State of Vermont, which has a median age of 42.9. Sheldon, Franklin County, and the State of Vermont have all seen an increase in their median ages since 1980. Like many towns in the State, the population of Sheldon is aging. The largest census age group is 55-59 years, with 318 Sheldon residents falling within that age range (2021 ACS 5-Year Estimate).



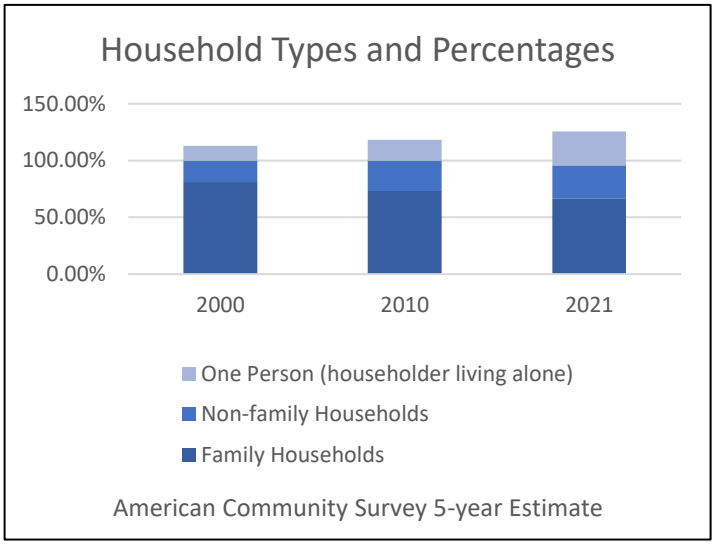
Special Populations

The US Census provides information about the number of people with various levels and types of disabilities. Sheldon has a lower disabled population than Franklin County as a whole. This information can have important planning implications to ensure the town is accessible to all.



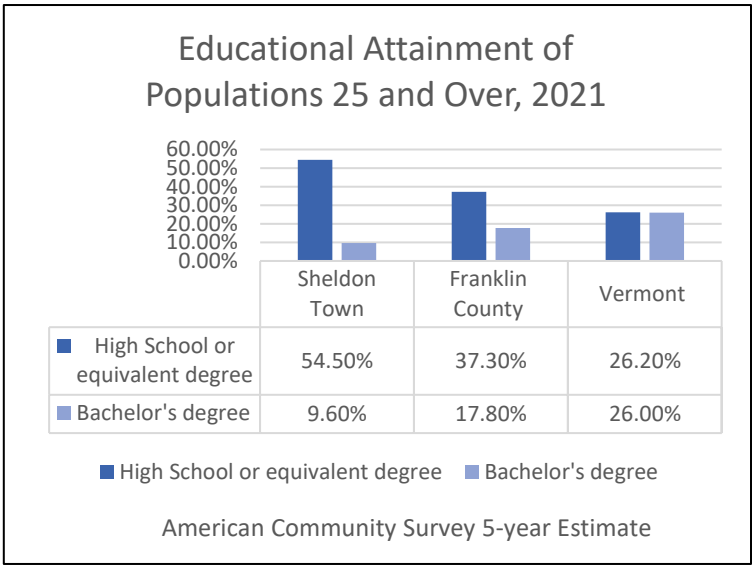
Household Size and Type

The way population groups itself into households affects the demand for housing, community services, and employment. Nationwide and within Vermont, household size declined dramatically during the 1970's, but has since started to level off. Sheldon's average household size has remained steady since 2010, when it was 2.68. The lowest it has dipped since then was in 2017 at 2.52, before returning to 2.68 in 2021.



Education

In Sheldon, 54.50% of residents 25 years and older have attained a high school or equivalent degree. Overall, 9.60% of residents hold a Bachelor's Degree or higher, which is significantly less than Franklin County (17.80%).



Income

The median household income for the Town of Sheldon was $64,602 in 2021, about $4,000 less than Franklin County as a

whole(Vermont Housing Data). The overall percentage of Sheldon residents living in poverty was 10.6%, with higher levels recorded for persons under 18 years and over 65.

According to the Vermont Department of Labor, the average annual wage of employees working in Franklin County was $52,920 in 2021, only slightly lower than the state average of $56,264. 16,925 jobs were recorded in the county.

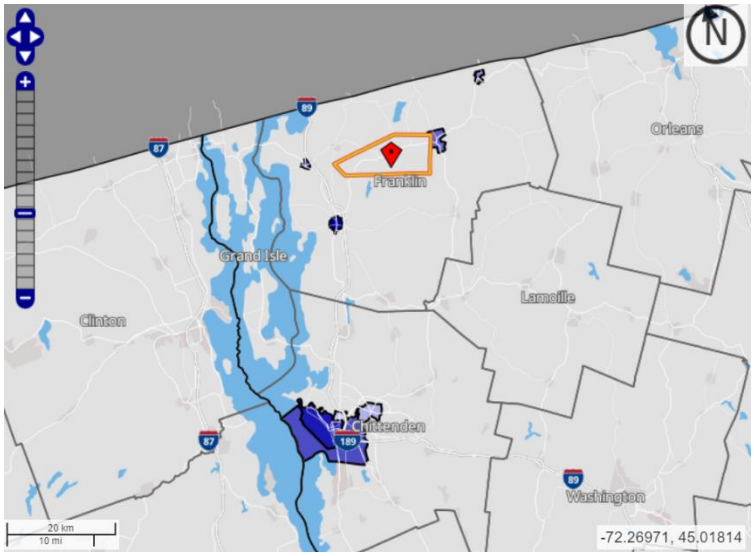
Employment

According to the 2021 American Community Survey 5-Year Estimate, the employment rate in Sheldon is 71.1%, which is higher than Franklin County as a whole (63.5%) The majority of Sheldon workers work in the manufacturing industry or educational services, health care, and social assistance. In 2021, the average hours worked per week was 39 (2021 ACS 5-Year Estimate)

Industry for the Civilian Employed Population 16 Years and Over	
Industry	**Number of Workers**
Manufacturing	251
Educational services, and health care and social leasing	177
Agriculture, forestry, fishing and hunting, and mining	150
Retail trade	110
Arts, entertainment, and recreation, and accommodation, and food services	98
Professional, scientific, and management, and administrative and waste management services	92
Transportation and warehousing, and utilities	63
Construction	62
Finance and insurance, and real estate and rental and leasing	49
Wholesale trade	39
Information	31
Other services, except public administration	29
Public administration	11
Source: 2021 American Community Survey 5-year Estimate	

Commute Time to Work

According to the 2021 American Community Survey, the average travel time to work for a Sheldon town resident was 23.4 minutes. A majority of residents (84.5%) drove alone to work, while only 5.3% participated in carpooling. Most residents (84.9%) work within Franklin County. According to the 2020 U.S. Census, 379 people are employed within Sheldon, though only 72 people live and work in the town. For those that don't work in Sheldon, the most common commute destinations are St. Albans or Burlington.



Top 6 Commute Destinations for Sheldon Workers	
Destinations	**Count**
St. Albans city, VT	118
Burlington city, VT	63
Swanton village, VT	48
South Burlington city, VT	47
Enosburg village, VT	44
Richford CDP, VT	37
Source: U.S. Census, 2020	

Grand List Trends

It is possible to get an idea of how the amount and type of housing and other land uses in the community are changing over time by using information from the Sheldon Grand List. Table 9 shows the number of parcels categorized by their land use in Sheldon in 2022.

According to the most recent Sheldon Annual Report, 53 permits were filed in 2020. Of those permits, six were new homes, nine were additions, three were garages, and the remainder were decks, barns, sheds, etc.

Sheldon Grand List Parcel Data	% of Total
Residential 1 (less than six acres)	3.03%
Residential 2 (more than six acres)	24.46%
Mobile Home with land	3.12%
Commercial	1.79%
Commercial Apartment	0.01%
Industrial	1.65%
Electric Utilities	0.29%
Farm	50.22%
Woods	0.42%
Miscellaneous	15.01%
Source: Sheldon Grand List, 2022	

Chapter 5: Archaeological, Historic, & Scenic Resources

GOAL: To Recognize the Role of Sheldon's Archaeological, Historic, and Scenic Resources in Shaping the Town's Present Quality of Life and Future Opportunities.

Policies

- Protect sites of potential archaeological, historic and scenic significance.
- Promote growth that maintains the historical land use pattern of densely settled village centers separated by open agricultural and working lands.
- Promote the use of historic buildings for public purposes whenever feasible.

Historic Resources

The Sheldon Historical Society was founded in January of 1996 instigated by interest in recognizing the former home of Col. Elisha Sheldon, the oldest in the village. The Society's objective is the preservation of historical artifacts, records, and stories in town. Anyone interested in joining or if they would like to be placed on the mailing list can contact the Historical Society or the Town Clerk for information. The Historical Society has continued to hold several meetings each year. Interesting programs have been presented, including Sheldon's Post Office, the Poor Farm, Sheldon Fair, and the Mineral Springs.

In April 2023 the Preservation Trust of Vermont announced a Paul Bruhn Historic Revitalization grant of $50,000 for the Historical Society to rehabilitate the H H Mower General Store located in the heart of Sheldon's historic district. Once completed, the newly rehabilitated building will service as a space for community events, historical society meetings, and a rest stop on the Lamoille Valley Rail Trail.

A number of local structures are listed in the State Historic Register. The State also recognizes the Sheldon Creek Historic District, and the Sheldon Springs Main Street Historic District. Many of the Town's historic structures have been razed or rehabilitated to the point where they have lost the details which tie them to the past. These losses may be attributed to a lack of awareness, interest, and/or motivation among property owners. In addition, economics places the need for basic shelter over the importance of historically appropriate restoration.

Historic buildings, which were once in public ownership, such as schoolhouses, have been sold off in the hope that they would add more benefit to the grand list than they will absorb in town services. A number of these buildings are sitting idle and in disrepair. Sheldon's historic buildings, its rural land use pattern, and its typical Vermont scenery contribute to a quality of life that many residents take for granted. These features are a direct link to local history; a link that provides not only interesting and pleasing sights, but also valuable insights into the Town's present and future. Once gone, they cannot be replaced or returned.

Not included in the Register is the Region's historic settlement pattern of small villages and hamlets, located along well–traveled routes, surrounded by an open, working landscape. This pattern strongly evokes the Region's 19th century agrarian heritage and contributes much to its particular sense of place and community.

Smaller landscape features such as stone walls, old barns, outbuildings, corner stones, markers, trees, and old apple orchards and lilac bushes planted around former homesteads, all have historic value and importance; however, these unfortunately often go unnoticed. Despite the fact that these features say as much about the Region's rural and agricultural heritage as many of its more readily recognized historic landmarks, they are often disturbed, removed, or demolished without any thought. Recognizing the need for more public education, the Vermont Department of Forests, Parks, and Recreation published in 1994 *Stonewalls and Cellarholes: a Guide for Landowners on Historic Features and Landscapes in Vermont's Forests*.

A Brief History of Sheldon

The Native American tribes of St. Francis and Abenaki of the Algonquins most certainly inhabited the land near Lake Champlain along the Missisquoi River and Black Creek. These two water bodies flow through Sheldon and early history records indicate a Native American presence here.

In more recent times, the colonial governor of New Hampshire, Benning Wentworth, granted 23,040 acres to Samuel Hungerford and sixty-four associates. In the spring of 1790, the first settlers, George Sheldon and a family named McNamary along with their house servants, came by means of oxen and sled from Connecticut. They settled on the north bank of the Missisquoi, opposite the mouth of Tyler's Branch. In 1791 the settlers petitioned to change the name of the town from Hungerford to Sheldon.

The Town's population peaked in the 1830's at 2,158 persons. During this time Sheldon Village alone contained three churches, a post office, three stores, two hotels, two grocery stores, a grist mill, a sawmill, a carriage shop, a cabinet maker's shop, harness shop, two blacksmith's shops, and the Missisquoi Bank. The Town was comprised of eleven school districts.

By this time agriculture's emphasis had shifted from sheep to dairy. Although Fairfield produced more butter, Sheldon led the State of Vermont in the production of cheese during the late 1860's.

Sheldon became a mill town in 1894 when Joseph Shipley began producing ground wood pulp at the Missisquoi Mill. The ownership of the mill has changed several times over the years. The current operator, WestRock, employs approximately 150 people and produces 91,000 tons of recycled paperboard annually.

Sheldon suffered many thousands of dollars in property damage during the flood of 1927. The beautiful suspension bridge at Sheldon Springs and the North Sheldon Bridge were among the major losses.

Cultural and historic resources are also at risk of degradation through improper earth resource extraction. This includes the accidental destruction of buried archaeological sites and diminished scenic qualities that may limit the future use of disturbed sites. Noise, dust, and increased traffic on roads near extraction sites all compromise the rural character and sense of place the Town enjoys

Archeological Resources

Archaeological investigations have uncovered at least thirty-six prehistoric sites in Sheldon. Many of these were found during digs conducted in connection with the installation of the hydro project during the 1980's. Because of the wealth of sites along the Missisquoi River, archaeologists assume that all of the river's tributary streams and brooks are likely to contain sites of prehistoric activity. These sites could be protected by using measures, which would limit the potential for stream bank erosion.

Scenic Resources

The Northwest Region of Vermont is an extremely rich visual assortment of diverse landscapes, to the heavily wooded Western slopes of the Green Mountains. Visual language of an area plays an important role in how a community is perceived.

Scenic highways and corridors link natural, cultural, and scenic resources to the historic landscape of the area. The visual character of Sheldon makes it an excellent place to live. Sheldon, like all other towns, should preserve its scenic vistas. The Town should also encourage innovation in design and layout of development so that the visual impact can be minimized. The use of vegetative buffers and other screening methods should be encouraged to help reduce the visual impact of development in the Town.

Chapter 6: Community Facilities

GOAL: To plan Ahead to meet Future Needs for Public Facilities Based upon Community Growth and Change.

Policies

- Promote efficient and functional use of existing municipal buildings and facilities.
- Provide sufficient space and facilities to carry out essential municipal functions.
- Provide a gathering place for community members to address town business.
- Ensure adequate municipal facilities for all residents.

Public Buildings

The Town of Sheldon owns several buildings as shown in Table 15. All of these buildings are in need of some, if minor, repair.

Table 15 –Public Buildings – Town of Sheldon, 2016

Building	Location	Land Area	Owner	Use	Condition/ Comments
Elementary School	78 Poor Farm Rd.	7.4 acres	School District	K-8 Education Rec. Field	Built in 1973 - at capacity
Town Garage	340 Bridge St.	1 acre	Town	Storage/Maintenance of Equipment	Built in 1973 - needs new roof
Town Clerks Office	1640 Main St.	0.4 acre	Town	Town Office Library	Built in 2012
Fire House	479 Mill St.	1 acre	Town	Garage Meetings Training	Built in 2009
Salt Building	Bridge St.	1 acre	Town	Storage	1981
Water House	96 Boarding House St.	0.1 acre	Town	Water House	
Sheldon Water House	1153 Main St.	6 acres	Town	Pumphouse	Agricultural easements
Wastewater Plant	350 Mill St.	3.2 acres	Town	Sewer Plant	1976
Water Booster Station	13 Crowe Hill Rd.	0.1 acre	Town	Pumphouse	Built since 2012

Sheldon Historical Society	200 Bridge St.	3.6 acres	Town	Historical Society	Being restored by historical society; yard area has brownfield concerns.

The Town Clerks office, which also serves as the library and public meeting room, was recently moved to a new building in 2012.

In 2005, the town voted to allocate funding toward the construction of a new Fire Station. This project was completed in 2009 and the Fire Station in Sheldon Springs continues to have adequate space and up-to-date facilities.

Public Land

The Town owns a number of properties of various sizes. Many are small parcels of land picked up over the years through tax default, which are too small for development according to the Town zoning bylaw. The largest town-owned property is an 86-acre forest parcel on Poor Farm Road adjacent to the school, referred to as the Sheldon Community Forest. Formerly, a committee was responsible for trail maintenance on the site. In recent years, maintenance has not been kept up, and many trails are in disrepair. However, the forest remains heavily used by the school.

The town also owns a 73-acre forested property between Sweet Hollow Road and Route 105. In 2020, a reconnaissance report from the county forester revealed this parcel to be an old growth forest of important ecological significance. An easement agreement with the Northeast Wilderness Trust was proposed to preserve the parcel, but no action has been taken as of 2024.

Table 16 - Public Land in the Town of Sheldon, VT

Name	Location	Size	Use
Cardosi Lot	545 Mill St.	.1 acre	Vacant
Dump Land	Bridge Street	.25 acre	Vacant
Fay Parent Lot	Main St.	1 acre	Well
Grist Mill Lot and Waite Lot	Bridge St.	.18 acre	Grist Mill Park
Lawson Clapper Lot	Bridge St.	.66 acre	Vacant
Sheldon Community Forest	105 Poor Farm Rd., adjacent to school	86 acres	Recreation

Sweet Hollow Town Forest	Between Sweet Hollow Rd. and VT-105	73 acres	Recreation
Rec. Field	78 Poor Farm Rd.	4 acres	Recreation field at school
Rooney Lot	146 Pleasant St.	.25 acre	Vacant
Sheldon Water House Lot	1153 Main St.	6 acres	Water House, Agricultural easements
Veteran's Memorial	Main Street	.75 acre	Veteran's Memorial
Pierre Parent Farm Cemetery	3464 E Sheldon Rd.	1.5 acre	Disused cemetery
Webster Cemetery	1002 Cook Rd.	.25 acre	Cemetery last used in 1913

Chapter 7: Community Services

GOAL: To Provide Municipal Services to Meet the Needs of Local Residents without Undue or Sudden Impacts on Local Property Taxes.

Policies

- Provide emergency services and law enforcement to protect the health, safety, and property of residents and visitors alike.
- Provide recreational areas and facilities in convenient and reasonable locations for the use and enjoyment of all residents.
- Conserve Sheldon's recreational resources, discourage incompatible land uses, and protect the scenic qualities that contribute to recreation.
- Consider land needed for community services within the overall land use plan.

Law Enforcement

The Vermont State Police and Franklin County Sheriff provide police services for Sheldon. Sheldon contracts with the County Sheriff for a minimum of 8 hours weekly. There are a limited number of state troopers that service the community depending on the incident and their availability. Recently, law enforcement needs have been increasing in Sheldon. An increase in law enforcement services should be balanced with consideration of the potential increase of cost to taxpayers.

Ambulance

AmCare provides ambulance care to Sheldon based out of their facility on Route 105. AmCare reports that they respond to 150-200 calls a year on average.

Fire Department

The Sheldon Volunteer Fire Department is currently composed of twenty-one members and one station. The department currently has 3 pumper and tanker trucks and 1 heavy rescue unit. The average life of pumper and tanker trucks is approximately twenty years; in 2024 the Fire Department was working on replacing one of the 3 trucks. They are also working on installing battery operated tools in the heavy rescue unit.

The Town of Sheldon is dispatched through the 911 system. The fire department responds to over 200 calls a year, a majority of which are medical calls. Motor vehicle accidents and fires account for most of the remaining calls.

The fire department is funded through donations, fund-raisers, and an annual appropriation from town property taxes.

Water from the Missisquoi is piped to fourteen hydrants in Sheldon Springs. There are currently five dry hydrants in the Town. Housing developments in the outlying areas must provide their own water for use in case of fire. Access to water, adequate roadways and turn-

arounds for fire-fighting vehicles should be reviewed during the permit process for all new development.

Recreation

Ball fields, tennis courts and a playground are available at the elementary school. The gym is also available for local use. The Little League ball field for local youths is owned by Rami Bourdeau. The fields are in high demand and are used frequently by the community.

The Missisquoi Valley Rail Trail traverses through many towns in Franklin County, including the Town of Sheldon. The 26.4-mile trail, located on the former Central Vermont Railroad bed, links the communities of St. Albans City, St. Albans Town, Swanton, Fairfield, Sheldon, Enosburgh, Enosburg Falls, Berkshire, and Richford. The 93-mile-long Lamoille Valley Rail Trail traverses the state from St. Johnsbury to Swanton, intersecting with the MVRT at Sheldon Junction. Both trails are year-round and accommodate snowmobiles, bicycles, horses, joggers, hikers, walkers, and cross-country skiers. Parking and access to both of the trails for Sheldon residents is located at Sheldon Junction on Severance Road. The MVRT also has a trail head on 105 at Greens Corners and on Kane Road. The Town of Sheldon is currently working on developing a parking area and trailhead for the LVRT on Bridge Street in Sheldon Creek. A representative of the Town serves on the Northwest Vermont Rail Trail Council organized to manage and coordinate the trails in coordination with the Vermont Agency of Transportation.

Library

Sheldon has had a local public library since 1869 when the Sheldon Agricultural and Mechanical Library Association was founded, and after its dissolution, the Sheldon Public Library was founded in 1895 and then incorporated in 1899. The library was housed in the homes of Sheldon residents (frequently the librarians) until 1952, when the library moved into the newly built Town Office building.

Today, the Sheldon Public Library continues to be housed within the Town Offices, rebuilt in 2012. It is open twenty-two hours a week on Tuesdays, Wednesdays, Fridays and Saturdays, with a weekly Story Time. There are approximately 5800 books for all ages with approximately two hundred new titles added each year as well as half a dozen periodical subscriptions and passes to a variety of local recreational activities and museums for free admission. Also in circulation is a “Library of Things” that includes Adventure Backpacks, snowshoes, learning activities, puzzles, and games. There are two computer stations available to the public, a Cricut die-cut machine and a sewing machine for in-house use.

The library sponsors special events including a holiday craft show, an annual cornhole tournament, seasonal family events, a summer reading challenge, and classes on painting, cooking, sewing, and other special interests.

The library currently meets the State standards for library facilities and services. Libraries that meet the State standards are eligible for grants and free cataloging services from the Department of Libraries. This allows the library to greatly improve its service to its patrons.

Cemeteries

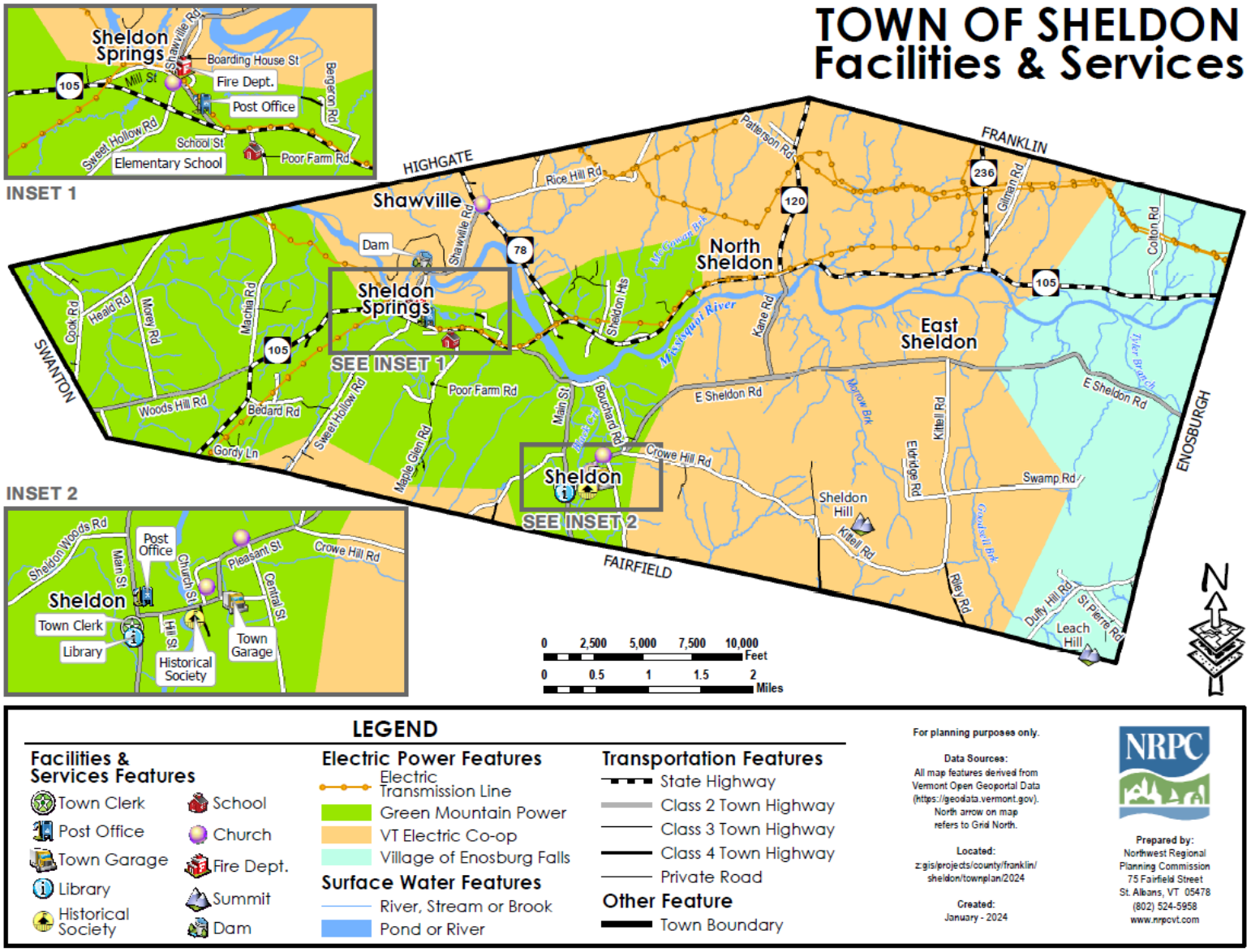
The Town of Sheldon has several cemeteries which are now closed, and three which remain open. Their status is shown in table 17. It is important to plan ahead in order to reserve space adjacent to the existing cemeteries for future expansion. It is also important to ensure that adequate funding arrangements are made for the long-term maintenance of cemeteries, especially once they are filled.

Table 17: Cemeteries in Sheldon, VT

	Who maintains the cemetery?	Size in Acres	Remaining Capacity
Rice Hill Cemetery	Church	1.7	Open
Sheldon Village Cemetery	Association	10.2	1/3
Missisquoi Cemetery	Association	0.6	Open
Grace Episcopal Cemetery	Church	0.5	Open
North Sheldon	Town	0.2	Closed
West End Cemetery	Town	0.5	Closed
East Sheldon Cemetery	Town	1.5	Closed
Poor Farm Cemetery	No one	0.75	Closed
St. Anthony's	Church	6.8	Open

Solid Waste Disposal

Sheldon is a member of the Northwest Vermont Solid Waste Management District (NWSWD). The district includes nineteen Franklin and Grand Isle County towns. The district has a contract for disposal for all member municipalities The district processes recyclable material and household hazardous waste at its Georgia Recycling Center, which was approved by voters to be expanded in 2023. A composting program diverts food waste from landfills. Landfill-bound waste in Sheldon is shipped to the Coventry Landfill via the Highgate Transfer Station. The NWSWD also owns a 154-acre property in Sheldon intended to be used as a potential landfill site if existing landfill capacity is exhausted or export becomes less cost effective. The facility would still need to obtain Act 250 and local permits before commencing operation.


TOWN OF SHELDON
Facilities & Services
INSET 1
Sheldon Springs
Shawville Rd
Boarding House St
Fire Dept.
Post Office
Mill St
105
Sweet Hollow Rd
School St
Elementary School
Poor Farm Rd
Bonanza Rd
INSET 2
Sheldon
Sheldon Woods Rd
Post Office
Main St
Church St
Pleasant St
Crowe Hill Rd
Central St
Town Clerk
Library
Hill St
Historical Society
Town Garage
HIGHGATE
Shawville
Rice Hill Rd
Patterson Rd
FRANKLIN
236
120
Gilman Rd
Colton Rd
Dam
78
North Sheldon
Sheldon Springs
SEE INSET 1
Cook Rd
Heald Rd
Mowry Rd
Machia Rd
Sheldon Hts
Missisquoi River
Kane Rd
East Sheldon
SWANTON
Woods Hill Rd
Bedard Rd
Gordy Ln
Sweet Hollow Rd
Maple Glen Rd
Poor Farm Rd
Main St
Bouchard Rd
E Sheldon Rd
Crowe Hill Rd
Sheldon
SEE INSET 2
Eldridge Rd
Kittell Rd
Swamp Rd
Sheldon Hill
Riley Rd
Duffy Hill Rd
St Pierre Rd
Leach Hill
ENOSBURGH
FAIRFIELD
0 2,500 5,000 7,500 10,000 Feet
0 0.5 1 1.5 2 Miles
N
LEGEND
Facilities & Services Features
Town Clerk
Post Office
Town Garage
Library
Historical Society
School
Church
Fire Dept.
Summit
Dam
Electric Power Features
Electric Transmission Line
Green Mountain Power
VT Electric Co-op
Village of Enosburg Falls
Surface Water Features
River, Stream or Brook
Pond or River
Transportation Features
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Private Road
Other Feature
Town Boundary
For planning purposes only.
Data Sources:
All map features derived from Vermont Open Geoportal Data (https://geodata.vermont.gov). North arrow on map refers to Grid North.
Located:
z:gis/projects/county/franklin/sheldon/townplan/2024
Created:
January - 2024
NRPC
Prepared by:
Northwest Regional Planning Commission
75 Fairfield Street
St. Albans, VT 05478
(802) 524-5958
www.nrpcvt.com

Chapter 8: Community Utilities

GOAL: To Provide Public Utilities to Support Concentrated Residential, Commercial, and Industrial Development, and Protect Public Health and Water Supplies in Areas without Municipal Services.

Policies

- Coordinate the extension and upgrade of water, sewer, and power lines with planned growth of the community.
- Support state permitting and enforcement to ensure that individual on-site septic systems and water supplies are sited and installed in a manner that protects public health and the quantity and quality of ground water.
- All telecommunications facilities shall respect the integrity of residential neighborhoods, aesthetic impacts, and have no undue adverse impact on natural resources.
- Telecommunications facilities shall be co-located with other towers or structures when feasible.

Water Systems

Sheldon has one public water system that serves both Sheldon Creek village and Sheldon Springs village in the Town. The system is financed by hook-up fees and quarterly user fees.

Prior to 2013, the Sheldon Springs and Sheldon Creek Village systems operated independently and were fed by two separate wells. In 2013 the two systems were connected via a new pipe along Route 105, and the Sheldon Springs well was closed due to high sulfur content and contamination in its source protection area.

The water system's single current source is a shallow, gravel well just outside the Village. This well, developed in 1975, has a potential capacity of 250 gallons per minute, but is currently limited to 70 gallons per minute due to constraints in the system's pumping capacity. Its maximum daily demand is 55,000 gallons. Its source protection area is subject to an agricultural easement which allows the owner use of the land excluding activities which might contaminate the ground water.

The system is served by two reservoirs along Main Street, with a total reserve capacity of 95,000 gallons. The second reservoir was added in 2013. There is also a disused 40,000 gallon reservoir in Sheldon Springs that is not currently connected to the system. Water is distributed through 4" PVC pipes and 2" galvanized lines pressurized by a pump. There are no fire hydrants on the system. Pressure is adequate except for two connections at the top of Crow Hill. The water is chlorinated. This system is adequate for service development at the current level, but would require an upgrade to serve a large development.

On-site wells and springs serve the remainder of homes in town. At least some of the local groundwater has shown signs of nitrate contamination. Water sources near Sheldon Springs have high sulfur content.

Wastewater Treatment

The Village of Sheldon Springs has a municipal sewage treatment plant with an extended air system constructed in 1976. In 2003, the Town upgraded the system with a new digester and sludge pump and refurbished the aviation tank. All homes and businesses in the village are connected to the system. The system is designed to handle 54,000 gallons of effluent per day and is currently receiving approximately 20,000 gallons per day. There is no written policy governing extensions to the system. Hook-up and user fees are charged. There is no long-term plan or budget for system upgrades or maintenance. Storm water infiltrates the system at times of high rainfall. However, the current operator does not consider this a significant problem.

A 13,000-gallon drying bed located next to the wastewater treatment plants is used by the Town as well. This bed is adequate to treat the volume of wastewater generated by the Town in the near future.

WestRock also operates a wastewater facility in Sheldon that services their facility. Changes to the Total Maximum Daily Load (TMDL) that governs phosphorus limits discharged to Lake Champlain may mean that upgrades to the WestRock and Sheldon Springs facilities are needed. The Town should monitor this issue and begin planning accordingly.

The remainder of the Town is served by on-site septic systems. New construction, updating or repairing of a wastewater system must be approved and permitted by the state.

Telecommunications

Telecommunications have become increasingly important to the security and economic success of residents and businesses in the northwest region of Vermont, as well as in all other sections of the State. Telecommunication towers and related infrastructure require careful consideration. Proper siting is necessary to protect the Town's historic character, rural nature, and aesthetic beauty. Much of Sheldon now has service from at least one of the major cellphone companies. However, there remain significant areas that lack coverage, including directly adjacent to the elementary school, which presents a safety concern.

There are various types of internet service providers that serve customers in Sheldon with fiber optic cable available along and near Route 105. The Town is a member of Northwest Fiberworx, a regional municipal entity working on expanding fiber access across Northwest Vermont.

Chapter 9: Economy

GOAL: To Promote a Diverse and Stable Economy by Helping to Ensure the Successful Operation of Existing Economic Activities and Providing Opportunities for New Ones.

Policies

- Protect and encourage the continuation of agriculture by protecting the rights of farmers who responsibly use Required Agricultural Practices.
- Encourage businesses that complement recreation opportunities within the Town.
- Protect the economic vitality and importance of the villages as a community and regional asset.
- Encourage commercial development that meets local needs for retail, business, and personal services.
- Encourage siting of businesses and industries in Sheldon that will use the skills of the local labor force.

Overview

Sheldon remains primarily an agricultural community since first settled in the late 1700's. The rural character contributes to the high quality of life in Sheldon, however economic development opportunities exist that will maintain or enhance the character of the Town. As agriculture remains prominent in the local economy, the town supports and encourages opportunities for the sale of locally produced products. There is a strong market for many value-added products in the state and the region. Value added agricultural products can supplement the income of primary farming activity making it a more viable household income. Local commercial and industrial opportunities that are carefully planned in accordance with current land use and economic activities can improve the overall quality of life with local jobs, demand for housing and increase in tax base.

According to the Vermont Department of Labor, there were 29 employers in Sheldon, retaining 310 employees with an average annual wage of $64,734 in 2022.

Agriculture

According to historical records, Sheldon led the State in cheese production during the 1860's. Today, the dairy industry continues to play a major role in the local economy. According to the Agency of Agriculture Food and Markets, there were 110 dairy farms in Franklin County in 2021.

Farm diversification and value added production is important to the future of agriculture in Sheldon. Maple sugaring is likely the most common farm diversification activity. Other farm diversification practices include forestry, beef cattle and bee keeping.

In the next several years, Sheldon may want to complete an updated farmer survey to better understand the challenges facing agriculture in Sheldon.

Commercial and Industrial Enterprises

Sheldon has many different types of businesses and services for its residents and visitors. These include tourist orientated services, outdoor recreational services, retail stores, lodges, construction services, automotive services, financial advising services, and restaurants. These businesses all contribute to the local economy by providing jobs, tax revenues, lodging, dining, and other services for Sheldon's residents.

The top employers in the Town of Sheldon include WestRock, Bourdeau Brothers Inc., Abbey Restaurant and the Sheldon Public School system. Sheldon Elementary School employees about 64 people according to the Vermont Department of Labor.

Joseph Shipley came to Sheldon in 1894 and began the Missisquoi Mill which produced ground wood pulp. The mill flourished and expanded into a pulp and paper mill in the early twentieth century, and Sheldon became a mill town. The ownership of the mill has changed several times over the years.

During the ownership of Boise Cascade in the early 1980's, the waterpower rights were separated from the mill and Missisquoi Associates, a private company, constructed a hydroelectric plant with a much greater capacity for producing electric power. The power generated here is sold to VELCO.

Future Economic Development

Future economic development in Sheldon should continue to center on the existing industries in the town: agriculture and manufacturing. Agriculture and agriculture-related businesses should be encouraged and supported. Future small scale commercial-type development shall be located in the village districts as identified in the Land Use chapter. Any future industrial development shall be located within the industrial districts, as identified in the Land Use chapter, where there is sufficient public infrastructure.

Chapter 10: Education

GOAL: To Provide Adequate, high quality Educational Services and Plan for Anticipated Population Growth.

Policies

- Provide for the education of our school population without overcrowding, inefficient division of basic educational facilities, or reduction in the quality of our educational programs.
- Ensure that rapid growth or development will not inflict undue impacts on the ability of the town to provide adequate educational services.
- To broaden access to educational and vocational training opportunities for all ages, sufficient to ensure the full realization of the abilities of current and future residents.
- Ensure that is adequate, safe and affordable childcare.

Educational Services

Samuel Sheldon built the first schoolhouse on the west side of Black Creek in Sheldon Village in the early 1800's. At its population peak in 1880, the Town had thirteen schools. Today, Sheldon has one school located in Sheldon Springs which serves students from pre-school through eighth grade. The Sheldon School was built in 1975 and with a design capacity of 350 students. In 2019, the Sheldon School District consolidated with Berkshire, Bakersfield and Montgomery to create the Northern Mountain Valley Unified Union School District. The Northern Mountain Valley Unified District FY 2024 budget was $19,481,245.00. Recently, increasing enrollment and space needs has prompted the addition of classroom pods to expand available space, which has increased the capacity of the school. The total enrollment has increased since 2015 from 262 K-8 students to 295 k-8 students in 2022. Enrollment increased from 2021, just one year, 6%. The breakdown by grade in 2022 is as follows:

Sheldon Elementary School Enrollment, October 1, 2022												
Grade	PK-3	PK-4	K	1	2	3	4	5	6	7	8	**Total**
Enrollment	14	24	37	41	27	31	33	32	30	32	32	333
Source: Franklin Northeast Supervisory Union												

According to the 2022-2023 NESU Annual Report, one of the greatest highlights is the school's easy access to the Sheldon Community Forest. In all four seasons, students get to enjoy the hiking trails, landmarks, and fresh air in the forest. The trails are often filled with students engaged in class projects, enjoying a leisurely reading walk with their teachers, and running for cross country practice.

High school students in Sheldon have school choice. Most students choose to attend either Enosburgh High School, Missisquoi Valley Union High School in Swanton, or Bellows Free Academy in St. Albans.

There are several opportunities for higher education, continuing education and adult learners in the region. While there are no adult education opportunities offered in Sheldon, adult basic education courses are offered in Enosburg Falls and St. Albans. Community College of Vermont offers college-level courses in St. Albans. The University of Vermont, St. Michael's College, and Champlain College are all located in the Burlington area as well.

The cost of maintaining a school is shared between the Town, the State, and the Federal Government. The local share of school costs is currently raised through property taxes and comprises the largest fraction of municipal tax bills.

Pedestrian access to the school is compromised by the lack of sidewalks along Poor Farm Road, along with the design of ingress and egress for buses and vehicles. In 2022, the town bonded for funds to complete improvements to Poor Farm Road and the parking lot for safety improvements. Sidewalks may be considered as part of the scoping study for the Mill Street intersection, which is also considering pedestrian and bicycle accessibility improvements to the Sheldon School.

Childcare

Childcare can be a growing concern for existing and prospective families, whether it means finding quality services or securing the costs of services. High quality, available childcare is a critical component supporting a stable workforce.

According to state data, Sheldon currently has 4 registered childcare homes with a total capacity of 24 children birth to pre-kindergarten, and one public prequalified preschool program with a capacity of 20. The 2021 American Community Survey indicates that there are approximately 153 children under 5 living in Sheldon, this is significantly more than the total capacity of childcare and preschool spots for this age cohort. Some families may seek childcare in other towns near their place of employment or with family members. Data on other options, such as siblings, stay at home parents, family care providers, un-registered childcare homes or other opportunities are not available. Therefore, it is unknown how the needs of the other children are being met; however since most communities in the area are also experiencing similar shortages we can conclude that additional childcare spaces are highly needed. Afterschool care for school age children is provided by the Sheldon Elementary School's afterschool program. Currently, capacity for this program is limited and not adequate for the need in Sheldon. In 2023, over 100 children were turned away from the program due to lack of capacity.

Chapter 11: Housing

<u>GOAL:</u> To Provide Suitable Land Areas for Residential Development to Serve the Needs of Current and Future Sheldon Residents.

<u>Policies</u>

- Ensure adequate housing options for people of all income levels, ages, household types, and preferences.
- Promote low-density residential housing in areas without municipal services and higher densities in parts of town with existing services or close to existing service boundaries.
- Conserve and protect the vitality and quality of existing neighborhoods.

Adequate and affordable housing is an important concern to residents in every town. There is a high demand for affordable housing in Franklin County but a limited supply in many areas of the county. Towns that are located in the southern tier of the county have a relatively small percentage of families below the county median income. Therefore, there is little housing that would be affordable to households earning the county median income. Towns that are more rural in nature often provide a large percentage of the Regions' affordable housing.

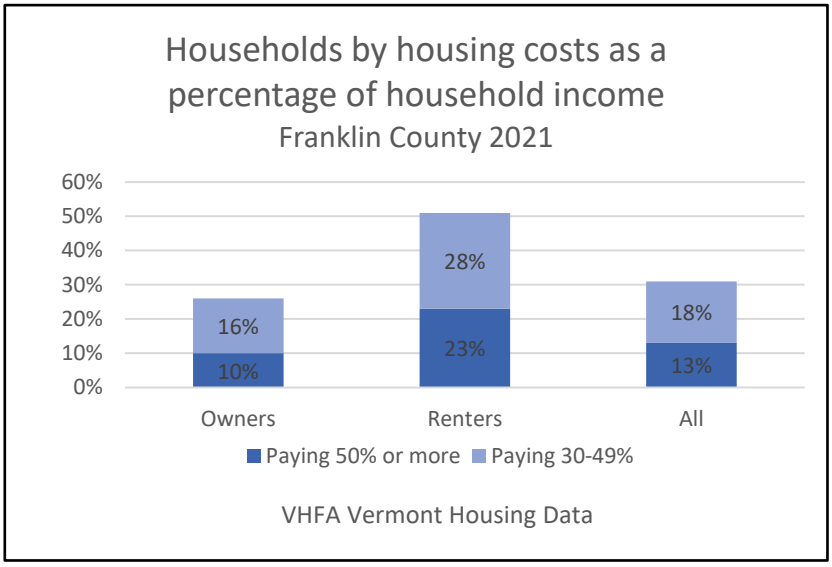
According to the 2021 ACS 5-Year Estimate, the majority of Sheldon residents are homeowners (80%) while only 20% are renters. This figure is 5% higher than the county and 10% higher than Vermont as a whole. The median gross rent in Sheldon was $1,153 in 2021, once again higher than the county ($1,082) and the state ($1,070).

Title 24, Chapter 117, §4303.

(A) Owner-occupied housing for which the total annual cost of ownership, including principal, interest, taxes, insurance, and condominium association fees, does not exceed 30 percent of the gross annual income of a household at 120 percent of the highest of the following.

(B) Rental housing for which the total annual cost of renting, including rent, utilities, and condominium association feeds, does not exceed 30 percent of the gross annual income of a household at 80 percent of the highest county or statewide median income.

As of 2021, 9% of Franklin County homeowners were paying 50% or more of their monthly household income on housing costs*. Although this number is lower than Vermont (10%) and Franklin County (10%), the federal standard for housing affordability is 30%. Renters are cost burdened at a higher level, with 19% of Sheldon renters paying 50% or more of their monthly household income on housing costs in 2021. When households have to pay over 30% of their monthly income on housing, they often struggle to make ends meet when it comes to food, education, transportation, and healthcare.



*According the U.S. Census Bureau, housing costs can include rent, mortgages, real estate taxes, insurance, mobile home costs, etc.

Residential Growth

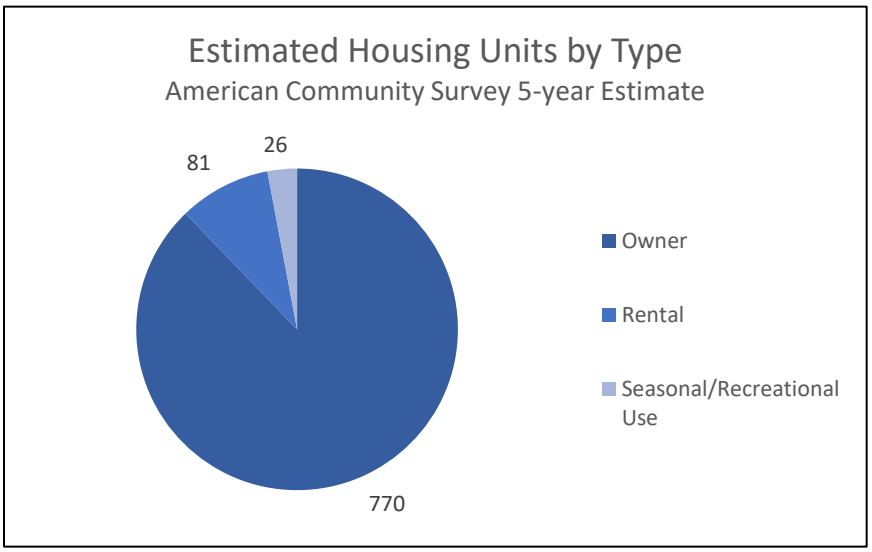
In the past decade, the housing market in Chittenden County has been of concern as it has impacted the availability of housing in Sheldon. Chittenden County contains the State's largest city, Burlington, which has the greatest population density. As the city and county have continued to grow over recent years, people are being forced to seek housing outside of Chittenden County. Burlington has one of the highest property values in the State, with a median home price of $459,000 in 2022. Tax rates within the city are also slightly higher than the State average. This makes property in Franklin County more desirable, as towns generally have a median home price between $200,000 and $300,000, with the benefits of lower tax rates. Even ahead of Burlington, St. Albans is the top work destination for Sheldon commuters, with 118 people commuting there annually. According to the U.S. Census, St. Albans town has grown steadily from 5,999 in 2010, to 6,877 in 2020. Considering these two factors, nearby Sheldon could potentially see an increase in housing demand.

Another driving factor are the recent changes in the way people live and work. As it becomes possible for more professionals to work at home using advanced computer and telecommunication equipment, agricultural communities like Sheldon may be viewed as even more attractive places to live and raise a family. Especially now that many workers now opt for remote work after adjusting to a stay-at-home lifestyle during the COVID-19 pandemic.

In light of all these complicated market interactions, the safest course of action is to allow for a variety of new housing options to be built in the village areas and to plan for limited low-density growth in rural and working lands. In doing so, it is important that local leaders are conscious of the town's commitment to agriculture and they must carefully consider the amount, density, and location of new residential growth. The availability of municipal services and the quality of road access should also be considered in order to determine the best areas in town for new residential growth.

Housing Units

Until recently, the average number of persons per household in Franklin County had seen a decline since 1970, while the total number of households has increased. While the number of persons residing in the same household got smaller, there was a greater demand for housing units.



According to the 2020 Census, there were 893 housing units in Sheldon, with 863 occupied. Household growth has slowed in Sheldon compared to the region overall. The majority of new homes constructed are single-family or mobile homes, the number of renters has decreased, and cost-burden for housing is high amongst both young residents and senior residents.

Vacancy rates are a good indicator of whether a community has an adequate supply of housing. Unfortunately, due to high margins of error, there is no data for rental vacancy rates in Sheldon town between 2010 and 2020. One can assume that rental vacancy rates in Sheldon remain fairly consistent with those in Franklin County, where the rate was estimated to be 5.2% for 2021. Vacancy rates between 4-6% indicate a healthy housing market.

Affordable Housing Needs

According to the Vermont Department of Taxes: Property Transfer Tax Records, 26 homes were sold in Sheldon with a median home sale price being $216,000 in 2022. The cost of homes in Sheldon were lower than Franklin County as a whole, which had a median home sale price of $299,000. According to the Vermont Housing Finance Agency, the 2023 median home sale price in Sheldon was $270,000, indicating a 25% increase in one year. In addition, the Consumer Price

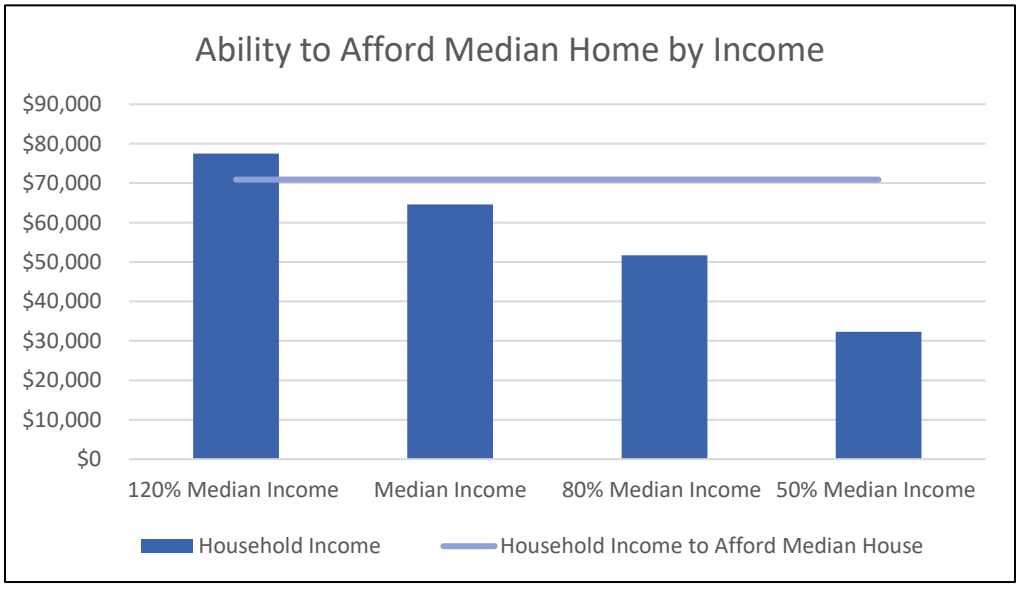
Index (CPI) of the U.S. Bureau of Labor Statistics reports that in September 2023, prices in the Northeast Region were up 0.3% compared to the previous month and up 3.0% from the previous year. These two factors in combination have made affordable housing difficult to find.

The need for affordable housing is something that needs to be addressed in all communities. According to State Statute, housing is considered affordable when a household earning 80 percent of the county median income pays no more than thirty percent of their income on housing. Housing is a basic need and higher housing costs place a greater strain on lower income households. Affordable housing initiatives emphasize the importance of providing housing to households that are at or below the median income of the area. It is also important to understand that transportation costs are not factored into the state definition of affordability, yet these costs can be significant for Sheldon residents that work outside the community.

Title 24, Chapter 117, §4303.

(2) "'Affordable housing development' means a housing development of which at least 20 percent of the units or a minimum of five units, whichever is greater, are affordable housing units. Affordable units shall be subject to covenants or restrictions that preserve their affordability for a minimum of 15 years or longer as provided in municipal bylaws."

Overall, homeownership is generally not affordable in Sheldon. According to the Vermont Department of Taxes PTT (Property Transfers Tax) Records, the median home cost in Sheldon is $216,000. A home selling at this price would not be affordable with the median household income of $64,602, instead a prospective buyer would need an income of $70,899. The table below displays the median home price in comparison with the median household income and those above and below.



Source: These numbers were calculated using the Vermont Housing Data's "Home Price Affordability Calculator." This calculator makes an estimate using assumptions about the housing market. It assumes: 5% downpayment, average interest rates, average property taxes, average property and private mortgage insurance premiums, average closing costs, and that the buyer can afford to spend 30% of their income for housing.

The Homeowner and Renter Affordability analyses like this show that there may be a significant segment of the population in Sheldon that is living in housing that is unaffordable. High housing costs may be compounded by high transportation costs for some households. This indicates a need for more affordable housing units in Sheldon.

Affordable Housing Opportunities

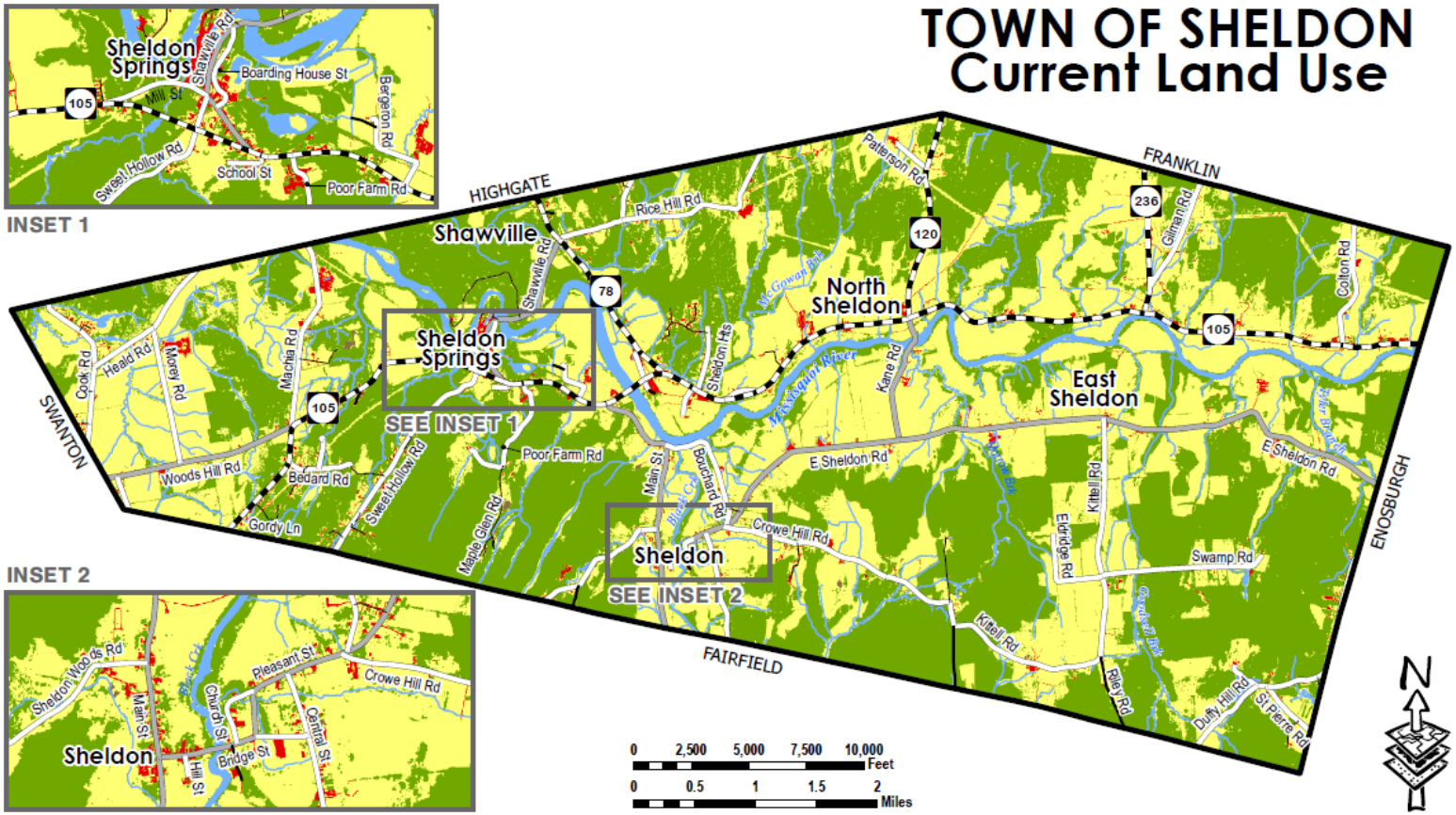
According to Vermont Housing Data (see website for full list of sources), there is only enough subsidized housing in Franklin County to account for 20% of all low-income renter households. With 711 subsidized housing units and 3,480 low-income renter households, there is simply not enough affordable housing to meet the demand. Unfortunately, there is no data that is specific to Sheldon Town, but one can assume the numbers are similar to the county as a whole.

New housing developments such as duplexes, accessory apartments, and multi-unit dwellings could be examples of affordable housing opportunities. Other opportunities like project and tenant based rental subsidies could help make housing more affordable for Sheldon residents.

Mobile Homes

Mobile homes are an important source of affordable housing. Vermont land use law does not allow municipalities to discriminate against or segregate mobile homes. Mobile homes in a town can provide an opportunity for those who cannot afford conventional housing. In recent years, the number of housing units in Sheldon has grown entirely due to new single unit homes and new mobile homes. This is similar to the regional trend, although Sheldon is seeing more growth in mobile homes than the region as a whole, which may support affordability. According to the Property Transfer Tax record, the median price for a mobile home without land in Franklin County was $40,000 in 2022. Since 2016, the number of mobile homes (without land) sold each year has increased from 10 to 21 in 2022. The increased number of mobile homes may be one-way residents are finding affordable housing.

TOWN OF SHELDON
Current Land Use



LEGEND

Land Use Features	Transportation Features	Other Feature
Built Up	State Highway	Town Boundary
Bare Soil	Class 2 Town Highway	
Grass/Shrub	Class 3 Town Highway	
Tree Canopy	Class 4 Town Highway	
Pond or River	Private Road	

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NRPC

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Chapter 12: Land Use Plan

Goal: Maintain Traditional Village Areas Surrounded By A Landscape Of Farms, Forestry, And Rural Countryside. Encourage Development In Rural Areas To Be Clustered To Preserve The Open Rural Landscape That Defines Sheldon.

Policies

- Maintain the character of existing neighborhoods and avoid potential conflicts between incompatible land uses.
- Encourage and preserve the historic character and concentrated development in traditional village centers.
- Discourage strip development along state and town highways.
- Encourage industrial and high intensity commercial land uses in the Industrial District.
- Encourage small scale commercial and mixed uses in the village districts that are compatible with existing neighborhoods.
- Protect public health, welfare, and safety by limiting development in the flood plain.
- Protect water quality by limiting development in Wellhead Source Protection Areas, wetlands, and along streambanks.
- Conserve productive lands by accommodating development in areas away from most farming activity and that do not have prime agricultural soils.

Land use planning involves the consideration of the many possible types of land uses and the goals of the land users. The impacts of growth, development, and environmental change on the land should be taken into consideration before any changes are made to the land. These changes will have a lasting effect on the community for years to come.

Current Land Use

The current arrangement of residential, commercial, agricultural, and industrial development within the town is a clear reflection of Sheldon's historic heritage. Sheldon Village, or Sheldon Creek, the site of the Town's first settlements, remains the municipal center of the Town. The Town offices, library, post office, and two churches form the core of the area. The streets are lined with large old historic homes, but there is no longer any commercial development aside from some smaller home based businesses.

Sheldon Springs became a central focus for development at the turn of the century due to the waterpower offered by the falls. The mill and hydro facility form the nucleus of the area surrounded by a community of historic mill homes on small lots. The Springs now has its own

post office, and the elementary school was established here in 1975. The Catholic Church, a number of small businesses, and the Town's major industry are also located here.

Another focus of commercial development is Sheldon Junction, located at the intersection of Vermont Routes 78 and 105. This area provides goods and services to regional residents and tourists. There is little residential development, and few farms. Businesses include agricultural implements and supplies.

The remaining areas of town can best be described as rural neighborhoods of varying and distinctive character. Moving from west to east across town, the west end is low, flat land off Route 105. The soil is sandy. The area is characterized by a mixture of older farmsteads on very large acreage of new development on lots of ten acres and under.

Land Cover

Sheldon covers a total of 25,167.17 acres or approximately 40 square miles. The majority of land cover in town is comprised of agricultural and forested land. Deciduous, coniferous, and mixed forested land accounts for 34.42 percent of the total area in Sheldon. While row crops and pasture comprise 48.92 percent. Table 21 is a list of how the land is divided up in the Town of Sheldon.

Table 21: Sheldon Town Land Use Land Cover

	Acres	Percent
Residential	635.432	2.52%
Commercial	3.840	0.02%
Industrial	0.222	0.00%
Other Urban	1.110	0.00%
Transportation/Utilities	555.868	2.21%
Deciduous Forest	2,775.090	11.03%
Coniferous Forest	2,410.864	9.58%
Mixed Forest	3,474.390	13.81%
Forested Wetland	887.444	3.53%
Non-Forested Wetland	289.169	1.15%
Row Crop	6,736.496	26.77%
Hay/Pasture	5,574.293	22.15%
Other Agricultural	28.333	0.11%
Water	1,794.623	7.13%

Total	**25,167.174**	**100.00%**
Source: Vermont Center of Geographic Information		

Limits to Development

Some areas of the Town are poorly suited for development due to physical characteristics or lack of adequate infrastructure. If developed, these areas may pose a hazard to the public health and welfare, affect property values of adjoining landowners, or place demands upon the Town for municipal services. The following are some of the limits that must be taken into account before development can occur:

Steep Slopes

- Slopes greater than 15% present considerable constraints to development. They are often covered by only shallow soils with relatively dense and brittle layer of silt and fine sands beneath. The necessary cuts and stabilization which is necessary to accommodate building foundations, parking areas, road access, and utilities are expensive and, unless very well designed, unattractive.
- Development on steep slopes can entail additional costs for the developer, the Town, and even adjoining property owners. Road maintenance, management of runoff, and erosion control may be problems on the site itself, and on adjoining properties both during and after construction. Slopes also pose obstacles to public services such as fire, ambulance, and school buses, as well as providing extra challenges for road maintenance.

Shallow Soils

- Shallow soils pose limits to development in the form of increased site development costs, inability to filter wastewater, and difficulty in burying utilities below the frost line.

Unstable Soils

- Soils with high shrink/swell potential are considered poor suitability for development because of their inability to provide a supportive surface for structures, roads, or paving.

High Water Table (Flood Prone Soils)

- Many areas in town have groundwater at or near the surface for part of the year. The ground water in these areas is more susceptible to contamination by the application of pesticides or fertilizers and leach fields from onsite septic systems. Once contaminated, these waters may present health hazards through public or private water supplies. They also may interact with surface water in areas where they interact with streams and wetlands.

Flood Plains

- Development in the flood plain presents hazards to human life, health, and property. The flood plain also contains some of the Town's most fertile soil.

Agricultural Soils

- Large areas of prime and good agricultural soil that are present in Sheldon are a unique and irreplaceable resource. This soil supports the lifestyle and economy of the Town. Development should be encouraged in areas other than those which are currently devoted to agriculture in order to conserve productive soils and limit land use conflicts.

Source Protection Areas (SPAs)

- Wellhead protection areas include the public water supply and the area which contributes water to the well. Land uses which could introduce contaminants directly into the ground should be prohibited within these areas.

Shoreland

- The only shoreland in Sheldon is along the Missisquoi. This land is important in giving the Town its scenic beauty. The natural vegetation growing along the shoreline protects water quality by filtering silt and other potential contaminants. The trees and bushes on the banks of the river play an important role in keeping the water cool for fish. For both scenic and environmental reasons, a naturally vegetated buffer zone along the banks of the river should be maintained.

Wetlands

- Wetlands need to be protected from development because they are of crucial importance to the water system, both surface and underground. These areas regulate surface water flow by storing water during periods of high precipitation and releasing it gradually over periods of low moisture. They help to prevent both flooding and drought. Wetlands also assist in maintaining water quality by filtering and purifying water before it enters either streams or the ground. In addition, the saturated soils of a wetland limit the ability of these areas to support development.

Remote Areas

- Areas that have little potential for the extension of public services and utilities and/or limited road access should be reserved for future use. Land use in these areas should be limited to agriculture, forestry, outdoor recreation, and residences on large lots. This will limit costs to the town in providing services such as road maintenance and emergency services and allow Sheldon residents to plan for future expansion.

Proposed Land Use

The Town of Sheldon proposed the land use districts according to a specific defined purpose, character and vision for development, as outlined below. It is intended that the following proposed land use districts be adopted as zoning districts in the town's development regulations.

Sheldon Creek Village District

- The purpose of this district shall be to maintain the Village of Sheldon Creek as a historic center of residential, civic and limited commercial development. Development is this district should maintain the established historic settlement pattern of concentrated, walkable residential and mixed uses.

Sheldon Springs Village District

- The purpose of this district shall be to accommodate commercial, residential and civic uses in the Sheldon Springs village area at higher densities than Sheldon Creek and other areas of town. This district has access to municipal sewer and water allowing for more housing per acre. This district is bisected by busy Route 105, the Missisquoi Valley Rail Trail and has the Sheldon Elementary School located there. As a result, it is a priority to enhance pedestrian and bicycle safety and access to sidewalks, trails and connection to the MVRT.

Industrial Districts

- The purpose of this district shall be for future industrial and commercial development. The district has good highway access and potential for municipal water and sewage disposal. Land development in this district shall be planned to take the greatest advantage of the land within the district while limiting conflicts with surrounding land uses. Access points to the district from Route 105 shall be limited and shared access shall be encouraged.

Rural Lands I

- The purpose of this district shall be to provide opportunities for low-density rural land development. These areas, in combination with the village districts, shall meet local needs for residential and commercial growth over the next five years. Land included in the district has good highway access, is adjacent to existing villages, or is currently committed to extensive rural residential settlement or commercial use. Some parcels or portions of parcels which fall within the district may, upon closer inspection, be limited in their suitability for development.
- Land development within the district shall be planned to minimize the number of access points onto town and state highways in order to maintain smooth traffic flow. Subdivisions should be clustered for efficient use of land and the ability to keep fields

and woodland open for current or future productive use, conserve wildlife habitat and corridors and maintain rural character. Agriculture shall be a predominant land use in much of the district and new development shall be required to minimize potential conflicts with existing agricultural operations.

Rural Lands II

- The Rural Lands II District contains those areas within Sheldon that are most remote and are not needed to meet housing or other development needs over the planning period (5 years). These lands have especially high resource values easily jeopardized by land development.
- Included in this district are Sheldon's most extensive wetlands, the Town's less accessible forested hills, wildlife habitat, and certain extensively managed agricultural lands located furthest from the villages or from public highways. Land within the district has no access by improved public highways and extension of utilities and emergency services to these areas would be costly. Generally, land within the district has one or more of the following characteristics: soils are either shallow to bedrock or are saturated with water for most of the year; soils which are especially well-suited to agriculture; soil conditions (high permeability or shallow depth) which suggest high potential for ground water recharge; land within the probable zone of groundwater recharge.

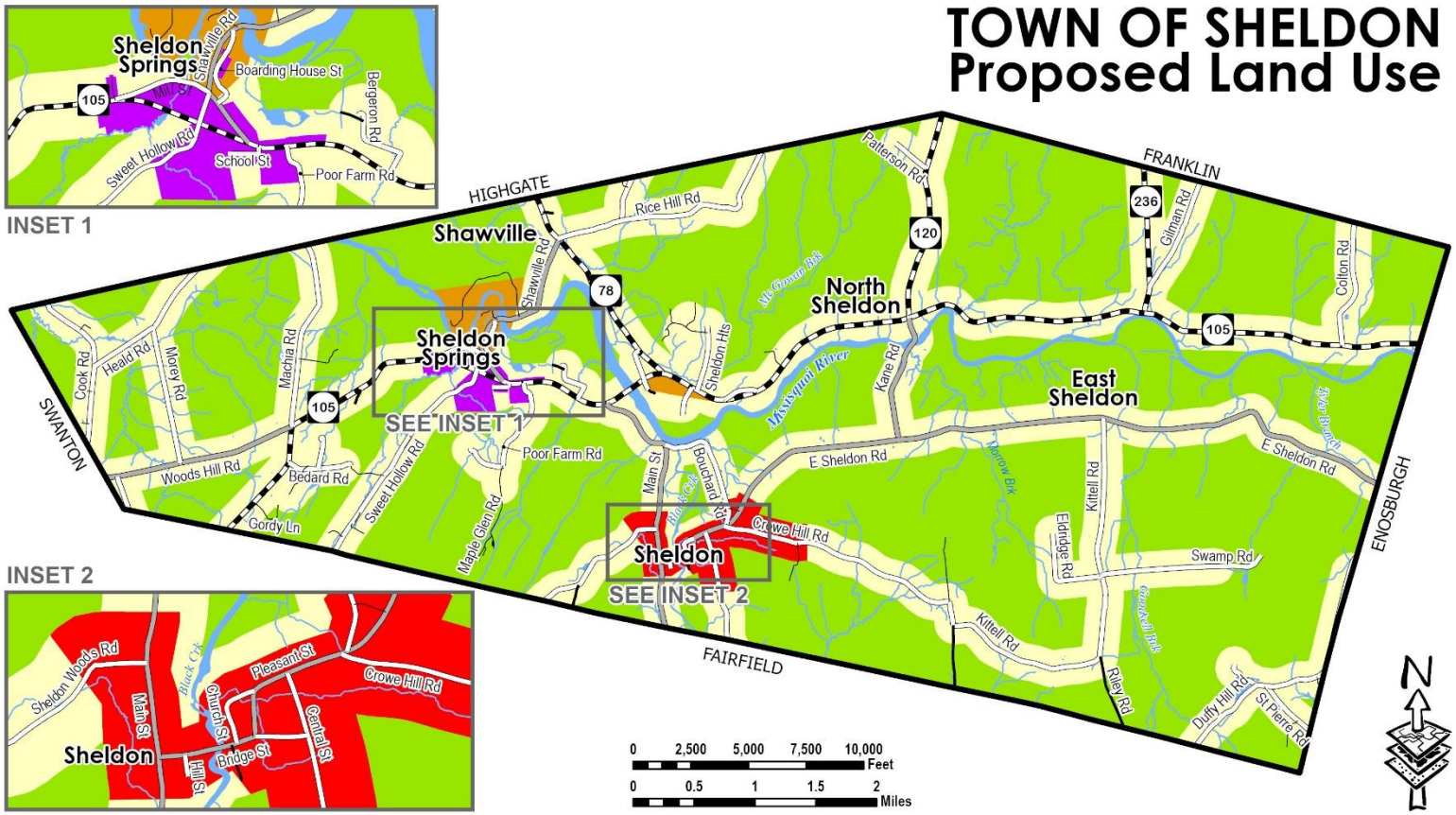
Flood Hazard Overlay District

- The purpose of this district is to prevent development which might increase flooding and to reduce losses as a result of damage from flooding in areas of special flood hazard in and on the most current flood insurance studies and maps published by the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), as provided by the Secretary of the Agency of Natural Resources pursuant to 10 V.S.A. § 753. Designation of this district is required for the town to be eligible for the National Flood Insurance Program. This district is an overlay zone and shall be superimposed on the other districts established by this plan. Where the provisions of the underlying district differ from those of the Flood Hazard Area Overlay District, the more restrictive shall govern.

Source Protection Overlay District

In order to protect the Town's public water supplies, this district will be superimposed over those described above. The overlay district will restrict land uses which might impact surface or ground water quality. The district is delineated on maps supplied by the Vermont Agency of Natural Resources, Water Quality Division. Where the provisions of the underlying district differ from those of the Source Protection Overlay District, the more restrictive shall govern.

TOWN OF SHELDON
Proposed Land Use



LEGEND

Proposed Land Use Features
- Sheldon Springs Village
- Sheldon Creek Village
- Commercial/Industrial
- Rural Lands 1
- Rural Lands 2

Transportation Features
- State Highway
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- Private Road

Other Feature
- Town Boundary

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Created:
January - 2024

Prepared by:
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Chapter 13: Natural Features

GOAL: To Provide for Local Growth that is Compatible with the Town's Environment and Natural Resources, Including Air, Soils, Landscape, Water Resources, and Wildlife.

Policies

- Protect the quality of air, water, and land resources through development regulations.
- Recognize the importance of the area's natural features to the overall quality of life enjoyed by Sheldon residents.
- Discourage development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high-water table.
- Limit development on slopes greater than 15% and maintain natural vegetation on slopes.
- Guide development away from productive agricultural or forest soils.
- Protect the water quality of the Missisquoi River and its tributary streams by preventing erosion along their banks.
- Protect ground water quality by regulating uses that could introduce contaminants into the ground.
- Limit the loss of local wildlife habitat.
- Limit infringement upon wetlands.

The natural areas of Sheldon are important for ecological, scenic, economic, educational, and recreational uses. The critical or important natural areas include wetlands, flood hazard areas, important wildlife and/or endangered species habitats, and other biological, hydrological, or geological areas.

The Town of Sheldon is located within the Vermont Lowlands, a physiographic region that extends from the Canadian border in the north to the Poultney River in the south. The Adirondack Mountains to the west and the Green Mountains to the east protect the area from severe storms. The mountains, along with the low average elevation of the valley area and the proximity to Lake Champlain keep the climate mild. This region contains the largest amount of flat and gently rolling land in the state, mostly lying below 1,500 feet in elevation. Growing seasons are longer than other regions, and the soil is fertile.

Geology

Most of the rocks in the area are sedimentary or metamorphic. A fault line runs northeasterly along Town Road #28 and the railroad tracks through Sheldon Springs to the Rice Hill area and into Highgate. The metamorphic rocks that were thrust upward by the fault are harder and more erosion resistant than the sedimentary rocks found in the western part of town.

During glacial times, until about 12,000 years ago, the land which is now Sheldon was at least partially covered by Lake Vermont. Glacial activity is responsible for both the topography and soil which characterizes the area today.

Topography

Sheldon's elevation ranges from around 85 meters (280 feet) in the western part of town to a height of 345 meters (1132 feet) at the top of Duffy Hill on its eastern border with Enosburgh. The overall topography of the area is gently rolling hills. The center of town is dominated by lowlands associated with the Missisquoi and its tributaries. Steeper slopes are concentrated in the southern and eastern parts of town. Sheldon Hill is a prominent landmark at 287 meters (941 feet). The banks of the Missisquoi are steep in places, and along the Enosburgh border slopes range between fifteen and twenty-five percent.

Slope conditions, the steepness of the land measured in number of feet of vertical rise over 100 feet of horizontal distance, are a major factor in determining the land's capacity of use and development. The Soil Conservation Service provides general guidelines for assessing slope limitations as shown in Table 22.

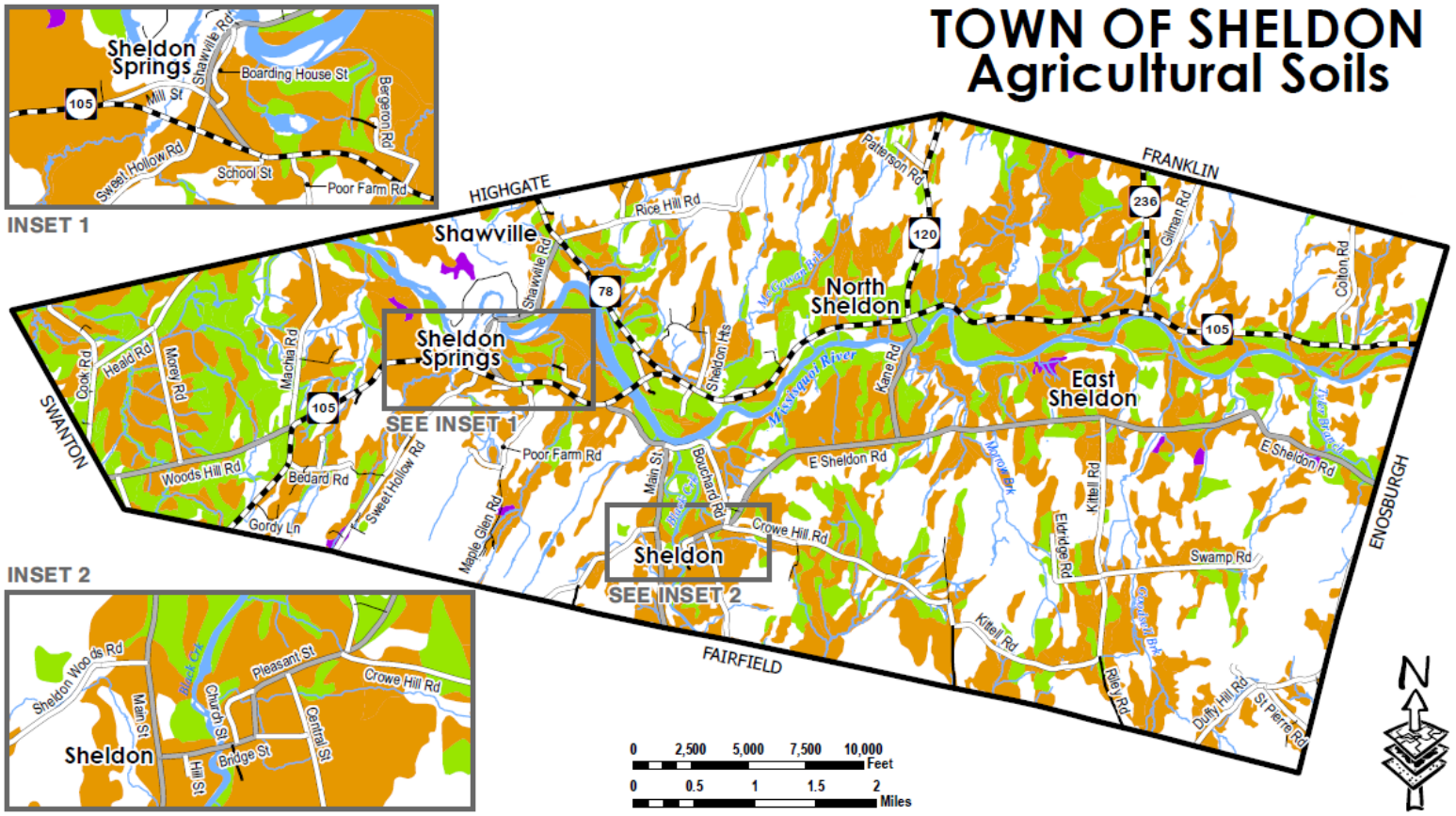
Table 22: Slope Classifications

Classes Simple Slopes	Slope Gradient Limits	Comments
Nearly level	0 to 3	Generally suitable for most types of development but may require drainage
Gently Sloping-Undulating	1 to 8	Most desirable for development because these areas generally have the least restrictions
Strong Sloping-Rolling	4 to 16	Suitable for low-density development with particular attention given to erosion control, runoff, and septic design
Moderately Steep-Hilly	10 to 30	Unsuitable for most types of development and septic systems; construction is costly; erosion and runoff problems are likely
Steep	20 to 60	All types of construction should be avoided, careful land management for other uses needed
Very Steep	>45	Not suitable for construction

Source: Natural Resource Conservation Service

However, the capacity of any particular site must be evaluated considering the interaction of slope with other features such as soils, vegetation, and existing and proposed land uses.

TOWN OF SHELDON
Agricultural Soils



LEGEND

Agricultural Soil Features
- Prime Agricultural Soils
- Statewide Importance Soils
- Local Soils

Transportation Features
- State Highway
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- Private Road

Surface Water Features
- River, Stream or Brook
- Pond or River

Other Feature
- Town Boundary

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Soils

The soil groups which are present today in Sheldon owe their quality and distribution to the area's glacial history. The Natural Resource Conservation Service has surveyed soils in the State of Vermont, which provides a broad perspective of the soils and landscapes in the area and their suitability for general kinds of land use. Along the flood plain are soils that formed as the waters dammed by the glaciers receded. These soils are deep, level, moderately well-drained to poorly drained, and loamy. They are subject to flooding anywhere from once every five years to twice a year, and have a seasonal high-water table. Most of these areas have been cleared and are farmed intensively.

Soils which were deposited by water on terraces and old lake plains are also found along the Missisquoi and its major branch streams. In the larger valleys above the flood plains on old freshwater lake beds are areas of deep, gently-sloping to steep soils composed of silt and clay. Development potential on these soils is limited by their poor drainage and instability. However, with some artificial drainage, they are suitable for cultivation and pasture.

The eastern part of town is dominated by soils which are deep, excessively drained, and sandy. These soils formed on beaches, deltas, and terraces. The level areas are good for cultivation, although somewhat dry with low nutrient content. Development potential on these soils is considered good with the exception of some areas where the water table is high.

Along McGowan and Goodsell Brooks are soils which formed in organic material and glacial till on hills and in depressions. They are deep, poorly drained, loamy soils with a hard, brittle layer underneath and stones at the top. The use of these areas for either development or agriculture is limited.

Large areas of Sheldon have soils which are deep, moderately-drained to well- drained, and loamy. These are upland soils which are suitable for agriculture with some artificial drainage. Their use for development is limited due to slope and the presence of a hard, brittle layer below the surface.

Adjacent to the areas described above are areas of shallow soils on bedrock ridges. Most of these sites are forested. Their development is limited by slope and rock outcroppings.

Primary Agricultural Soils. The NRCS soil survey categorizes soils that have the highest potential for agriculture based on soil physical and chemical conditions and are known as primary agricultural soils. The primary agricultural soils map shows highest value Prime soils and second highest value statewide Importance soils for agriculture. Not surprisingly, Sheldon has significant land area with good potential for agriculture. The Town’s efforts to concentrate growth in villages and to carefully site limited development in the rural areas will help to preserve agricultural soils.

Earth Resources

Sand and gravel deposits are a valuable resource which will be of increasing importance. As the area develops, more of these materials will be necessary to expand infrastructure. At the same time, increased residential development in rural areas often conflicts with extraction activities. There is also pressure upon the Franklin County gravel market from Canadian purchasers. The Town's earth resources should be identified, and access protected so that they can be extracted if and when the need arises. The Town does not have its own source of gravel and will be at the mercy of commercial sources as demand increases and prices rise.

According to mapping done by the Vermont Geological Survey, Sheldon has sand deposits of medium to good quality in the western part of town off Route 105 extending north into Highgate. There is a gravel deposit of medium to good quality containing less than twenty-five percent sand lying at about the center of the Towns eastern border.

Surface Waters

The Missisquoi River is the largest tributary to Lake Champlain's Missisquoi Bay. From its headwaters in Lowell, Vermont, the Missisquoi River flows north into Quebec and returns to Vermont at East Richford and flows south through the heart of Sheldon and ultimately west, through the southern and western portions of Highgate, to Missisquoi Bay—for a total length of approximately 88 miles. The majority of the Town of Sheldon, including Sheldon Springs and the surrounding development, drains directly to the main stem of the Missisquoi River. Black Creek is one of the largest tributaries to the Missisquoi River and drains 122 square miles, including Sheldon Village and the south-central portion of town

The Missisquoi River and its associated streams and brooks provide recreation, scenic views, wildlife habitat, and drainage for the surrounding lands. All of these functions can be impacted by land uses in the river corridor or along shorelines. Maintaining the quality of the river is of extreme importance. Not only does it affect the Town, but also it has the potential to directly affect the Missisquoi River Delta and consequently, Lake Champlain.

The whole length of the Missisquoi River is considered by the State of Vermont to be stressed from high sediment loads, turbidity, nutrient enrichment, and increased water temperature; the State attributes the stressors to agricultural land uses, loss of riparian vegetation, and streambank erosion (VTDEC, 2021). The Missisquoi River is addressed under the Lake Champlain Total Maximum Daily Load (TMDL), which places a cap on the maximum amount of phosphorus from point and non-point sources that is allowed to flow into the lake while still meeting Vermont's water quality standards. The Swanton Hydroelectric Facility in Highgate has also been flagged for producing alterations in flow which can impact recreational activities and fisheries. Morrow Brook a tributary of the Missisquoi River near Kane Road has also been identified as impaired for nutrient loading from its mouth upstream 2 miles.

The Missisquoi River, as it passes through Sheldon Springs, and from the Tyler Branch to the Enosburgh border, is designated as a Waste Management Zone. The waters in these stretches provide mixing zones for treated waste water and are not suitable for water contact recreation.

The hydroelectric facility Between Sheldon Springs Dam and Tyler Branch, agricultural runoff, streambank erosion, and hydropower flow alterations were identified.

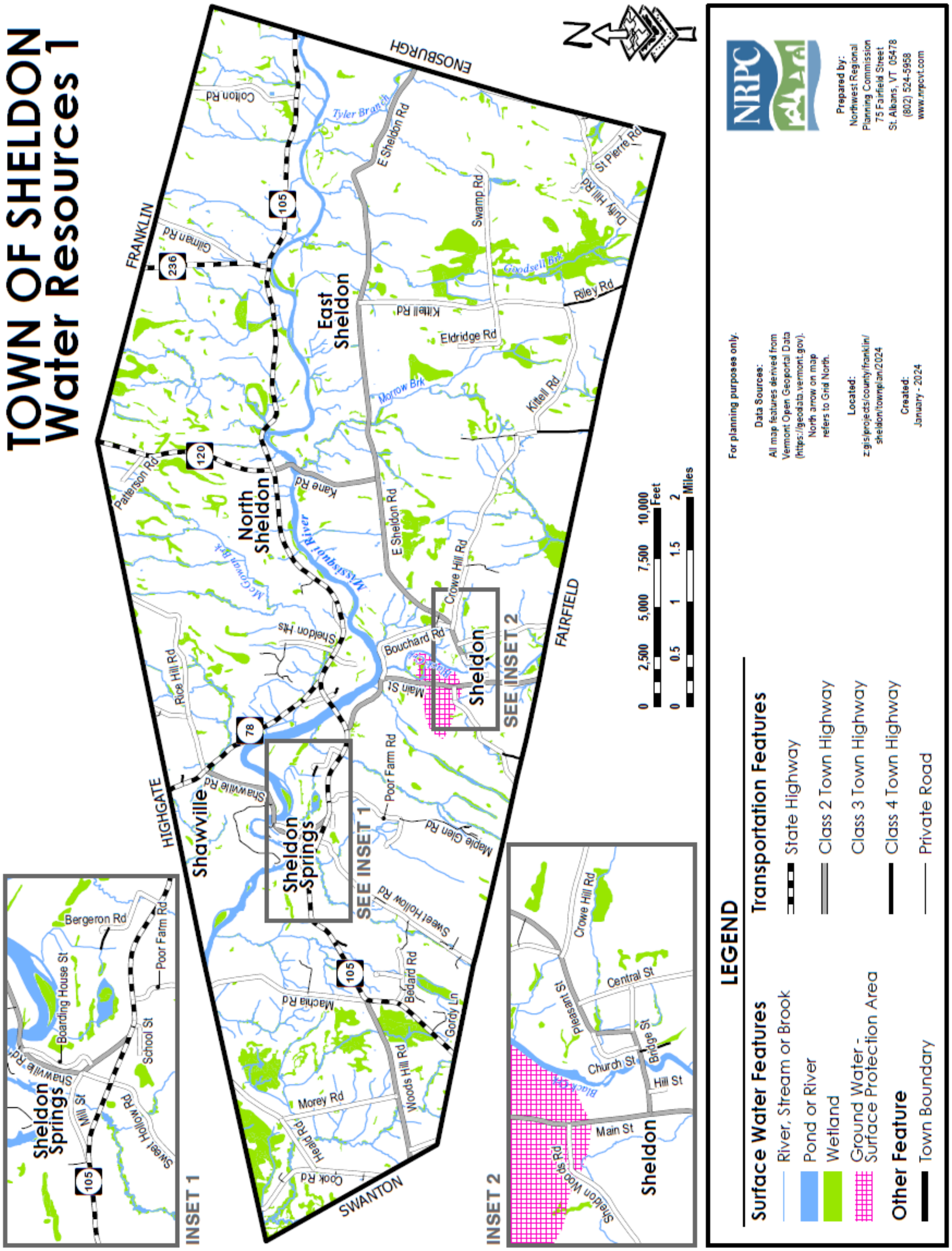
Groundwater

Water that is contained within the soil and rocks below the ground surface is considered ground water. Ground water storage and travel is determined by topography and by the composition of the soils and rocks in which it is confined. Ground water is the source of over ninety- percent of the drinking water for rural areas in Vermont. It is replenished through rain and surface water which percolates down through the soil.

The Vermont Geological Survey indicates that the area along Black Creek from Fairfield to the Missisquoi and west along RTE 105 to Sheldon Springs has excellent ground-water potential. However, some of the surface water quality problems present in this corridor may also affect ground water quality. Any activities which introduce contaminants directly into the ground - underground storage tanks, leach fields, agricultural activities - can affect ground water quality. Since surface waters may also travel underground, ground water can be contaminated by sources which introduce contaminants at the surface.

Source Protection Areas (SPA's) are surface and subsurface areas that serve as natural recharge, collection, transmission, and storage zones for public water supply systems. The SPA's include a buffer, which incorporates the area through which contaminants are likely to move toward and reach the wells.

Sheldon has three SPA's, two in Sheldon Springs and one along Town Highway 4. Both of the Sheldon Springs areas are located along Route 105 in Sheldon Springs. Sheldon Water System is located along Town Highway 4 north of Town Highway 31. Both the Sheldon Springs water systems have potential sources of contamination including a sewage lagoon, an industrial dump, and a gas station. Potential sources of contamination for the Sheldon Water System include leach fields, the cemetery, and agricultural activities. The SPA's for local public water supplies are shown on the maps accompanying this plan. Uses that could impact ground water should be restricted within the SPA's.


TOWN OF SHELDON
Water Resources 1
FRANKLIN
ENOSBURGH
HIGHGATE
SWANTON
FAIRFIELD
North Sheldon
East Sheldon
Shawville
Sheldon Springs
Sheldon
SEE INSET 1
SEE INSET 2
INSET 1
INSET 2
Missisquoi River
Tyler Branch
Goodsell Brk
Morrow Brk
Colton Rd
E Sheldon Rd
Swamp Rd
St Pierre Rd
Duffy Hill Rd
Gilman Rd
Riley Rd
Kittell Rd
Eldridge Rd
Patterson Rd
Kane Rd
Crowe Hill Rd
Bouchard Rd
Sheldon Hts
Rice Hill Rd
Main St
Shawville Rd
Poor Farm Rd
Maple Glen Rd
Sweet Hollow Rd
Machia Rd
Bedard Rd
Gordy Ln
Woods Hill Rd
Morey Rd
Heald Rd
Cook Rd
Bergeron Rd
Boarding House St
School St
Mill St
Pleasant St
Central St
Church St
Bridge St
Hill St
Sheldon Woods Rd
0 2,500 5,000 7,500 10,000 Feet
0 0.5 1 1.5 2 Miles
N
LEGEND
Surface Water Features
River, Stream or Brook
Pond or River
Wetland
Ground Water - Surface Protection Area
Other Feature
Town Boundary
Transportation Features
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Private Road
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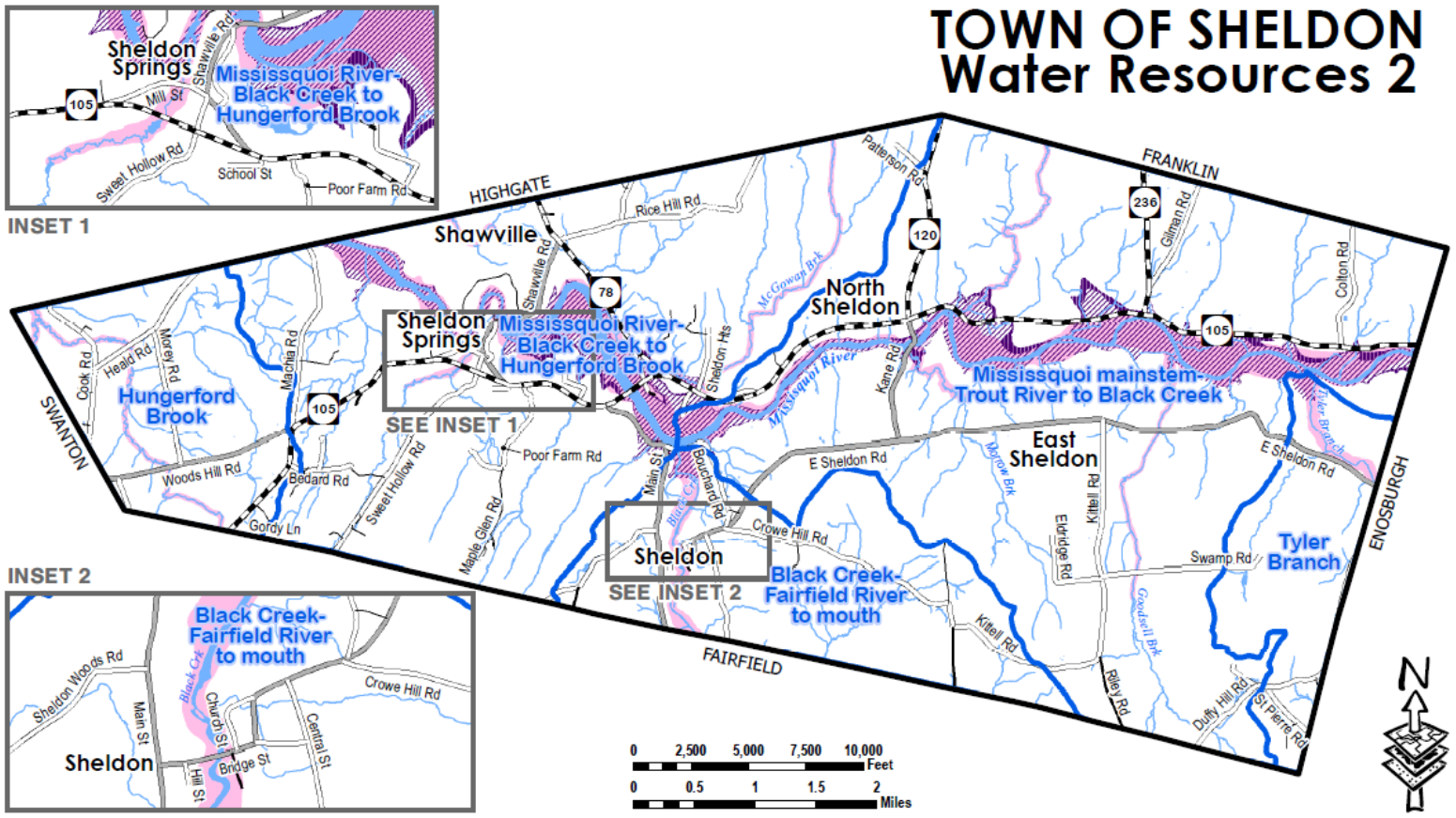
TOWN OF SHELDON
Water Resources 2
INSET 1
Sheldon Springs
Mississquoi River-Black Creek to Hungerford Brook
Shawville Rd
Mill St
105
Sweet Hollow Rd
School St
Poor Farm Rd
HIGHGATE
Shawville
Rice Hill Rd
Patterson Rd
FRANKLIN
236
120
Gilman Rd
Colton Rd
North Sheldon
78
McGowan Brk
Sheldon Springs
Mississquoi River-Black Creek to Hungerford Brook
SEE INSET 1
Sheldon Hts
Mississquoi River
Kane Rd
Mississquoi mainstem-Trout River to Black Creek
Cook Rd
Heald Rd
Morey Rd
Maple Rd
Hungerford Brook
SWANTON
Woods Hill Rd
Bedard Rd
Gordy Ln
Sweet Hollow Rd
Maple Glen Rd
Poor Farm Rd
Main St
Bouchard Rd
Black Creek
E Sheldon Rd
East Sheldon
Morrow Brk
Eldridge Rd
Kittell Rd
Tyler Branch
Crowe Hill Rd
Swamp Rd
Sheldon
SEE INSET 2
Black Creek-Fairfield River to mouth
Goodsell Brk
Riley Rd
Duffy Hill Rd
St Pierre Rd
ENOSBURGH
FAIRFIELD
INSET 2
Black Creek-Fairfield River to mouth
Sheldon Woods Rd
Black Crk
Church St
Crowe Hill Rd
Central St
Main St
Sheldon
Hill St
Bridge St
0 2,500 5,000 7,500 10,000 Feet
0 0.5 1 1.5 2 Miles
N
LEGEND
Surface Water Features
River, Stream or Brook
Pond or River
River Corridor
100 Year Flood Zone
500 Year Flood Zone
Sub-Watershed
Transportation Features
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Private Road
Other Feature
Town Boundary
For planning purposes only.
Data Sources:
All map features derived from Vermont Open Geoportal Data (https://geodata.vermont.gov).
North arrow on map refers to Grid North.
Located:
z:gis/projects/county/franklin/sheldon/townplan/2024
Created:
January - 2024
NRPC
Prepared by:
Northwest Regional Planning Commission
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Wetlands

Wetlands are areas of land where soils are saturated with surface or ground water frequently enough to support vegetation which requires these saturated conditions for growth and reproduction. Such areas include marshes, swamps, sloughs, potholes, fens, river and lake overflows, mud flats, bogs, and ponds. Wetlands are identified according to vegetation, soils, and hydrology.

Wetlands perform many functions which contribute to the quality of both surface and ground water. They store flood water and storm runoff and often are the place where surface water enters the ground to renew ground water supply. Wetlands act as a filter to remove contaminants as waters pass through on their way to streams or underground. They are also important to wildlife, fish, and plants, including a high number of threatened or endangered species. Wetlands are also utilized by humans for their recreational, scenic, historic, educational, and cultural values.

Vermont's wetland regulations are based upon the Vermont Significant Wetland Inventory (VSWI). The VSWI displays Class I and II wetlands, which are protected by the Vermont Wetland Rules. The rules require that most land development activities that will impact a Class I or II wetland or a 50-foot buffer of the wetland apply for and receive conditional use permit. The VSWI maps (as shown on the Water Resources 1 map) are intended to denote approximate wetland locations and boundaries. They should not be relied upon to provide precise information regarding the exact location, configuration, or size of wetlands. Additionally, not all wetlands are mapped, and wetlands not mapped on the VSWI may still be considered significant. Only a qualified wetland scientist may determine the absence or presence of a wetland and its boundaries. A complete overhaul of the VSWI is underway, and improved mapping of the entire state will be available soon.

Flood Hazard Areas

Flooding is a natural occurrence and Sheldon’s floodplains are important natural features that are worthy of protection due to their ability to absorb the effects of flooding on the community and their positive impacts on water quality. Flood Hazard Areas are discussed in more depth in Chapter 16 – Flood Resiliency.

Significant Wildlife Habitat and Natural Areas

Supporting a healthy wildlife population through the protection of habitat is an important component to maintaining a healthy ecosystem, and provides significant recreational and economic benefits to the community. Sheldon's residents are fortunate to share the community with a variety of animal species that depend on a variety of habitat types – and connectivity between habitats – for their survival. Maintaining viable populations of native wildlife is an important goal of Town residents. To achieve this, residents and local officials should understand the habitat needs of different species, where those habitats are found in the

community, and how land use and human activity can best be guided so that the function of important habitat is not diminished.

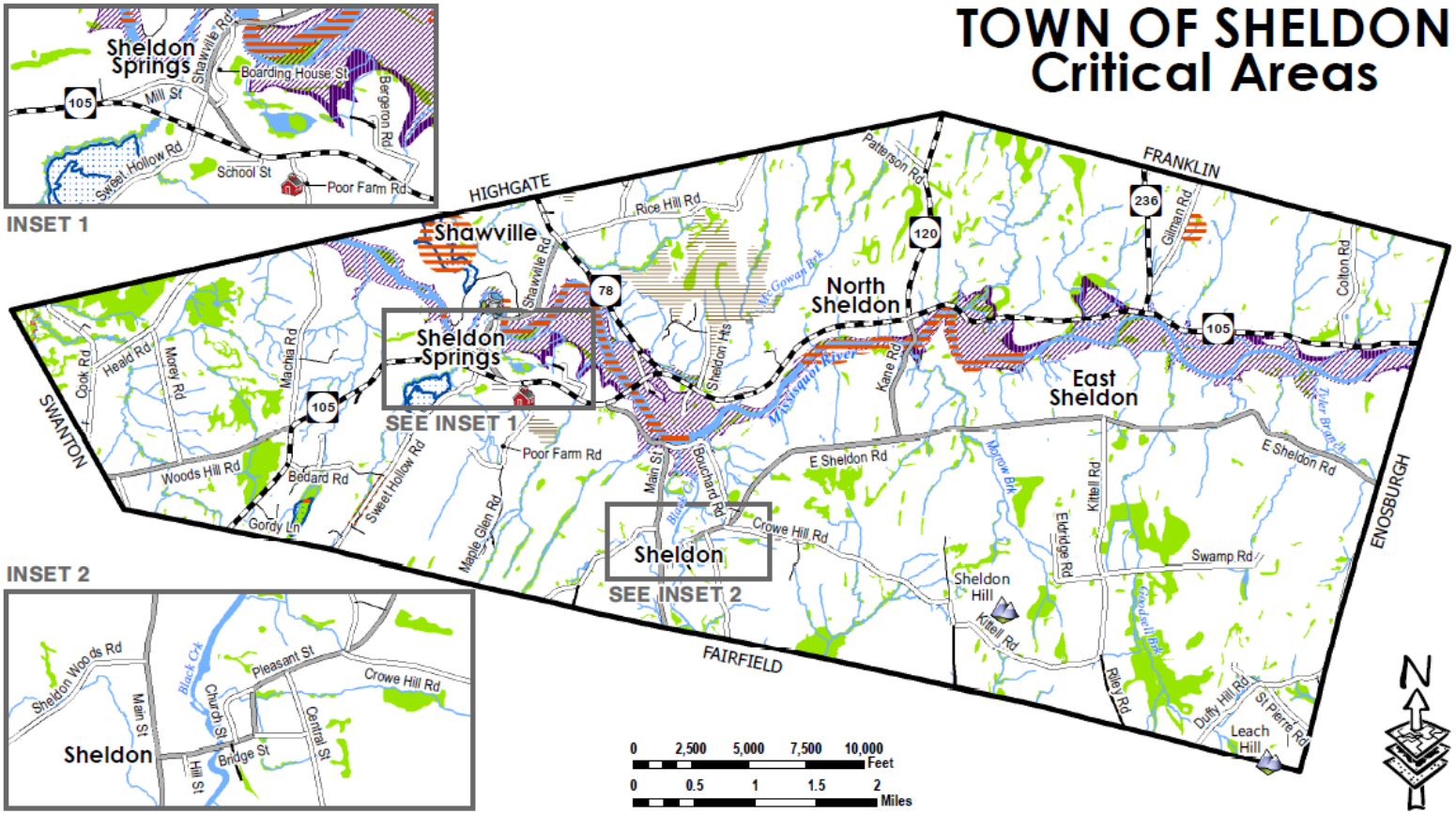
Deer Yards. Vermont's deer live near the northern limit of White Tail Deer range. They require specific winter habitat to survive severe weather and heavy snow. Deer wintering areas, or yards, have two features important for deer survival: shelter and food. The core area is usually made up of softwoods with southerly or westerly exposure, moderate elevation, and minimal human disturbance. Here, snow depth is limited, winds are buffered, and air temperature is higher. This shelter must be near to an area of mixed forest to provide browse. In addition, the deer must have corridors which link the yards together and allow them to move between summer and winter habitat.

Sheldon has just one area identified as winter deer range on a side hill extending down to McGowan Brook north of Sheldon Junction. However, other areas fitting the description above may also be providing valuable winter habitat, and sites should be checked on a case-by-case basis. Usually when development is proposed for a site which adjoins a deer yard, measures can be developed to limit impacts.

Natural Areas. According to the Vermont Department of Conservation BioFinder mapping, Sheldon has two biological areas of statewide significance. Even though Sheldon Falls, originally one of the largest falls on the Missisquoi, has been destroyed by the dam, several rare and threatened plant species can be found on the bare rocks of the gorge. The islands and ledges in the Missisquoi River between Sheldon Junction and Highgate Falls, which are in private ownership, are also considered of biological significance.

Forest, Habitat Blocks and Connectors. Blocks of unfragmented interior forest and the ability for wildlife to travel across blocks of core habitat within a landscape is critical for the health of the forest and for wildlife populations. Conservation, limiting fragmentation and continued management of these forest lands is an important community goal. Forest land and its traditional uses (timber extraction, wildlife habitat, recreation, scenic resources, etc.) help define the rural character of the Town. There are two areas of highest priority forest blocks at a statewide level, which are identified by Vermont Conservation Design as the largest and/or highest ranked forest blocks from all biophysical regions that provide the foundation for interior forest habitat and associated ecological functions. These areas are located between Sweet Hollow Road and Sheldon Creek south of Route 105 and between Route 78 and Route 120 north of Route 105. There are also many other areas of priority forest blocks of statewide significance. Fragmentation results primarily from the construction of roads and associated development and can result in a disruption in animal travel, promote the invasion of exotic vegetation, expose interior forest habitat, and create more conflict points between people and wildlife. Conservation subdivision design with clustered smaller lots and reserved lots for conservation or forestry can limit fragmentation of important forest lands in the community.

TOWN OF SHELDON
Critical Areas



LEGEND

Critical Features
- Dam
- School
- Summit
- Deer Yards
- Rare, Threatened or Endangered Species
- Significant Natural Community

Transportation Features
- State Highway
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- Private Road

Surface Water Features
- River, Stream or Brook
- Pond or River
- Wetland
- 100 Year Flood Zone
- 500 Year Flood Zone

For planning purposes only.

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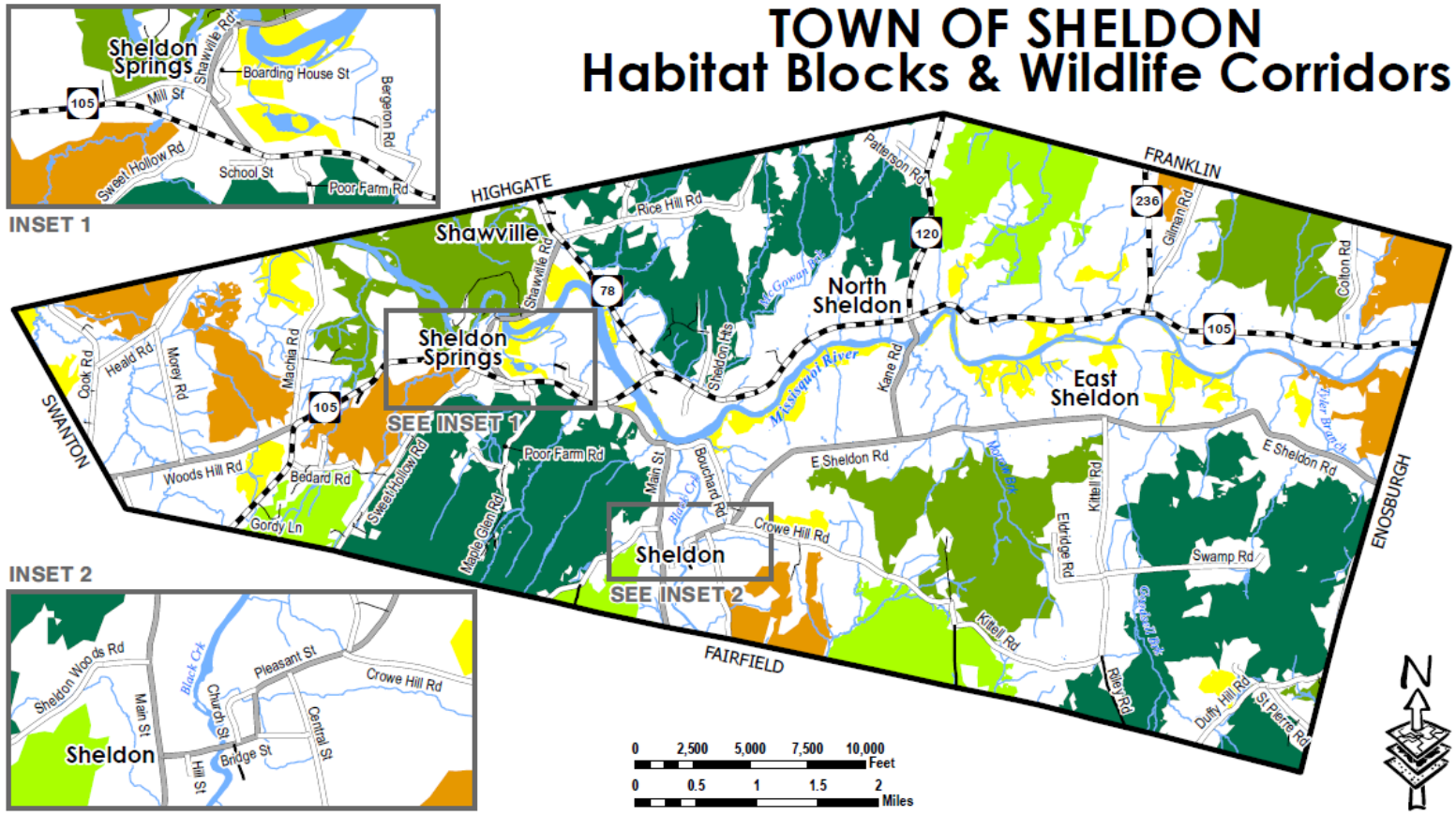
TOWN OF SHELDON
Habitat Blocks & Wildlife Corridors



LEGEND

Habitat Block & Wildlife Corridors- Block Acreage
- 22 - 250
- 250 - 500
- 500 - 1,000
- 1,000 - 1,500
- More than 1,500

Transportation Features
- State Highway
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- Private Road

Surface Water Features
- River, Stream or Brook
- Pond or River

Other Feature
- Town Boundary

For planning purposes only.

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Chapter 14: Transportation

GOAL: Provide For A Safe, Convenient, Economic, And Energy Efficient Transportation System That Respects The Natural Environment And Utilizes A Variety Of Transportation Modes.

Policies

- Maintain the physical state of municipal roads and associated infrastructure in good condition.
- Provide appropriate provisions for bicycle and pedestrian use on designated routes, including sidewalks, paths, proper signage and pavement improvements.
- Protect the health, safety, and welfare of the traveling public.
- Promote the design and maintenance of transportation facilities that respect the natural environment.
- Maintain the scenic character of the Town's rural byways.
- Support the efforts of the Northwest Vermont Rail Trail Council to promote, enhance, and increase use of the Missisquoi Valley Rail Trail and the Lamoille Valley Rail Trail.

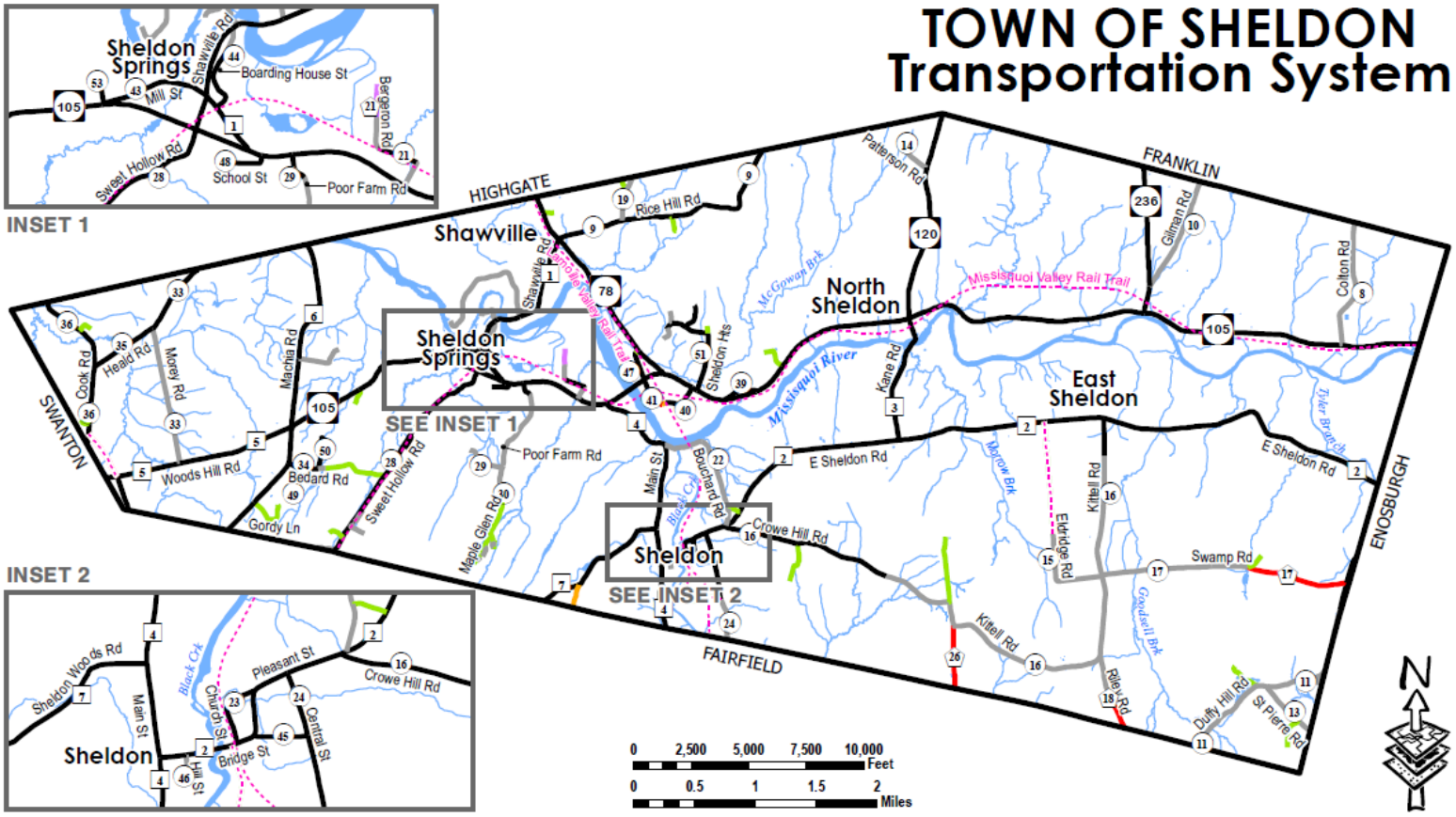
Transportation Planning

Transportation planning at the State, Regional, and local level should have two primary functions. The first purpose is to ensure that people and goods are able to move, safely, and efficiently using various modes of transportation. This includes, where applicable, highways, local roads, railroads, airports, bicycle paths, pedestrian routes, ferry systems, and public transit. Transportation efficiency includes consideration of energy use, economic and social costs, and time. People and goods move with the assistance of more than one mode, therefore transportation planning should consider how the different modes of transportation could complement each other.

The second purpose of transportation planning is to help guide growth in appropriate locations identified through land-use planning. Growth management can be assisted by directing construction or transportation improvements in coordination with local and regional plans into areas favorable for growth and away from environmentally sensitive areas.

The Regional Transportation Advisory Committee (TAC), an advisory committee of the Northwest Regional Planning Commission (NRPC) oversees the regional transportation planning program, acts as a liaison between local communities and the Vermont Agency of Transportation, and provides local and regional input regarding transportation issues important to the region. Each of the Region's municipalities has the option to have a representative on the committee; Sheldon has chosen to participate and has a member on the TAC.

TOWN OF SHELDON
Transportation System



LEGEND

Road Surface Features
- Paved
- Gravel
- Soil or Graded & Drained Earth
- Unimproved/Primitive
- Impassable or Untraveled
- Unknown Surface Type

Road Class Features
- 105 State Route
- 6 Class 2 Town Highway
- 33 Class 3 Town Highway
- 26 Class 4 Town Highway
- Legal Trail

Surface Water Features
- River, Stream or Brook
- Pond or River

Other Feature
- Town Boundary

For planning purposes only.

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Town Road System

The Sheldon transportation map shows the Town roads and State highways located within the Town. Sheldon may require improvements in the form of paving and widening in years to come. The decisions to perform this work should be made by the voters after local officials make recommendations and suggestions.

The Town of Sheldon currently maintains a total of 44.59 miles of roads – 15.99 miles of Class 2 highways and 28.67 miles of Class 3 highways. The budget for the highway department in 2005 was $264,000 or $5,967 per mile. In 2015, the road budget was $732,106.73 or $8,202 per mile.

A staff of three full-time employees performs local road maintenance. Equipment currently in use for road maintenance in Sheldon includes:

- Road grader - Caterpillar
- 2018 John Deere Tractor Loader backhoe
- 2018 International Tandem dump Truck with plow equipment
- 2023 Ford F350 utility truck with plow
- 2021 International tandem with plow
- 2016 Western Star single axle with plow equipment

The Road Foreman coordinates with the Selectboard to budget for equipment replacements, as needed. A new capital budget plan should be considered to support fiscal transparency and planning for equipment expenditures.

The Town buys its sand and gravel from two private sources with the largest amount coming from Enosburg Falls. There are no long-term agreements which govern Sheldon's access to gravel and sand, or their cost. The current sources should be adequate for the next five years, but as existing sources are depleted, new sources become more difficult to access, and the number and quality of roads increases, prices will rise.

The Town is responsible for the maintenance of four bridges within its borders.

The Selectboard grants permission for access onto town highways. These decisions are made based on the Town Road Ordinance.

In order for the Town to take over private roads they must be brought up to town standards and the owner must deed the road right of way to the Town. In recent years, an increasing number of homes are being built off Class 4 roads. New home owners then desire town maintenance of the trail to their home. Town policy is that homeowners or developers are responsible for upgrading these trails back to Class 3 standards before the Town will maintain them.

There are 15.811 miles of state highway in Sheldon including Routes 78, 120, 105, and the Vermont State Park Road. In January 2023, the Vermont Agency of Transportation Operations & Safety Bureau published a Road Safety Audit Review (RSAR) between St. Albans and Enosburgh

along VT 105. Highlighted issues include: above average crashes, fatal crashes, excessive speeding, poor sight distances, etc. The following comments can be found within the RSAR document:

- "Access management issues at Sheldon Mini Mart."
- "Pedestrian safety concerns for those walking to and from School St."
- "Speed limit changes are not good enough for a school zone."
- "Traffic on Poor Farm Rd backs up onto VT 105 due to parking issues, especially during pickup/drop off times, at the school."

The State of Vermont, with the support of the Northwest Regional Planning Commission and the Town of Sheldon, are considering how to address the findings in the RSAR to improve safety.

Railroad Beds

Rail service came to Sheldon in 1867 when the St. Johnsbury and Lake Champlain Railroads were chartered. This line became the Vermont Northern, and then the Lamoille Valley Railroad before discontinuing its service to Sheldon in 1989. The abandoned railroad is now a 93 mile year-round recreation path known as the Lamoille Valley Rail Trail and spans from Swanton to St. Johnsbury.

The Missisquoi Railroad also served the Town beginning in 1869. Eventually the Missisquoi became part of the Central Vermont Railway System. Railroad activity in Sheldon came to an abrupt end in June 1984 when the bridge crossing the Missisquoi River was severely damaged by a Boston and Maine train which had been routed through St. Albans. The abandoned railroad bed is now a 26.4-mile year-round recreation path known as the Missisquoi Valley Rail Trail. The trail runs from Richford to St. Albans.

Public Transportation

The Green Mountain Transit Authority (GMTA) operates a shuttle that runs from Richford to St. Albans, Monday through Friday. It makes several scheduled stops but can also deviate from the route up to ¼ of mile to accommodate specific needs by calling in advance. The scheduled Sheldon stop is at Pauline's Mobile in the morning and the evening. Riders can transfer to the Chittenden County Transportation Authority (CCTA) LINK at the last stop in St. Albans. The LINK connects to Burlington in the morning and evening on weekdays only.

Walking, Biking, and Other Forms of Transportation

Bicycle traffic in and around the Town has increased in recent years. It has become a popular seasonal activity locally and in the surrounding areas. Sheldon has become a favorite destination for both bicycle tours and road riders from Quebec, Canada and other parts of Vermont. The MVRT and now LVRT has increased bicycle traffic to the town although much of the traffic is confined to the trails. On many of the Town's roads, the mixing of bicycles and auto traffic is potentially very hazardous due to narrow roads, limited shoulders, sharp curves, and a variety of bicycle-unfriendly obstacles, such as guardrails and steep slopes.

There remains a need to upgrade and maintain existing sidewalk infrastructure. In Sheldon Village, the existing 100-year old concrete walks are discontinuous, overgrown with vegetation, and have been heavily damaged by tree roots. New sidewalks on both sides of Bridge Street down to the bridge and on both sides of Main Street would be ideal improvements.

As an Action Item from the Route 105 Road Safety Audit Report, assigned to the Town of Sheldon and NRPC, indicates the following:

- "Poor Farm Rd./Mill St. – Engagement in the community to improve pedestrian safety along VT 105 in Sheldon Springs Village. Including access management at the gas station and improving bicycle and pedestrian connections between the school, nearby housing and the Missisquoi Valley Rail Trail."

In 2023, the Town has secured a grant from the VT Bicycle and Pedestrian Program to complete a scoping study for pedestrian improvements focused around the Mill Street intersection with 105 and connections to the Elementary School and Rail Trail accesses. In addition to addressing concerns in the RSAR, the project implements recommendations from the 2020 Connecting Sheldon Master Plan, which explored pedestrian connection opportunities.

Other local forms of transportation include motorcycles, snowmobiles, and All Terrain Vehicles (4-wheelers). The Missisquoi Valley Rail Trail, with a trail bridge and public transit connections, offers the opportunity to increase the number of people who walk, bicycle, snowmobile, or take public transit to work (ATV's are not permitted on the Rail Trail due to safety and maintenance issues). Sheldon residents can use the trail to reach public transit stops. In 1999, the Northwest Vermont Rail Trail Council received assistance from the Vermont Youth Conservation Corps and District 8 of the Vermont Agency of Transportation to construct two parking areas along the Trail in Sheldon Junction and North Sheldon. The Sheldon Junction parking area accommodates eight cars. Local residents use it as an informal park-and-ride lot.

Chapter 15: Flood Resiliency

<u>GOAL:</u> To Ensure Sheldon is a flood resilient community.

Policies

- To discourage development in identified flood hazard areas and river corridor areas. If new development is to be built in such areas, it shall not exacerbate flooding and fluvial erosion.
- To protect and restore floodplains, river corridors, and upland forest areas that attenuate and moderate inundation flooding and fluvial erosion.
- To encourage and support emergency preparedness and response planning.

Flooding is a common hazard in the Sheldon. The Town lies within the Missisquoi River watershed. The Missisquoi River and many of its tributaries flood in the spring of each year when snow melt and spring rains cause them to overflow their banks. Ice jams also cause flooding on the Missisquoi which contribute to field and bank erosion.

Flooding generally occurs in two ways: inundation and fluvial erosion. Inundation flooding is when water rises and inundates the adjacent low-lying land. The Federal Emergency Management Agency (FEMA) defines a floodplain as an area of land adjacent to lakes and streams that is subject to recurring inundation or high water (See Water Resources Map I). There are several areas of floodplain in Sheldon, including along the Missisquoi River, Tyler Branch and the Black Creek.

The Town of Sheldon has adopted land use regulations for special flood hazard areas, as defined by FEMA on Flood Insurance Rate Maps (FIRMs), in order to protect the health, safety, and welfare of its residents and to allow the community to participate in the National Flood Hazard Insurance Program (NFIP). It is important to note that the existing FIRMs are dated April 1, 1981 and the Flood Insurance Study was published on October 1, 1980. While this information is the best available, the hydrology that these maps are based on has not been updated since the study in 1980 and therefore does not account for shifts in rivers or effects of development. The FIRMs were digitized by the Northwest Regional Planning Commission in 1999 to assist in planning efforts and are used to determine approximate locations. The digital version is not used for regulatory rulings. An draft update to the FIRMS are anticipated before the end of 2024, with the effective date before the end of 2026.

Development within floodplains can have many potentially damaging consequences as development may obstruct the natural flow of water or displace soil and raise base flood elevations. Development within floodplains should generally be avoided. One strategy to mitigate potential encroachment and flood loss is to prohibit development below base flood

elevation or set an elevation from which development is prohibited. Examples of uses that are appropriate to floodplains include agriculture, open space, and recreation.

Flooding can also occur through fluvial erosion, a condition that occurs when fast moving flood waters, typically in steep mountain valleys, cause erosion of areas surrounding streams and rivers. To identify areas prone to fluvial erosion hazards, the Vermont Agency of Natural Resource has identified River Corridors in all Vermont municipalities (see Water Resources Map II). River Corridors are based on the individual conditions of streams and rivers including topography and the existence of existing public infrastructure. River Corridors have been mapped for the Missisquoi River, Black Creek, Tyler Branch, Goodsell Brook, McGowan Brook, and Hungerford Brook (and branches). River Corridors are not mapped for streams that have a watershed area of less than 2 square miles. Instead, the Agency advises using a 50 foot buffer on each side of those streams with the intention of protecting stream stability and natural flow. The intent of the regulation is to limit bank erosion, to protect habitat, and to improve water quality.

River Corridor regulations currently apply only to Act 250-related land development and land development not regulated by municipalities (ex. agriculture). Municipalities may adopt River Corridor maps and regulation as a part of their local development regulations. Adoption may result in financial benefits for the Town in the event of federally declared natural disaster due to changes in how the State Emergency Relief and Assistance Fund (ERAF) is administered. The Town of consider adopting River Corridor regulations in its flood hazard area regulations.

Planning for future flooding events is important to ensure that a community is flood resilient. Development and adoption of a local hazard mitigation plan can help a community identify potential risks to the community. Local hazard mitigation plans can also identify projects in the community that can decrease the effects of potential hazards, such as the replacement of culverts or buyouts of properties with repetitive flood risk. Approval of local hazard mitigation plans by FEMA may also lead to increased grant opportunities for communities to implement identified projects. Sheldon should adopt a local hazard mitigation plan to plan for future hazards, including flooding, and to gain access to additional funding sources that will decrease risks to the community.

Chapter 16: Compatibility with Neighboring Towns

The Town of Sheldon is located in the northwestern part of the State in Franklin County. Five different municipalities, all of which are in Franklin County, border it. The Town of Enosburgh borders it to the east; Franklin borders it to the north, Highgate to the northwest, Swanton to west, and Fairfield to the south.

Land use patterns in all of these municipalities can affect one another in many different ways. It is important that all of their development patterns are compatible with each other. It is also important that each town's future development plans do not adversely affect their bordering neighbor's plans. The Sheldon Town Plan does not propose any major changes to its land use districts, and because of this, no substantial conflicts with adjoining Town Plans should arise.

A complete description of each town's land use districts can be found in each municipality's town plan and zoning bylaws.

Enosburgh and Enosburg Falls Land Use Districts

Compatibility with Enosburgh and Enosburg Falls

The Town of Enosburgh and the Village of Enosburg Falls border Sheldon to the east. Enosburgh and Enosburgh Falls completed their latest joint municipal plan in 2020.

The Commercial District in the Village borders Sheldon's Rural Lands I District. This potential conflict should continue to be monitored to ensure there aren't future conflicts in planned land uses.

Compatibility with Franklin

The Town of Franklin borders Sheldon to the north. Franklin completed its latest town plan in 2017. The Town has divided its land into the following districts: Village District, Rural Residential/Agricultural District, Conservation District, Shoreline/Recreation District, and the Flood Hazard Overlay. The Rural/Agricultural District borders Sheldon's Rural Land 1 and Rural Lands 2 District's.

Compatibility with Highgate

The Town of Highgate borders Sheldon to the northwest. Highgate completed its latest town plan in 2023. The Town has divided its land into the following districts: Agricultural District, Medium Density Residential District, Village District, Industrial/Commercial District, Shoreline District, Protected District, and the Forest Reserve District, Protected Areas District, Airport Overlay and Flood Plain Overlay. The Medium Density Residential District, the Forest Reserve District, and the Protected Area District make up the border between Sheldon and Highgate. While there could potentially be residential development in the Medium Residential District of

Highgate, it should not be dense and therefore still be compatible with Sheldon's Rural Lands I and II districts.

Compatibility with Swanton

The Town of Swanton borders Sheldon to the west. Swanton completed its latest town plan in 2023. The Town proposed the following land use districts: Shoreland Recreation Area, Recreation/Conservation District, Shoreland/River District, Agricultural Residential District (R1), Moderate Density Residential District (R3), Residential District (high density, R5), Central Business District, Neighborhood Commercial District, Neighborhood Commercial Light District, Commercial/Light Industrial District, Industrial District and Southern Growth District. The Agricultural/Residential District of Swanton makes up the border between Sheldon and Swanton and is generally compatible with the Sheldon Rural Lands I and II districts.

Compatibility with Fairfield

The Town of Fairfield borders Sheldon to the south. Their latest town plan was adopted in 2021. The Town has divided its land into the following districts: Village District, Chester A. Arthur Historical District and Scenic Road, Flood Hazard District, Fairfield Pond and Swamp District, Uplands District and the Agricultural District. The Agricultural District make up the majority of the border between Sheldon and Fairfield.

Compatibility with the Regional Plan

Sheldon recognizes that it is part of a larger region and has considered the compatibility of its planning goals with that of the region. The Regional Plan was recently adopted in 2023. Many of the Regional Plan's goals and policies were based on ideas expressed in local plans. The Regional Plan identifies land areas that are similar to those identified in the Sheldon Town Plan. The Regional Plan also notes the importance of agricultural lands in Sheldon and the significance of having these land remain a part of the working landscape.

Chapter 17: Implementation

Implementing the Plan

One of the most important steps in developing a Town Plan is how the goals and policies in the plan are to be implemented.

When combined together, the goals and policies support the "Visions for the Future of Sheldon" set forth by the plan and are compatible with the plans of surrounding communities. It should be noted that some of the goals set forth by the plan may take a substantial amount of time to accomplish. Below are specific implementation steps that Sheldon should complete to accomplish the goals and policies in the Town Plan:

Table 23 – Implementation Table	
Task	**Responsible Party**
Archeological, Historic and Scenic Resources	
Consider the historic settlement pattern of the community and when amending the development regulations.	Planning Commission and Selectboard
Amend development regulations to include standards that encourage clustered development in order to reduce impact on open agricultural fields and forested areas.	Planning Commission and Development Review Board
Community Facilities	
Adopt a Capital Budget and Program.	Planning Commission and Selectboard
Identify a solution for consistent trail maintenance at the Sheldon Community Forest.	Selectboard, Planning Commission
Community Services	
Amend development regulations to include standards that require access to water for fire fighting, sufficient roadway access, and turnaround ability for emergency vehicles.	Development Review Board
Continue financial support for local AmCare Squad.	Selectboard
Investigate options for recreational use of municipal forest.	Planning Commission
Community Utilities	
Develop and use a written policy regarding extensions to water and sewer systems.	Selectboard

Work with the Agency of Natural Resources and Northwest Regional Planning Commission to monitor and install upgrades to wastewater facilities in Sheldon to ensure compliance with TMDL standards.	Selectboard
Economy	
Amend development regulations to require that developers that are subdividing land place language in covenants which acknowledges agricultural practices as an established land use in rural residential areas.	Planning Commission and Development Review Board
Upgrade and maintain village utilities and services to allow for economic development.	Selectboard
Education	
Maintain capital budget and program and reevaluate yearly to provide long-term planning for school facilities and equipment.	School District
Pursue pedestrian and bicycle access improvements to the Sheldon School, including sidewalks along Poor Farm Road.	School District and Selectboard
Energy	
Check weatherization status of all municipal buildings and work with Efficiency Vermont to make necessary weatherization improvements.	Selectboard
Work with Northwest Regional Planning Commission to amend the energy section of the Municipal Plan to ensure that the plan can be regionally certified per 24 V.S.A. 4352.	Planning Commission and Selectboard
Develop and adopt a solar facility screening ordinance enabled by 24 V.S.A. 4414.	Selectboard
Adopt subdivision standards to encourage better planning and more efficient layout of new development to reduce potential energy costs.	Planning Commission and Development Review Board
Housing	
Ensure development regulations allow for higher density development in areas of town served by municipal water and sewer.	Planning Commission and Selectboard
Identify areas which can withstand higher density development and encourage new residences to be clustered by offering a density bonus for designs which conserve land and/or create efficient, economical housing.	Planning Commission and Selectboard

Land Use	
Review zoning districts and ensure that existing and desired land uses correspond to land use plan.	Planning Commission
Maintain state village center designation for Sheldon's villages.	Planning Commission and Selectboard
Natural Features	
Consider slope and soils characteristics when considering areas for new development, and when reviewing individual development proposals.	Development Review Board
Transportation	
Administer the written access policy regulating curb cuts and provide for consistent decisions regarding town road access.	Selectboard
Discuss, plan, and seek grant funding for construction of pedestrian improvements, such as sidewalks, in Sheldon's villages.	Selectboard and Planning Commission
Consider how road access and quality influences development when amending the development regulations	Planning Commission
Plan for long-term sources of sand and gravel and for potentially developing a local source.	Selectboard
Continue to participate in regional transportation planning efforts (Regional Transportation Advisory Committee)	Selectboard
Flood Resiliency	
Review River Corridor Maps created by the Vermont Agency of Natural Resources (ANR). Work with ANR to amend maps based on local knowledge. Consider incorporating river corridor maps and regulations into the Sheldon Development Regulations.	Planning Commission and Selectboard
Review current Flood Hazard Zone District standards in the Sheldon Development Regulations for compliance with National Flood Insurance Program (NFIP) minimum standards. Consider adopting standards higher standards for this district.	Planning Commission and Selectboard
Adopt a Local Emergency Operations Plan each year.	Selectboard
Adopt a Sheldon Hazard Mitigation Plan (HMP).	Planning Commission and Selectboard
Adopt Vermont Road and Bridge Standards each year.	Selectboard
Support streambank stabilization efforts that reduce the risk of erosion.	Planning Commission and Development Review Board
Other Implementation Measures	

Continue the existing coordinated, comprehensive planning process and policy framework to guide decisions by the Sheldon Planning Commission and continue to encourage citizen participation at all levels of the planning process.	Planning Commission
Hold semi-annual meetings with the Planning Commission, Development Review Board, and Selectboard to coordinate the implementation of the goals, policies and implementation actions in this Plan.	Planning Commission, Development Review Board, and Selectboard

The Town of Sheldon can work with other agencies and organizations to implement the plan such as: Northwest Regional Planning Commission, the Vermont Agency of Transportation, the Vermont Agency of Natural Resources, the Vermont Agency of Housing and Community Affairs, and the Vermont Division for Historic Preservation (to name a few).

Citizen involvement is also a tool that should be used and encouraged. Citizens should be involved in local planning issues that may arise for they will be the ones most affected by any changes that occur in the Town. Their input, ideas, opinions, and concerns should be taken into account when dealing with planning issues since they are the ones who have the most to gain from the Plan.

Planning is an ongoing process that will require the efforts of many different people. The Plan will continue to change over time to meet the evolving needs to the people of Sheldon.

APPENDIX A: ENHANCED ENERGY PLAN

Introduction

The intent of this section is to meet the municipal determination standards for enhanced energy planning enabled in 24 V.S.A. 4352. The purpose of enhanced energy planning is to further local, regional, and state energy goals, including the goal of having 90% of energy used in Vermont come from renewable sources by 2050 (90 x 50 goal), and the following:

A. Vermont's greenhouse gas reduction goals under 10 V.S.A. § 578(a);
B. Vermont's 25 by 25 goal for renewable energy under 10 V.S.A. § 580;
C. Vermont's building efficiency goals under 10 V.S.A. § 581;
D. State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal energy planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b (State energy plans); and
E. The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005.

A positive determination of compliance with the requirements of enhanced energy planning, as provided by the Regional Planning Commission, will enable Sheldon to achieve "substantial deference" instead of "due consideration" in Certificate of Public Good (CPG) proceedings for energy generation facilities (ex. wind facilities, solar facilities, hydro facilities, etc.) under Criteria (b)(1)-Orderly Development. In short, this means that Sheldon will have a greater "say" in CPG proceedings before the Vermont Public Utility Commission about where these facilities should or should not be located in the community.

To receive a positive determination of energy compliance, an enhanced energy plan must be duly adopted, regionally approved, and contain the following information:

A. An analysis of current energy resources, needs, scarcities, costs, and problems.
B. Targets for future energy use and generation.
C. "Pathways," or implementation actions, to help the municipality achieve the established targets.
D. Mapping to help guide the conversation about the siting of renewables.

Equity and Affordability

Reaching Sheldon's energy goals will bring both environmental and economic costs and benefits. The equity issues related to who will bear those costs is of continuing concern to Sheldon. A just energy transition requires that all residents have equitable access to the benefits and costs of the energy transition. The efficiency of green technologies offers savings for consumers as seen with electric vehicles, electric heat pumps, newer appliances, residential solar, etc. These technologies often require upfront investment, making them more difficult to access for residents with lower income. Low-income workers in Vermont also tend to work in industries that are more susceptible to the effects of climate change such as tourism and agriculture and are often disproportionally impacted by natural disasters like flooding. Equity for all residents will be considered in every decision about energy.

Energy Resources, Needs, Scarcities, Costs and Problems

The following subsection reviews each sector of energy use (thermal, transportation, electricity) and electricity generation in Sheldon. Several different units of measurement are used in this section. Please refer to Table 7.13 for more information about unit conversions.

Thermal Energy

Table A.1 shows an estimate of current residential thermal energy demand in Sheldon, based on data from the American Community Survey (ACS 2016-2020). The data shows that 56.6% of households in Sheldon depend on fuel oil as their primary source for home heating. This is followed by wood (15.2%) and natural gas (13.1%). Natural gas is available in some parts of Sheldon along VT Route 105 and in Sheldon Springs. Wood includes both cord wood and wood pellets.

Table A.1 - Current Sheldon Residential Thermal Energy Use

Fuel Source	Sheldon Households (ACS 2011-2015)	Sheldon % of Households	Sheldon - Households Square Footage Heated	Municipal Thermal Energy Use in British Thermal Units (BTUs) BTU (in Billions)
Natural Gas	115	13.1%	216,766	13
Propane	99	11.3%	201,513	12
Electricity	25	2.9%	46,786	3
Fuel Oil	496	56.6%	991,258	59
Coal	0	0.0%	0	0
Wood	133	15.2%	279,832	17
Solar	6	0.7%	12,624	1
Other	3	0.3%	6,312	0
No Fuel	0	0.0%	0	0
Total	877	100.0%	1,755,091	105

Estimates for commercial and industrial thermal energy use are more difficult to calculate due to the lack of accurate information available. Table A.2 provides an estimate of total commercial energy use (thermal and electricity). The estimate is based on data from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (VT DPS). According to NRPC, it is assumed that the majority of this energy use, 21.03 billion BTUs per year, is used as thermal energy for commercial uses.

Table A.2 - Current Sheldon Commercial Energy Use			
	Commercial Establishments in Sheldon (VT DOL)	**Estimated Thermal Energy BTUs per Commercial Establishment/year (in Billions) (VT DPS)**	**Estimated Thermal Energy BTUs by Commercial Establishments in Sheldon/year (in Billions)**
Municipal Commercial Energy Use	29	0.725	21.03

Electricity Use

Table A.3 shows 2017 electricity use in Sheldon per date available from Efficiency Vermont. Sheldon's total electricity use has increased from 64.4 million kWh in 2017 to about 161.6million kWh per year in 2022. According to Efficiency Vermont, the average residential usage per household has increased from 8,590 kWh per year in 2017 to 8,971 kWh per year in 2022. This increase is at least partially due to increased electrification of heating and transportation through heat pumps and EVs, respectively. During the same period between 2017 and 2022, overall commercial and industrial electricity usage decreased from 57.6 million kWh to 51.2 million kWh. Commercial and industrial electricity demand in Sheldon is high for a small municipality, likely due to the location of the WestRock Mill in Sheldon Springs. Sheldon is served by three electric utilities: Vermont Electric Cooperative, Green Mountain Power and the Village of Enosburg Falls.

Table A.3 - Current Sheldon Electricity Use		
Use Sector	**Current Electricity Use in Sheldon - 2022 (Efficiency Vermont) (kWh)**	**Current Electricity Use (in Billion BTUs)**
Residential	42,044,625	143.46
Commercial and Industrial	119,530,254	407.84
Total	161,574,879	551.29

Transportation

Table A.4 contains an estimate of transportation energy use in Sheldon. While the estimated number of personal vehicles in Sheldon as well as the total number of miles driven have both decreased since 2017, transportation costs have continued to rise given the relatively large price increases we have seen for gasoline. NRPC estimates that Sheldon residents drive personal vehicles approximately 20 million miles per year and spend about $3.0million on transportation fuel expenses per year. This calculation does not include expenses for commercially owned and operated vehicles.

Table A.4 – Current Sheldon Transportation Energy Use

Transportation Data	Municipal Data
Total # of Passenger Vehicles (ACS 2017-2020)	1,699
Average Annual Miles per Vehicle (VTrans)	11,772
Total Miles Traveled	20,000,628
Realized MPG (VTrans 2021 Energy Profile)	23.4
Total Gallons Use per Year	854,727.69
Transportation BTUs (Billion)	103
Average Cost per Gallon of Gasoline in 2023 (NRPC)	3.50
Gasoline Cost per Year	2,991,546.92

It is difficult to track electric and hybrid vehicle registrations in Sheldon. This is because vehicle registrations with the Vermont Department of Motor Vehicles are based on zip codes and there are three zip codes that cover the Town of Sheldon. It is unknown how many electric vehicles are currently registered in Sheldon, but electric vehicle use throughout the region continues to increase.

Electricity Generation

There is currently 31.64 MW of electricity generation capacity from renewable generation facilities located in Sheldon. Most of this generation is from hydro dam located in Sheldon Springs which is one of the largest dam sites in Vermont. Additional electricity is generated from two anaerobic digesters located on dairy farms and 44solar facilities, including residential rooftop solar projects. The amount of electricity generation in Sheldon is roughly equal to the annual electricity use of about households in the region based on usage data available from Efficiency Vermont (7,779 kWh per Northwest region household per year).

Table A.5 – Existing Renewable Electricity Generation

Generation Type	MW	MWh
Solar	4.43	3,066.00
Wind	0.00	0.00
Hydro	26.38	92,435.52
Biomass	0.83	3,395.46
Other	0.00	0.00
Total Existing Generation	31.64	101,263.94

Table A.5 organizes information about existing generation in Sheldon by type of facility. Map A.4 shows the location of all electricity generators in Sheldon with a capacity greater than 15

kW. A full list of electricity generators in Sheldon can be found at the end of this section (Table A.12).

Sheldon has relatively good access to electric transmission and three-phase distribution lines. These types of lines are used to transmit and distribute large quantities of electricity and are needed to serve large industrial users and commercial centers. The access to this type of infrastructure in Sheldon may make development of renewable energy facilities easier and more cost-effective than in other surrounding communities that lack grid infrastructure.

Map A.2 shows the electricity transmission and three-phase distribution infrastructure in Sheldon. Two transmission lines run east to west through Sheldon connecting eastern and western Franklin County. The map also shows a three-phase distribution lines in the town which generally serve the Sheldon Springs, Sheldon Village and the area along VT Route 105. Access to renewable generation resources, such as solar and wind, will be addressed below in the mapping section.

Targets for Use and Generation

The second required element of an enhanced energy plan is creation of targets for future energy use. Northwest Regional Planning Commission worked with the Vermont Energy Investment Corporation (VEIC) and the Vermont Department of Public Service in 2016 to develop regional targets for future energy use and renewable electricity generation to meet the State of Vermont's 90 x 50 goal. The targets represent only one scenario that would meet this goal. There may be many different ways that would also enable Vermont to achieve the 90 x 50 goal. For more information about the regional targets, please see the Northwest Regional Energy Plan (www.nrpcvt.com).

Regional targets for energy use and renewable electricity generation were disaggregated to create municipal targets. These municipal targets were also designed to ensure compliance with the Department of Public Service's Municipal Determination Standards. Tables A.6, A.7 and A.8 show the targets for future energy use for Sheldon by sector (totals are cumulative).

One thermal target for Sheldon in 2050 is to have 88.5% of structures be heated by renewable energy sources. Much of this transition is likely to come from conversion to electric heat pumps as the primary heating source for single family homes as the technology becomes more readily available and affordable. There is also a target for converting to new wood heating systems for residential heating. In addition to this target, Sheldon strongly encourages residents' conversion of existing wood heating systems to more advanced wood heating systems. Newer wood heating systems are more efficient and have less greenhouse gas emissions than older wood heating systems. Table A.6 also includes targets for the weatherization of residential households and commercial structures (78% and 73% respectively in 2050).

Table A.6 - Thermal Targets			
Thermal Targets	**2025**	**2035**	**2050**
Percent of Total Heating Energy From Renewable Sources - Heating (BTUs)	46.7%	60.4%	88.5%
New Efficient Wood Heat Systems (in units)	3	8	36
New Heat Pumps (in units)	91	217	429
Percentage of municipal households to be weatherized	5%	16%	78%
Percentage of commercial establishments to be weatherized	25%	25%	73%

The transportation energy targets for Sheldon are similarly ambitious. By 2050, 88.1% of transportation energy will need to come from renewable sources in order to meet the 90 x 50 goal. This will primarily be done through the conversion light-duty passenger vehicles from fossil fuels energy sources to electric energy. However, it will also mean conversion of heavy-duty vehicles from diesel to biodiesel sources. Biodiesel technology and infrastructure will certainly need to advance tremendously in coming years to meet this ambitious target.

Table A.7 - Transportation Targets			
Transportation Targets	**2025**	**2035**	**2050**
Percent of Total Transportation Energy from Renewable Sources - Transportation (BTUs)	6.6%	26.0%	88.1%
Electric Vehicles	164	1231	2929
Biodiesel Vehicles	162	321	612

Targets for electricity use are complex to interpret. Electricity use in Sheldon is targeted to double (increase by 100% of current levels) by 2050 (Table A.8). This increase in use will likely be driven by conversions to electric heat pumps and electric vehicles. These consumer changes will cause electricity use to grow. At the same time, total energy use (energy, not electricity) will become more efficient. This is because electric cars and electric heating sources are more efficient than using other energy sources, such as fossil fuels.[1]

Table A.8 - Electricity Targets			
Electricity Targets	**2025**	**2035**	**2050**
Increased Efficiency and Conservation (BTUs)	25.2%	48.3%	100.7%

Table A.9 shows the electricity generation targets for new electricity generation in Sheldon in 2025, 2035, and 2050. All new wind, solar, hydro, and biomass electricity generation sites will further progress towards achieving the generation targets (in MWh). Given the difficulty of developing additional hydro generation, and the constraints upon wind development, it is likely that solar generation will need to be a substantial component of meeting these generation

[1] Vermont Comprehensive Energy Plan - 2016, page 44.

targets. Meeting the generation targets will take considerable effort over the next 30 to 35 years. The 2050 generation target (11,964.22 MWh) is only about 10% of the current electricity generation within the Town of Sheldon (98,876 MWh).

While not included in the targets for energy use and generation, another potential source of energy in Sheldon are anerobic biodigesters. Biodigesters capture methane from manure or food waste and convert it into a renewable gas which either can be used in natural gas pipelines or transformed into electrical energy on-site through use of a generator. Anerobic biodigesters can have beneficial climate impacts as they reduce methane emissions and can offset use of traditional natural gas. Biodigesters can also provide an important source of income for farmers. A major barrier to the expansion of biodigesters is that many small farms do not generate enough manure to make the biodigester profitable. Sheldon supports efforts to expand on-farm anerobic biodigesters with creative solutions including digester hubs and micro digesters.

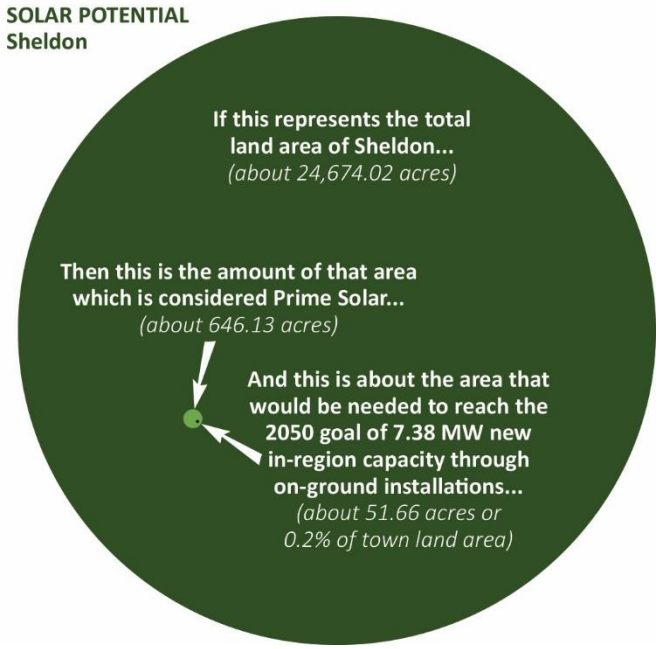
Table A.9 – Renewable Electricity Generation Targets

Renewable Generation Targets	2025	2035	2050
Total Renewable Generation Target (in MWh)	3,948.19	7,896.38	11,964.22

Table A.10 - Renewable Electricity Generation Potential

Resource	MW	MWh
Rooftop Solar	1	1,193
Ground-mounted Solar	959	1,176,112
Wind	731	2,241,576
Hydro	0	0
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	1,691	3,418,881

Figure A.2 – Ground Mounted Solar Potential



Based on mapping and calculations completed by NRPC, Sheldon has sufficient land to meet the above electricity generation targets. Sheldon has access to the renewable electricity generation capacity outlined in Table A.10. This estimate shows that Sheldon has considerably more potential for renewable electricity generation than what is needed to meet the renewable electricity generation targets in Table A.9. This generation capacity was calculated using the "base" layers for solar and wind. For an explanation of what constitutes a "base" layer, please see the mapping subsection below.

Sheldon supports NRPC's position regarding "commercial" and "industrial" wind facilities. The NRPC Regional Plan finds that the construction of new "industrial" or "commercial" wind facilities within the region does not conform to the Regional Plan (NRPC considers any wind facility with a tower height (excluding blades) in excess of 100 feet tall to be considered an "industrial" or "commercial" wind facility).

Energy potential from biomass and methane sources is not estimated. This is due to a variety of factors including insufficient information on which to create estimates. Sheldon encourages the use of these sources for electricity and thermal energy generation, especially on farms.

Mapping Energy Resources and Constraints

The third required element of an enhanced energy plan is the inclusion of maps that will provide guidance to the community and developers regarding the location of new renewable generation facilities. Sheldon has incorporated maps provided by NRPC. These maps show data as required by the Department of Public Service Municipal Determination Standards, including access to energy resources and constraints to renewable development. All maps may be found at the end of this section.

The intent of the maps is to generally show those areas that may be good locations, or may be inappropriate locations, for future renewable electricity generation facilities. However, it is important to note that the maps are a planning tool and do not precisely indicate locations where siting a facility is necessarily acceptable. When an electricity generation facility is proposed, the presence of all natural resources constraints on site shall be verified as a part of the application.

Mapping Methodology

Spatial data showing the location of energy resources formed the basis of the maps developed by NRPC. This is the data that shows where there is solar, wind, hydro, and biomass "potential" in Sheldon based on information provided by the Vermont Sustainable Jobs Fund. "Known" and "possible" constraints were subsequently identified on the maps. Known constraints are conservation resources that shall be protected from all future development of renewable electricity generation facilities. Possible constraints are conservation resources that shall be protected, to some extent, from the development of renewable generation facilities. The presence of possible constraints on land does not necessarily impede the siting of renewable generation facilities on a site. Siting in these locations could occur if impacts to the affected possible constraints are mitigated, preferably on-site.

A full list of known and possible constraints included on the maps is located in Table A.11. The known constraints and possible constraints used to create the maps include constraints that are required per the Municipal Determination Standards from the Department of Public Service and regional constraints selected by NRPC.

Solar and Wind

The solar and wind maps show both "base" and "prime" areas. Base areas are areas with electricity generation potential, yet may contain possible constraints. Prime areas are areas that have electricity generation potential that do not contain known or possible constraints. Areas that do not contain electricity generation potential, and areas that contain a known constraint, are shown as white space on the map.

The solar map indicates abundant base and prime solar areas in Sheldon. The following preferred locations for solar generation facilities by the Town of Sheldon: rooftops, parking lots, and landfills. Brownfield sites located outside of the village areas are also considered preferred locations.

Sheldon has a strong preference for solar facilities that have less than 5 MW in generation capacity. This preference is a reflection of the community's dedication to preserving the aesthetic and rural qualities of Sheldon by restricting the geographic size of solar facilities. In addition, Sheldon prefers that solar facilities greater than 149 kW in generation capacity to be sufficiently separated from other similarly sized solar facilities to "break up" the visual impact of two or more solar facilities located next to each other and to preserve Sheldon's rural character.

All solar facilities to be sited in Sheldon shall include proper screening. The Town of Sheldon may adopt a municipal solar screening ordinance in the future.

There generally isn't much land available in Sheldon that has base and prime wind resources. The areas that do exist are generally concentrated to the east of Sheldon Village and in the southeastern portions of town.

Hydro and Biomass

The biomass map is somewhat similar to the solar and wind maps. The biomass map also displays "base" and "prime" areas. However, these categories are not necessarily indicative of electricity generation potential. They instead indicate areas of contiguous forest that may be used for the harvesting of woody biomass for use in either thermal or electric generation.

The hydro map is unique from the other types of generation maps. It shows existing dam sites used for electricity generation. It also shows existing dam sites that are not used for electricity generation, but could be retrofitted to provide electricity generation capacity. Data about these dams comes from a study commissioned by the Vermont Agency of Natural Resources. The hydro map also shows some known and possible constraints that could impact the redevelopment of some dam sites. Sheldon has two existing dam sites. One is the Sheldon Springs dam which is actively generating electricity and is one of the most important renewable electricity resources in Vermont. The other is an existing dam that is not currently generating electricity located in the southeastern part of town. The redevelopment of this site or the development of new dam sites in Sheldon is extremely unlikely due to the extensive regulatory process involved in developing new dams.

Conclusion

Achieving the 90 x 50 goal, and the other energy goals in state statute, will be difficult. Sheldon is committed to playing its part in working towards accomplishing these goals and in creating a more sustainable, affordable, and secure energy future.

GOALS:

1. Plan for increased electric demand with the support of local electric utilities and Efficiency Vermont.
2. Reduce annual fuel needs and fuel costs for heating structures, to foster the transition from non-renewable fuel sources to renewable fuel sources, and to maximize the weatherization of residential households and commercial establishments.

Hold vehicle miles traveled per capita to 2011 levels through reducing the amount of single occupancy vehicle (SOV) commute trips and developing public transit ridership.

3. Focus growth within and adjacent to the villages.

POLICIES

1. Sheldon supports energy conservation efforts and the efficient use of energy across all sectors.
2. Sheldon supports the reduction of transportation energy demand, reduction of single-occupancy vehicle use, and the transition to renewable and lower-emission energy sources for transportation.
3. Sheldon supports patterns and densities of concentrated development that result in the conservation of energy. This includes support of public transit connections from Sheldon to other parts of the region.

4. Sheldon supports the development and siting of renewable electricity generation resources in the Town that are in conformance with the goals, strategies, and mapping outlined in this plan. Development of electricity generation in identified preferred locations shall be favored over the development of other sites.
5. Sheldon supports the conversion of fossil fuel heating to advanced wood heating systems or electric heat pumps.
6. Support local farms and the local food system.

IMPLEMENTATION ACTIONS:

1. Coordinate annually with Efficiency Vermont and state low-income weatherization programs to encourage residents to participate in weatherization programs available to Sheldon residents.
2. Promote the use of the residential and commercial building energy standards by distributing code information to permit applicants.
3. Determine if there is a need to create a municipal Energy Committee, appoint an Energy Coordinator, or provide greater funding and support to existing municipal boards to coordinate energy-related planning in Sheldon and to educate residents about the goals of this plan.
4. Investigate a revision to the zoning bylaw that would incentivize compliance with the state's stretch code, or similarly high environmental standard, through the issuance of a bonus density.
5. Conduct an energy audit of municipal and other public buildings to identify weatherization retrofits and incorporate the recommendations into the municipal capital budget.
6. Promote and provide information about the GoVermont website (https://www.connectingcommuters.org/) which provides information citizens about ride share, vanpool, and park-and-ride options.
7. Identify areas that may be appropriate for a wood-fired district heating facility.
8. Study the expansion of public transit routes in Sheldon.
9. Investigate opportunities for electric vehicle charging infrastructure on municipal property.
10. Review municipal road standards to ensure that they reflect the "complete streets" principles as outlined by Vermont Agency of Transportation and Vermont Department of Health (http://www.healthvermont.gov/sites/default/files/documents/2016/11/HPDP_PA&N%20Complete_streets_guide_for_VT_communities.pdf).
11. Review local policies and ordinances to limit water and sewer services to those areas of town where additional development will not contribute to sprawl.
12. Investigate the installation of a municipal solar and/or wind net-metering facilities to off-set municipal electric use.
13. Provide firefighters with training in fighting fires on structures that have solar installed.
14. Develop and adopt a municipal solar screening ordinance.
15. Investigate the need for a municipal park and ride facility.

Table A.11 – Mapping Constraints		
Solar, Wind and Biomass Maps - Known Constraints		
Constraint	**Description**	**Source**
Confirmed vernal pools	There is a 600-foot buffer around confirmed vernal pools.	ANR
State Significant Natural Communities and Rare, Threatened, and Endangered Species	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on the specific rankings, explore the methodology for the shapefile.	VCGI
River corridors	Only mapped River Corridors were mapped. Does not include 50 foot buffer for streams with a drainage area less than 2 square miles.	VCGI
National wilderness areas		VCGI
FEMA Floodways		VCGI/NRPC
Class 1 and Class 2 Wetlands		VCGI
Designated Downtowns, Designated Growth Centers, and Designated Village Centers	These areas are the center of dense, traditional development in the region. This constraint does not apply to roof-mounted solar within such designated areas. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
FEMA Flood Insurance Rate Map (FIRM) special flood hazard areas	Special flood hazard areas as digitized by the NRPC were used (just the 100-year flood plain - 500-year floodplain not mapped). The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
Ground and surface waters drinking protection areas	Buffered Source Protection Areas (SPAs) are designated by the Vermont Department of Environmental Conservation (DEC). SPA boundaries are approximate but are conservative enough to capture the areas most susceptible to contamination. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Vermont Conservation Design Highest Priority Forest Blocks, Connectivity Blocks, Physical Landscape Blocks, and Surface Water and Riparian Areas	The lands and waters identified here are the areas of the state that are of highest priority for maintaining ecological integrity. Together, these lands comprise a connected landscape of large and intact forested habitat, healthy aquatic and riparian systems, and a full range of physical features (bedrock, soils, elevation, slope, and	ANR

	aspect) on which plant and animal natural communities depend. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan. (Source: ANR)	
Public water sources	A 200-foot buffer is used around public drinking water wellheads. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that strongly deters or prohibits development have been included as a regional known constraint. The inclusion of this resource as a regional constraint is consistent with the goals and policies of the Northwest Regional Plan. Specific municipal land use districts included are outlined in Section D of the Regional Energy Plan. No areas identified in the Sheldon Town Plan were included in this category.	NRPC
<u>Solar, Wind and Biomass Maps - Possible Constraints</u>		
Constraint	**Description**	**Source**
Protected lands	This constraint includes public lands held by agencies with conservation or natural resource oriented missions, municipal natural resource holdings (ex. Town forests), public boating and fishing access areas, public and private educational institution holdings with natural resource uses and protections, publicly owned rights on private lands, parcels owned in fee by non-profit organizations dedicated to conserving land or resources, and private parcels with conservation easements held by non-profit organizations.	VCGI
Deer wintering areas	Deer wintering habitat as identified by the Vermont Agency of Natural Resources.	ANR
Hydric soils	Hydric soils as identified by the US Department of Agriculture.	VCGI
Agricultural soils	Local, statewide, and prime agricultural soils are considered.	VCGI
Act 250 Agricultural Soil Mitigation Areas	Sites conserved as a condition of an Act 250 permit.	VCGI

Class 3 wetlands	Class 3 wetlands in the region have been included as a Regional Possible Constraint. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that deters, but does not prohibit development, have been included as a regional possible constraint. Specific municipal land use districts included are outlined in Section D of the Regional Energy Plan. The Rural Lands II District identified in the Sheldon Town Plan was included in this category.	NRPC
Hydro Map - Known Constraints		
Constraint	**Description**	**Source**
None		
Hydro Map - Possible Constraints		
Constraint	**Description**	**Source**
"303d" list of stressed waters		ANR
Impaired waters		ANR
State Significant Natural Communities and Rare, Threatened, and Endangered Species	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on the specific rankings, explore the methodology for the shapefile.	VCGI

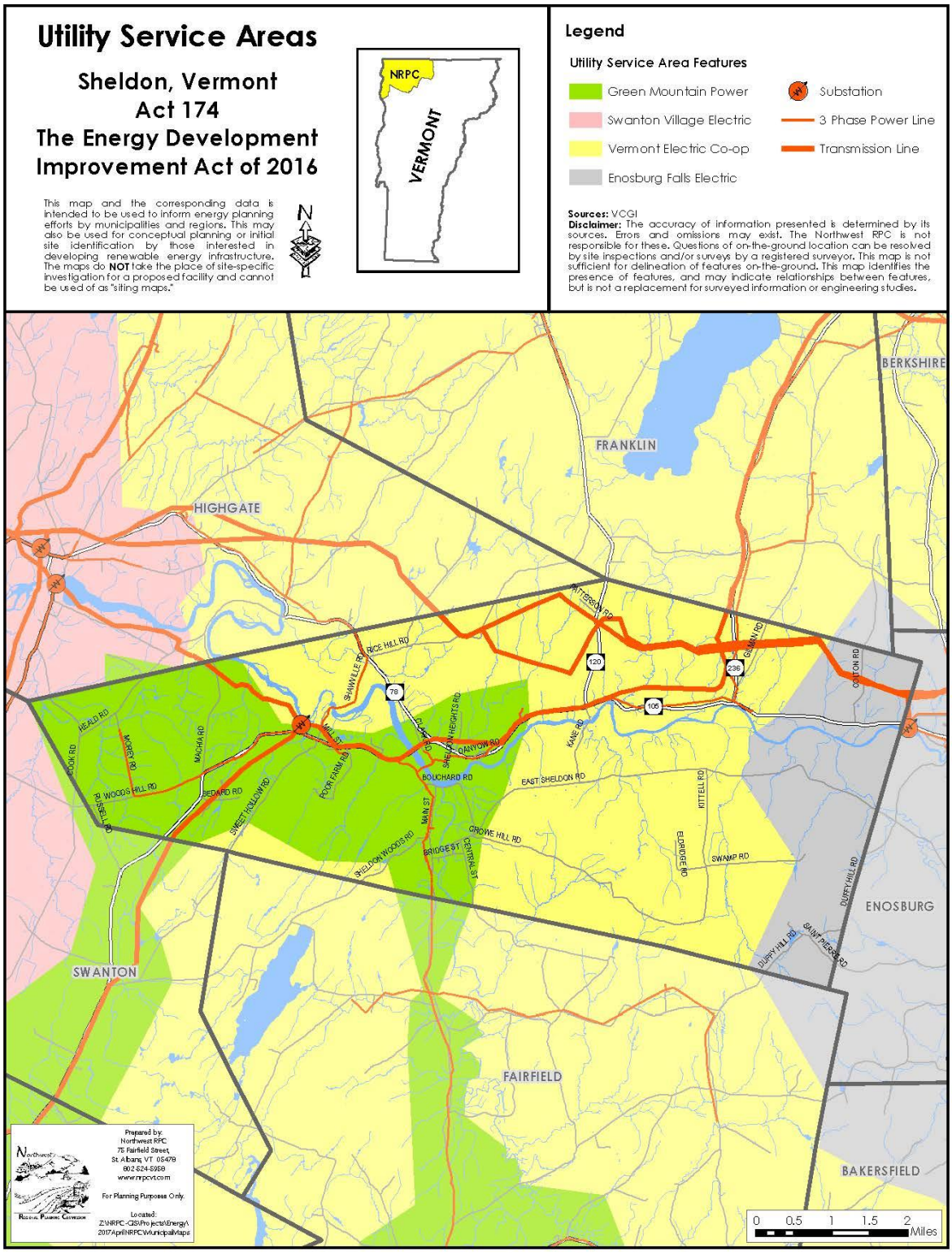
The date in Table A.12 displays facilities that have a Certificate of Public Good from the Vermont Utilities Commission to generate electricity. The Town of Sheldon recognizes that some of the data in the table may be out of date or incorrect. The Town of Sheldon also recognizes that some identified facilities may no longer generate electricity.

Table A.12 - Sheldon Electricity Generators (7.2.19)

Category	Sub Category	Electricity Type	Utility	Capacity kW
Biofuel	Anaerobic Digester	SPEED	Green Mountain Power	600
Biofuel	Anaerobic Digester	SPEED	Green Mountain Power	225
Hydro	Large Hydro	Grid		26380
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	8.2
Solar	Roof-Mounted PV	Group Net Metered	Green Mountain Power	135
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	5.8
Solar	Roof-Mounted PV	Group Net Metered	Green Mountain Power	135
Solar	Roof-Mounted PV	Group Net Metered	Green Mountain Power	499.5
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	5

Solar	Ground-mounted PV	Net Metered	Vermont Electric Coop	10
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	6.09
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	10
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	9
Solar	Roof-Mounted PV	Group Net Metered	Enosburg Falls Water & Light Department	59.2
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	5
Solar	Ground-mounted PV	Net Metered	Vermont Electric Coop	6
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	6
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	14.2
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	6.6
Solar	Ground-mounted PV	Group Net Metered	Vermont Electric Coop	500
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	6
Solar	Ground-mounted PV	Net Metered	Green Mountain Power	7.6
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	3.5
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	6
Solar	Ground-mounted PV	Group Net Metered	Vermont Electric Coop	500
Solar	Ground-mounted PV	Net Metered	Vermont Electric Coop	15
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	5
Solar	Ground-mounted PV	Net Metered	Vermont Electric Coop	10
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	5
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	7
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	8
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	3.4
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	4
Solar	Ground-mounted PV	Net Metered	Green Mountain Power	8.2
Solar	Ground-mounted PV	SPEED	Vermont Electric Coop	2200
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	7.4
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	5.2
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	6.5
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	4.3
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	6.1
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	3.7
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	9.7
Solar	Ground-mounted PV: Tracker	Group Net Metered	Vermont Electric Coop	148.2
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	10
Solar	Roof-Mounted PV	Net Metered	Green Mountain Power	5
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	6.6
Solar	Roof-Mounted PV	Net Metered	Vermont Electric Coop	6

Table A.13 Standard Conversions - BTU to Unit		
Unit	**Unit Type**	**British Thermal Units**
Kilowatt	Kilowatt	3,412
Gasoline	Gallon	120,404
Ethanol	Gallon	84,714
Diesel Fuel	Gallon	137,571
Heating Oil	Gallon	137,571
Residual Fuel Oil	Gallon	149,690
LPG	Gallon	84,738
Kerosene	Gallon	135,000
Biodiesel	Gallon	127,595
Wood Pellets	Ton	16,500,000
Cord Wood	Cord	20,000,000
Wood	Pounds	8,000
Natural Gas	Cubic Feet	103,200
Compressed Natural Gas	Pounds	20,160
Coal	Short Ton	19,490,000


Utility Service Areas
Sheldon, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
NRPC
VERMONT
Legend
Utility Service Area Features
Green Mountain Power
Swanton Village Electric
Vermont Electric Co-op
Enosburg Falls Electric
Substation
3 Phase Power Line
Transmission Line
Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.
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FRANKLIN
HIGHGATE
SWANTON
FAIRFIELD
ENOSBURG
BAKERSFIELD
RICE HILL RD
SHAWVILLE RD
ATTERSON RD
GIBBEN RD
OUTTON RD
HEALD RD
MCKEEN RD
MACHIA RD
BOOK RD
RUSSELL RD
R. WOODS HILL RD
BEDARD RD
SWEET HOLLOW RD
POOR FARM RD
MAIN ST
SHELDON CANYON RD
SHELDON HEIGHTS RD
KANE RD
BOUCHARD RD
EAST SHELDON RD
KITTELL RD
ELDRIDGE RD
SWAMP RD
CROWE HILL RD
BRIDGE ST
CENTRAL ST
SHELDON WOODS RD
DUFFY HILL RD
SAINT PIERRE RD
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Transmission & 3 Phase Power Infrastructure

Sheldon, Vermont
Act 174
The Energy Development Improvement Act of 2016

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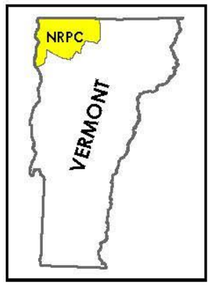

Legend

- Substation
- 3 Phase Power Line
- Transmission Line
- 1/2 Mile Buffer (3 Phase Power Line & Transmission Line)

Sources: VCGI

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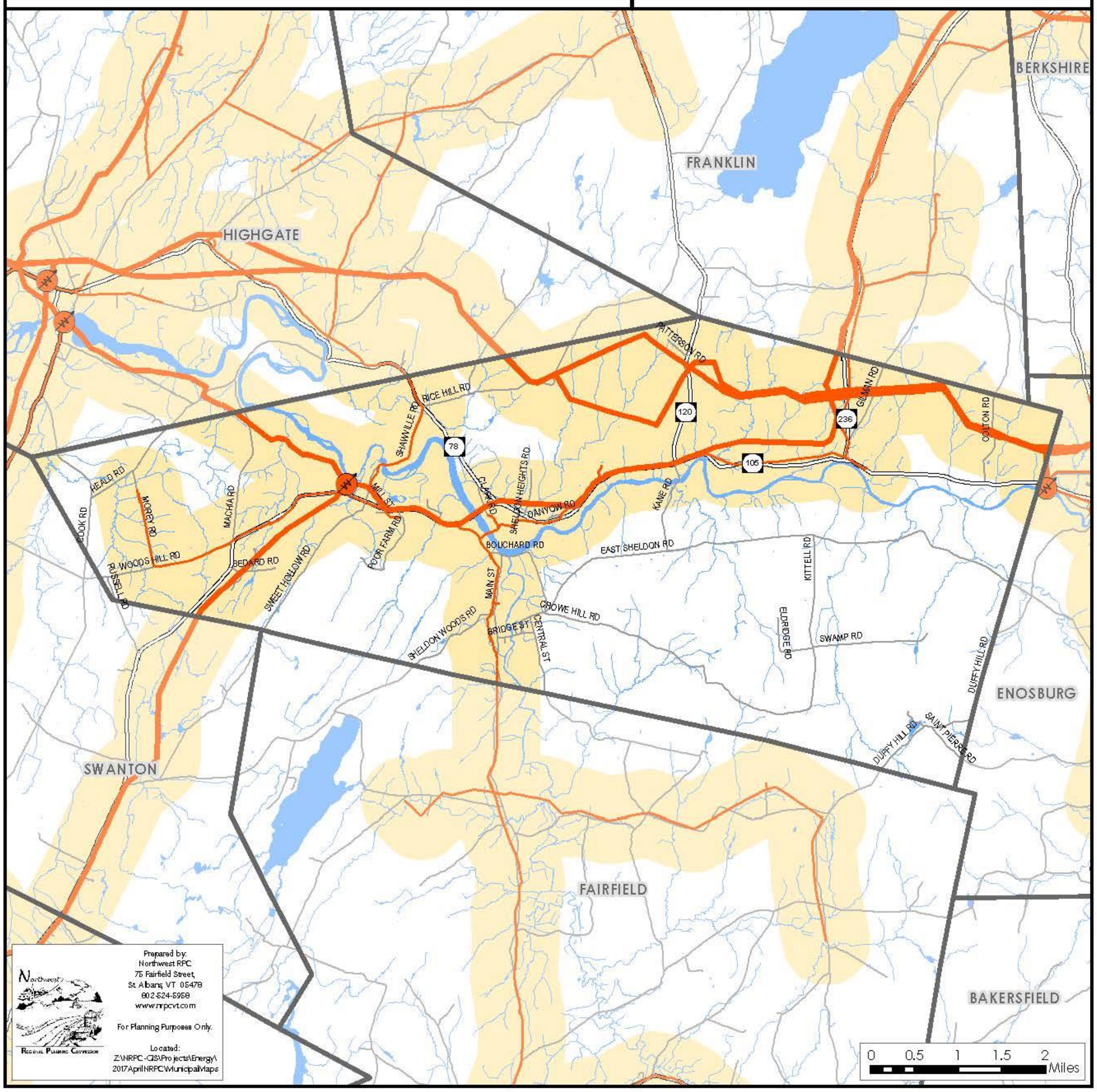

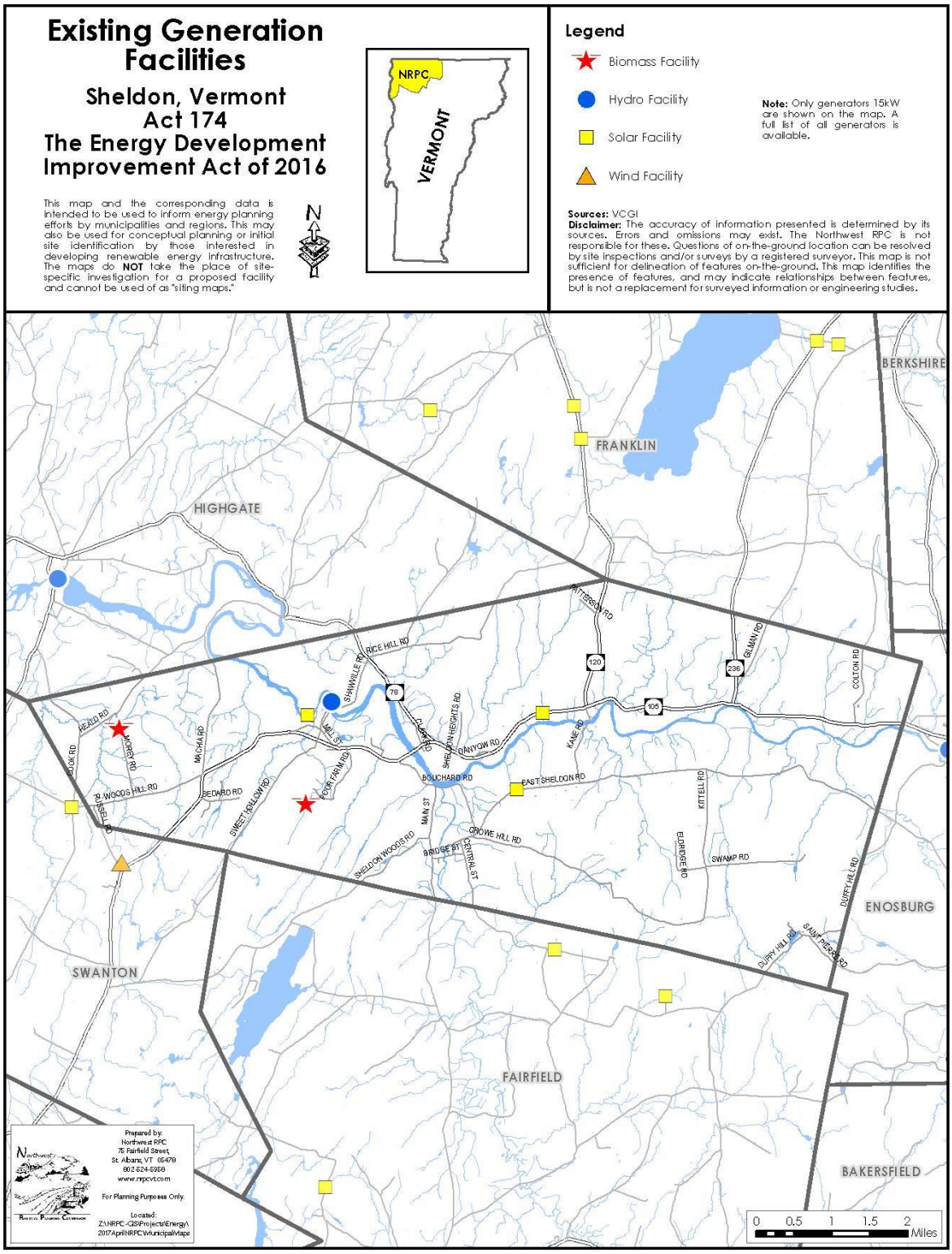
Existing Generation Facilities
Sheldon, Vermont
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N
NRPC
VERMONT
Legend
Biomass Facility
Hydro Facility
Solar Facility
Wind Facility
Note: Only generators 15kW are shown on the map. A full list of all generators is available.
Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.
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BOUCHARD RD
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KITTELL RD
ELDRIDGE RD
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MAIN ST
CROWE HILL RD
BRIDGE ST
CENTRAL ST
SHELDON WOODS RD
DUFFY HILL RD
SAINT PIERRE RD
120
236
105
78
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Miles

Natural Gas Lines

Sheldon, Vermont
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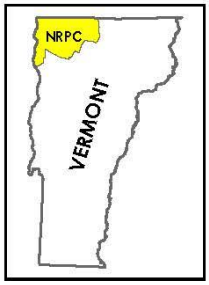

Legend

Natural Gas Line

Sources: VCGI
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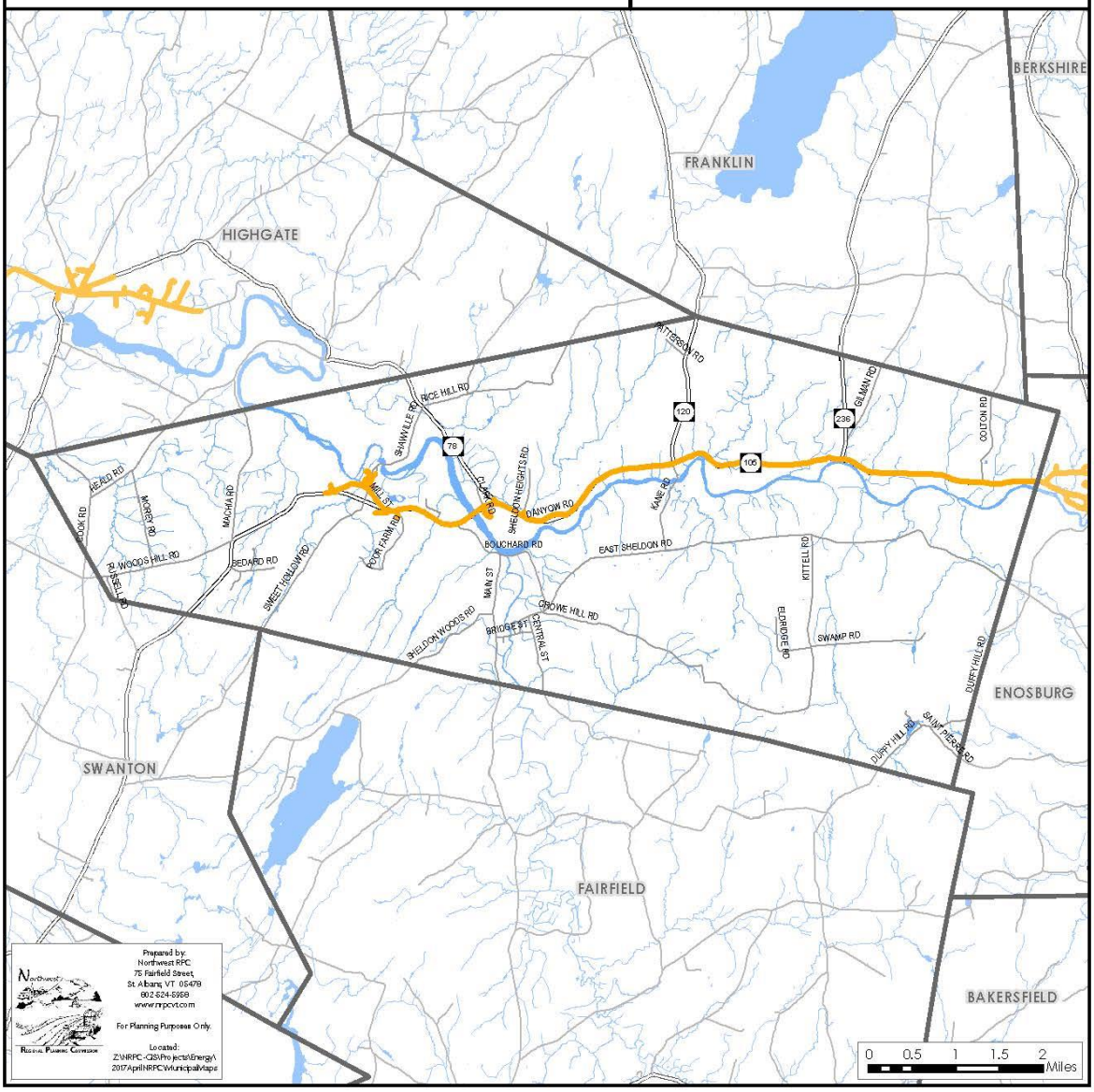

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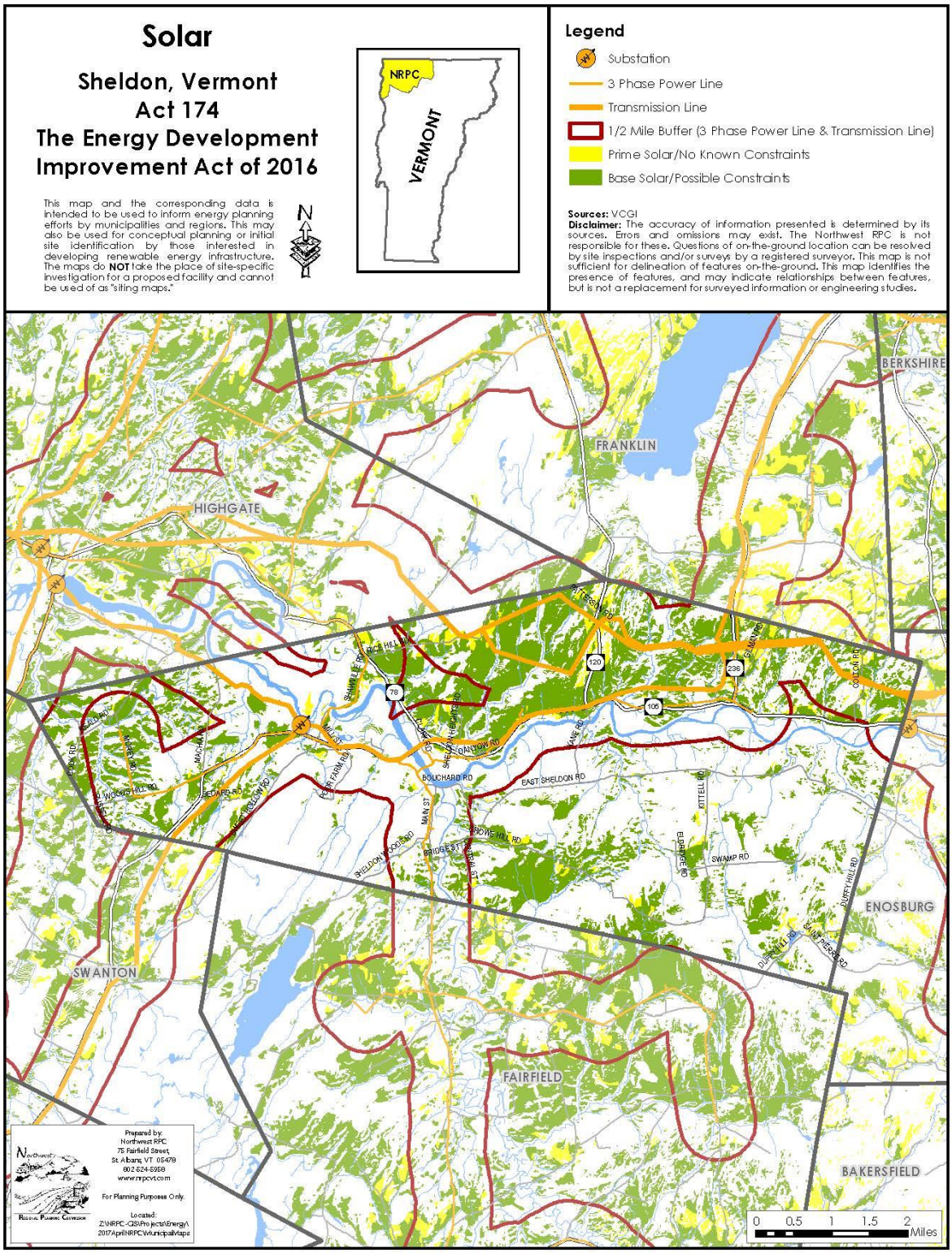
Solar
Sheldon, Vermont
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N
NRPC
VERMONT
Legend
Substation
3 Phase Power Line
Transmission Line
1/2 Mile Buffer (3 Phase Power Line & Transmission Line)
Prime Solar/No Known Constraints
Base Solar/Possible Constraints
Sources: VCGI
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ENOSBURG
BAKERSFIELD
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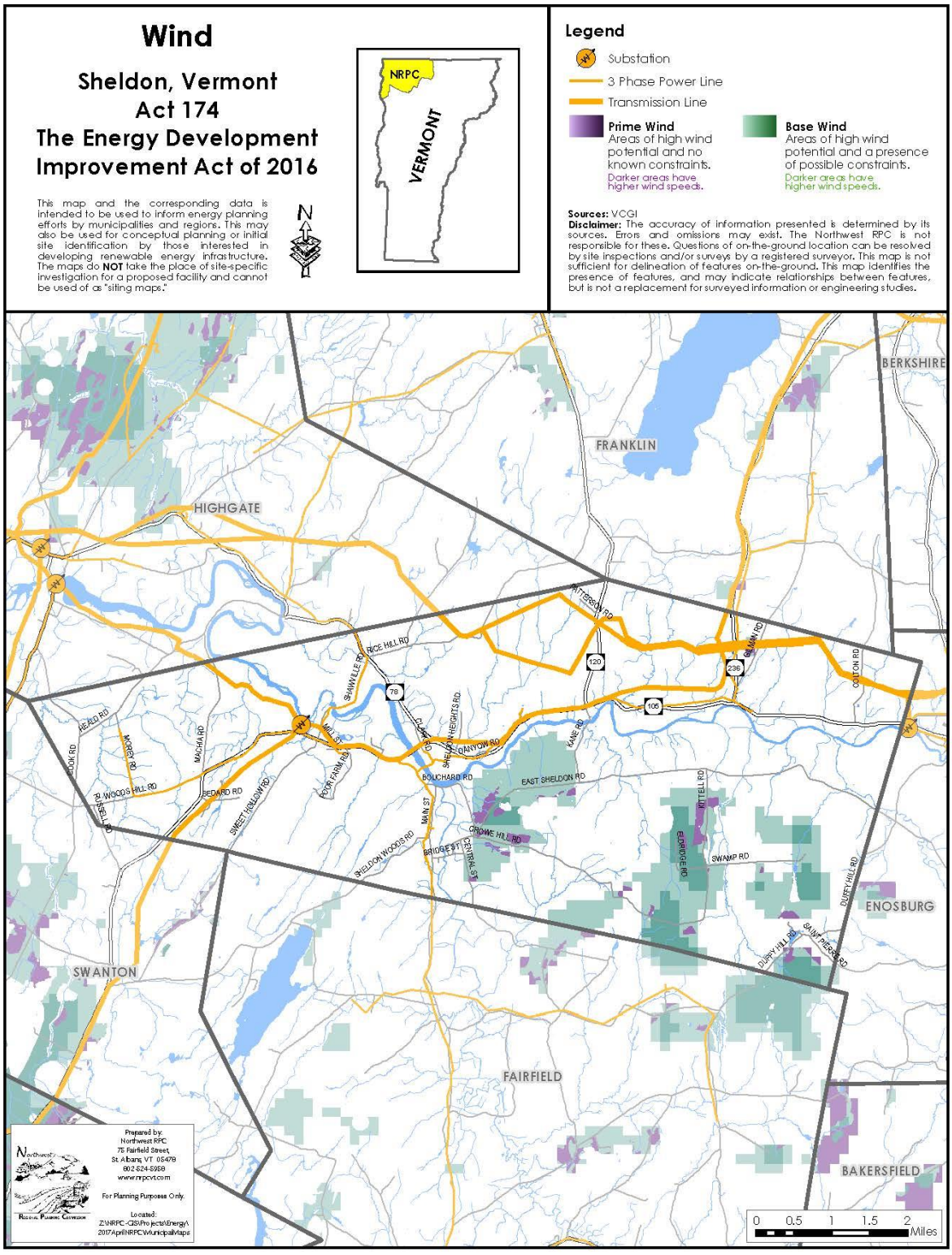
Wind
Sheldon, Vermont
Act 174
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N
NRPC
VERMONT
Legend
Substation
3 Phase Power Line
Transmission Line
Prime Wind
Areas of high wind potential and no known constraints.
Darker areas have higher wind speeds.
Base Wind
Areas of high wind potential and a presence of possible constraints.
Darker areas have higher wind speeds.
Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.
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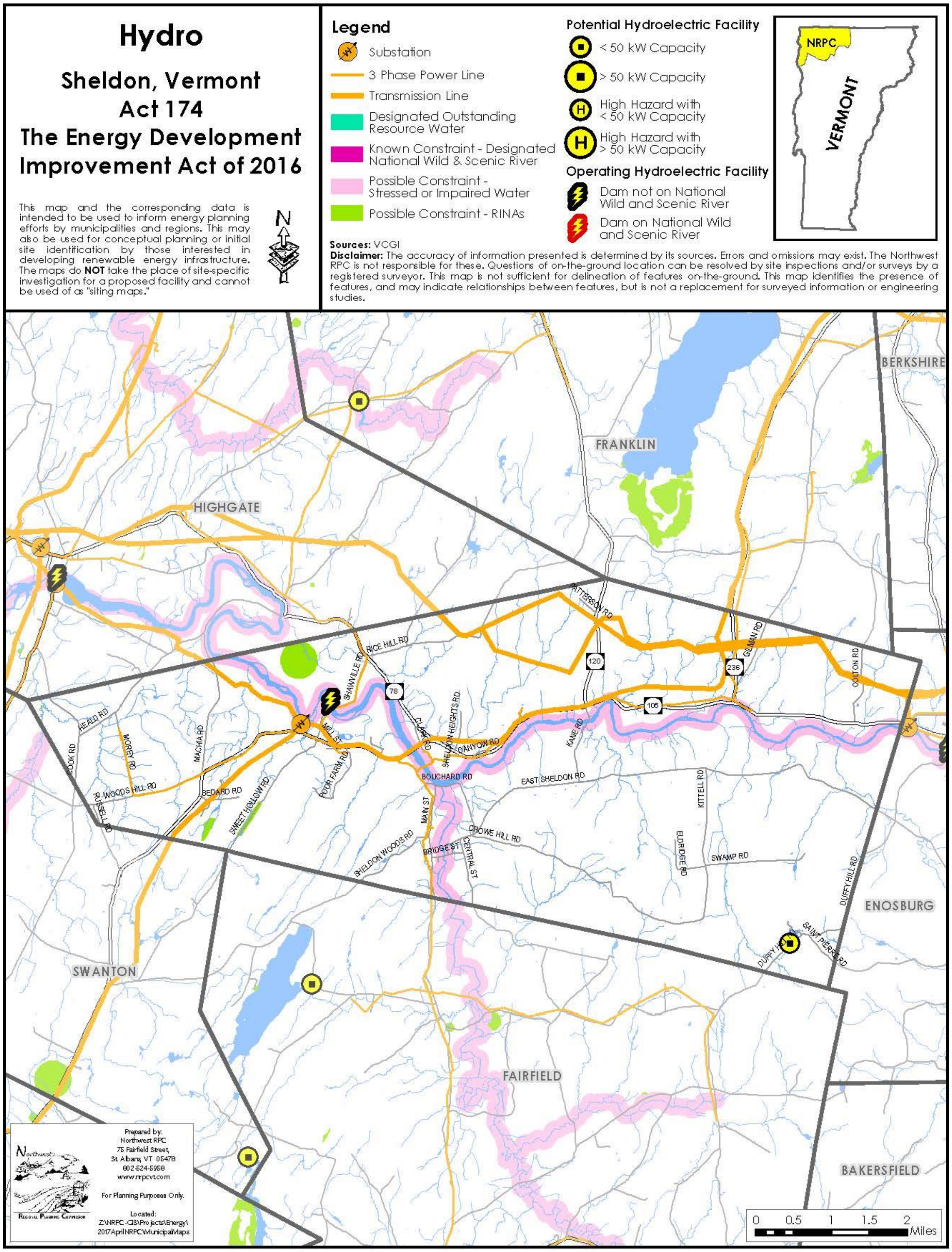
Hydro
Sheldon, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
Legend
Substation
3 Phase Power Line
Transmission Line
Designated Outstanding Resource Water
Known Constraint - Designated National Wild & Scenic River
Possible Constraint - Stressed or Impaired Water
Possible Constraint - RINAs
Potential Hydroelectric Facility
< 50 kW Capacity
> 50 kW Capacity
High Hazard with < 50 kW Capacity
High Hazard with > 50 kW Capacity
Operating Hydroelectric Facility
Dam not on National Wild and Scenic River
Dam on National Wild and Scenic River
NRPC
VERMONT
Sources: VCGI
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POOR FARM RD
BOUCHARD RD
EAST SHELDON RD
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