

Town Plan

Charleston, Vermont

February 28, 2013

*Town of our fathers, dear old town
Through which the Clyde River flows swift and clear
The land our fathers cleared and tilled
And built the homes we've loved so dear
We cherish thee, town of our birth
Most sacred place to us on earth*

—Charleston Town Song
Mae Blanche Marvin Buck

I. Town History and Demographics

The site of the Town of Navy in northeastern Vermont, on the lands of the Abenaki people, was granted to Commodore Abraham Whipple in 1780 to honor his heroic defense of the city Charleston, South Carolina in the Revolutionary War. Navy was first settled by Abner Allyn in 1806 and was renamed Charleston in 1825. The earliest settlers were hearty pioneers who cleared dense forests to make their farms and homes. This same reliance on the land, love of its natural beauty, and spirit of independence and self-reliance still characterizes the people of Charleston today.

The Town of Charleston covers 24,662 contiguous acres. The 2010 U.S. Census reports a total population of 1023 residents, 51% male and 49% female, indicating a population density of about 1 person per 26 acres. The Town's population has shown slow to moderate growth over the past 50 years—a rate that has increased somewhat over the past decade. About 22% of the population is younger than 20 years, about 20% is between 20 and 40 years of age, about 32% is between 40 and 60 years, and 27% is aged 60 or older. The median age is 49 years.

The entire population of Charleston is housed, with more than half living in traditional nuclear families, a third living in non-family households, and about one-quarter living alone. The average family size is 2.7 and the average household size is 2.2. About 63% of Town residents are in the civilian labor force and 37% are not, with an unemployment rate of 5%, that is lower than state and national unemployment rates. About 30% of households have annual incomes below \$25,000, about 40% between \$25,000 and \$50,000, 12% between \$50,000 and \$75,000, and 18% above \$75,000. The average annual household income is about \$45,000.

About one-third of our Town's housing stock was built before 1950. Almost half was built between 1960 and 1990. About 12% has been built since 2000. About half of the housing is valued between \$50,000 and \$150,000, with another half valued between \$150,000 and \$300,000. More than 80% of the housing is owner-occupied, with about 20% rented. Rental costs range from \$500 to \$1500 per month.

Many people in Charleston make their living close to the land with small businesses in Town connected to farming and agriculture, forestry and logging, nurseries, tourism, retail of farm and maple sugar products, home and building construction, and real estate. Other professions and businesses provide services to residents and visitors, and some are connected to education and municipal or public services. All enterprises, commercial or non-profit, are on a smaller scale appropriate to our Town. Two non-profit education organizations connect children and adults to the wonders of the natural world while providing them with outdoor learning and recreation.

II. Town Plan Objectives and Interpretation

Charleston is one of the few remaining natural gems protected from the development of the 21st Century by our remote location in Vermont's Northeast Kingdom. This unique character has been recognized—NEK was named in the top ten places to visit in the world by National Geographic's geo-tourism initiative—but sustaining it will require an ongoing commitment to mindful planning and measured development. This precious natural, rural quality—along with the strong character of our people—is among the Town's chief economic and cultural assets.

Charleston can benefit greatly from new business that brings jobs and economic opportunity to our Town. New businesses in areas such as farming, agriculture, forestry, logging, manufacturing, technology, health care, tourism, and services are welcome in Charleston, and will find broad support across the community both for the jobs they bring and their vital contribution to our Town's tax base. Any new business must be well integrated with our Town's rural setting, protect our natural resource areas, and preserve our scenic beauty.

We intend by this Town Plan to promote the economic well-being of our residents and provide for the orderly development of our Town and region by encouraging smaller scale new business and development that is compatible with the rural character of our Town, and protects the scenic beauty of our natural landscape. We also intend by this Town Plan to preserve and protect to the greatest extent possible the natural condition of our mountain ridgelines and high elevation habitats, headwater areas, rivers, streams and surface waters, wetlands and vernal pools, wildlife habitats, groundwater recharge areas, forestry resources, agricultural resources, and our aesthetics and natural scenic beauty.

The clearly stated policies, provisions, directives and prohibitions set forth in this Town Plan are land conservation measures intended to be interpreted as legally enforceable standards which shall be construed by local and State regulatory bodies to achieve their full intended purpose. No mitigation measures or legal interpretations shall be accepted by any regulatory body to overcome the policies, provisions, directives and prohibitions stated herein. We urge regulators, potential developers, state and regional officials, and our neighboring Towns to take full, respectful account of how critical our undisturbed natural setting is to the future of our Town.

Charleston is a community of moderate means, but we are rich in our people and our natural assets. By attracting new business and economic opportunity to our Town on a proper scale that protects our land, rivers, lakes, hills and mountain ridgelines, we are establishing land use policy and conservation measures that will protect our Town as an outpost of natural beauty that will continue to attract visitors, new economic opportunities, and new residents from across the state and the nation for decades to come. These core objectives permeate every statement, policy and program in this Plan, and are the touchstones for our economic growth and quality of life.

III. Town Plan Elements

This section offers data and information about the required elements of a Town Plan and other elements of importance to our Town.

A. Land Use

The Town of Charleston covers 24,662 acres (38.5 square miles). Population density is 26.6 people per square mile, ranking 176th among the Vermont's 255 towns. Residences are concentrated primarily within the East and West Charleston Village areas, around the larger lakes, and along the larger state and Town roads, leaving much of the Town's acreage in an undeveloped condition. Residents value this character highly for the mix of residential, recreational, agricultural, forestry, and natural scenic beauty it provides.

Natural resources in Vermont's Northeast Kingdom fall into three broad categories: fertile agricultural soils enriched by bedrock type or periodic flooding, less fertile or shallow soils best suited to forest growth, and water or open wetlands. Charleston contains significant elements of all three groups, in part because it lies in a transition zone from the milder climate agricultural lowlands of the Lake Memphremagog environs to the cooler forested granite mountains found to the east and south. The Town straddles two of Vermont's eight biophysical regions, with the Northeastern Highlands encompassing the higher elevation east half of the Town, while the Northern Vermont Piedmont region takes in the west half.

Within these categories of natural resources are environmentally sensitive natural resource areas which include, but are not limited to, mountain ridgelines and high elevation habitats, headwater areas, rivers, streams, and surface waters, wetlands and vernal pools, wildlife habitats and ground water recharge areas. Because the preservation and protection of these resource areas is essential to the wellbeing of the residents of Charleston and surrounding communities, it is the policy of Charleston to prohibit all development within these natural resource areas and any development that will cause degradation of a natural resource area.

The Clyde River enters the Town from the east (Brighton) at an elevation of 1160 feet above sea level, loses only twenty feet of elevation as it crosses the eight miles of wetlands to the top of the Great Falls, and then drops another 170 feet over only two miles through West Charleston village. The lowest elevation of the Town is at 970 feet in the northwest corner where the Clyde enters Derby, while the highest point is found in the opposite southeast corner at the summit of Pierce Hill (2047 feet).

Charleston also encompasses several larger water bodies, including Charleston Pond, Pensioner Pond, and Toad Pond—all within the Clyde River floodplain. In a higher basin in the east part of Town is Echo Lake, a 544-acre water body that reaches a depth of 130 feet and is one of only two cool deep water lakes in the Clyde River system (supporting a diverse fishery that includes native lake trout). Many miles of Clyde River tributary streams cross the Town and the falls at

lower Mad Brook and the Echo Lake outlet stream (as well as along the Clyde River in West Charleston), provided water power to mills throughout the early history of the Town. Dams remain today at Echo Lake, below Pensioner Pond, and at Charleston Pond. While most of the Town's surface waters drain into the Clyde River, Moody Brook and other streams in the west corner drain west through Brownington to the Willoughby River.

Water and open wetlands make up 7.5% of Charleston's total acreage, while forests comprise nearly 73% of the Town (Table 1). Forest types are predominantly a mix of floodplain and upland hardwoods, northern white cedar swamp, old field softwoods, and lowland spruce-fir forest. A number of sugarbushes are also maintained, ranging from small hobby scale to commercial operations with thousands of sugaring taps.

Given the Town's diversity of forest types and relatively large land ownerships, ongoing sustainable production of a variety of timber types and grades is possible from the Town's forests, including veneer-grade hardwood, various lower grades of hardwood and softwood sawlogs, cedar posts and rails, hard and softwood pulp, firewood, chips for electrical generation, and other products for small specialty markets like ash canoe thwarts and gunwales, cherry burls for turning, etc. No commercial sawmills currently operate in Charleston, and most of the volume removed through timber harvests is trucked to mills in Maine, New Hampshire, Quebec, and more distant towns in Vermont. Several portable sawmills are owned and operated by landowners in the Town for their own use. Non-timber products supplied by the Town's forests include edible and medicinal plants, maple syrup, and softwood brush for wreaths and garlands.

Many forest landowners cite improvement of forest health and wildlife habitat as primary goals in managing their lands, and active management on a number of parcels is focused at least partly on these goals. Examples include protecting sensitive habitats (wetlands, streams, raptor nest sites, etc.), using targeted release and thinning operations to promote beech and other wildlife mast-producing species, re-establishing a diversity of tree age classes, and retaining cavity trees. Cost-share programs administered by the Natural Resources Conservation Service (NRCS), with an office in Newport, have in recent years helped to offset the costs of these forest improvement practices as well as new forest management plans.

Table 1: Charleston Land Cover Types

(Source VCGI- 1996)

Broad type	Detail	% of Town
Forested	Mixed forest	24.1%
	Evergreen forest	23.3%
	Deciduous forest	16.3%
	Forested wetland	9.2%
	<i>Total forested</i>	<i>72.9%</i>
Agricultural	Hay/pasture	7.8%
	Row crop	6.8%
	<i>Total agricultural</i>	<i>14.6%</i>
Other non-forested	Water	5.7%
	Transportation/utilities	4.0%
	Non-forested wetland	1.8%
	Residential	0.6%
	Brush/transitional	0.3%
	Commercial/industrial	0.0%
	<i>Total other non-forested</i>	<i>12.4%</i>
Grand Total		100.0%

Farming and Agriculture

Farming is a significant and highly valued land use in the Town, with farmland making up nearly 15% of the total area. As in surrounding towns, this percentage has declined since peaking near the beginning of the 20th century at roughly 50% of the Town in farmland. Several dairy farms currently operate in Charleston, with herds ranging from approximately 100 to 400 cows.

Forestry and Logging

Most of the Town's forests have been logged a number of times since Euro-American settlement in the early 1800s, and a significant portion of the current forest is at an early to mid-successional stage of development following logging within the past 30 years. This work has been carried out with varying levels of care and planning, and examples of both well-managed and degraded forests can be found in our Town.

Recreation

Recreation is the land use activity that engages the widest cross section of people in Charleston, and is important both for full-time and seasonal residents as well as for visitors. Common types of recreation include hunting and fishing, snowmobiling, boating, cross-country skiing, bicycling, and the use of off-road vehicles. Development for recreation is found mainly in trails maintained by NorthWoods Stewardship Center (for non-motorized use) and by the Vermont Association of Snow Travelers (VAST) for snowmobile use. The NorthWoods Stewardship Center has developed a Recreation Management Plan for the acreage it owns and manages in the area surrounding Tripp Hill (1,731 ft.), with the a primary goal to provide recreational opportunities that maximize public benefits, promote education and exploration, are consistent with its forest management plan, and protect natural resources. Copies of the Trip Hill plan are available from NorthWoods.

Fishing access areas are located on Echo Lake, the Clyde River at VT Route 105, and on Pensioner Pond. A kayak and canoe rental business along the Clyde River near Pensioner Pond has grown markedly in recent years, coinciding with the establishment of a 740-mile long Northern Forest Canoe Trail from New York to Maine that follows the Clyde River. This trail has seen a steady increase in day and through-paddlers over the past five years.

The 3,315 ft. summit of Bald Mountain in neighboring Westmore with its summit property, Fire Lookout Cabin, and tower owned by the State of Vermont, is the third highest peak in the Northeast Kingdom and provides one of the most spectacular views in the region. Bald Mountain is a popular year-round hiking and mountaineering destination, and two of the three access trails--the Mad Brook Trail and Telegraph Trail--are accessed via Charleston Town highways, linking Charleston to Westmore as a gateway to Bald Mountain and the 7000-acre Westmore Town Forest that includes it.

Playground, ball fields and courts at Charleston Elementary School are available to the general population outside of regular school hours. Nearby Burke Mountain and Jay Peak offer skiing and mountain bike riding. Other recreational opportunities, including bowling, sailing, golf, and tennis, are available in the towns of Derby, Newport, Brighton, and Westmore. A variety of public and private campgrounds in the area offer accommodations from tent sites to RV sites. Charleston residents use public beaches at Seymour Lake in Morgan, Brighton State Park in Island Pond, Lake Memphremagog in Newport, Lake Willoughby in Westmore and Crystal Lake in Barton.

Land Ownership and Conservation

Nearly all of the land in Charleston is privately owned with exception of a few small state-owned fishing access areas, Town-owned office and road maintenance facilities, and a municipal Town Forest. The Town Forest is located along the Class 4 Town Farm Road on the Charleston-Westmore town line, and includes 184 acres within the Town of Charleston, as well as a contiguous 50 acres in Westmore. To date, the Town Forest has been used mainly by hunters, though several timber harvests have also been completed. In recent years the Town

has worked in partnership with the NorthWoods Stewardship Center (see page 20) to further define goals and implement forest management on these parcels. A forest management plan was completed in 2008 for the Westmore acreage and a timber harvest combining salvage of softwood blow-down and improvement thinning was completed in the winter of 2011-2012. Though access to the site can depend on road conditions, the Town Forest is an excellent and underutilized resource, with great potential for further enhancement, and educational/recreational use. The acreage includes a mix of pine plantation, old field softwood, cedar swamp, and northern hardwood forest as well as some old field habitat and an overgrown apple orchard. Historic sites, including remains of a cellar hole, document early homestead activity and the former Charleston Town Farm, once the Town's means of providing for poor residents. A limited trail system exists from past logging and farm use, though some repairs are needed due to off-road vehicle use.

Parcel sizes in Charleston range widely, from a fraction of an acre to over 1100 acres, with 74% of parcels being at least 50 acres in size—slightly above the state average (VNRC 2012). Increasing land values and development have resulted in steady subdivision of large parcels, inhibited somewhat by Vermont's Use Value Appraisal (UVA) program or conservation easements through various organizations—most notably the Vermont Land Trust (VLT). Actively farmed acreage, and forested parcels of at least 25 qualifying acres, can be enrolled in UVA, which provides significant property tax savings in exchange for a lien that limits development and ensures continued use of the land for forestry, farming, or certain wildlife values. Lands with conservation easements are generally prohibited even more rigidly from development or subdivision. Importantly, forest lands enrolled in either program are required to maintain a current forest management plan and to practice accepted silvicultural practices with oversight by county or VLT foresters. Enrolled landowners are allowed to prevent public access by posting their land, though many choose not to do so.

In Charleston, 9500 acres (41%) are currently enrolled in UVA, including 51% of all parcels greater than 50 acres. This represents an increase of 2900 acres (15%) since 2003. Lands conserved by the Vermont Land Trust total 3221 acres (13%). One of the largest blocks of UVA and conserved acreage is found in the east corner of Town, made up of a dairy farm, the NorthWoods Stewardship Center, and multiple smaller private ownerships (see Map 2).

Town Districts

West Charleston Village is described by the area on both sides of Vermont Route 105 from the junction of Routes 105 and 5A on the east to the Derby-Charleston border on the west. The Clyde River forms the northern boundary. The southern boundary is 1000 feet in distance on a line perpendicular to the center line of Vermont Route 105. The eastern boundary is the Clyde River, north of Vermont 105 and Vermont 5A, south to a point 1000 feet from the centerline of Vermont 105.

East Charleston Village is described by an area on both sides of Vermont Route 105 from Route 105/Ten Mile Square Road to a point approximately 9/10 of a mile west of the centerline of Church Hill Road. The northern boundary is 1000 feet in distance measured on a line perpendicular to the center line of Vermont Route 105. The southern boundary is the Clyde River.

Pensioner Pond is described by the area lying within Route 105 to the north, Route 5A to the south, and to the south and east along Stumpf Brook to where its meets the Clyde River, and from that point to the intersection of Parlin Meadow Road and Vermont Route 5A.

Echo Lake is described by the area circumscribed by East and West Echo Lake Roads.

Rural: All other land within the Town is part of a Town-wide Rural District, which contains approximately 22,050 acres.

Commercial

Small scale enterprises flourish in Charleston, employing many Town residents (see below). Many of these are directly tied to the Town's land and natural resources, and depend on the preservation and stewardship of these features to thrive.

Table 2: Active Commercial Enterprises

Beauty, Services & Products (2)
Contractors (7)
Day Care (4)
Farming (13)
Forestry/Logging (5)
General Store/Deli (1)
Insurance (1)
Landscaping and Floral (1)
Legal/Business Services (2)
Nursery/Farm Stand (4)
Outdoor Power Equipment (1)
Rubbish Haulers (2)
Sports & Recreation (1)
Truck/Auto Sales & Service (7)
Trucking (2)
Welding & Fabrication (2)
Wineries (1)

Public and Semi-Public Uses

The Vermont Department of Fish and Wildlife maintains a public access area to the Clyde River at Ten Mile Square Road on Route 105, and public access areas to Pensioner Pond and Echo Lake. The Charleston Town Forest, accessible by a Class 4 Road, is used for hunting by Town residents. Charlestown Elementary School makes its facilities available to groups and residents, and the NorthWoods Stewardship Center lodge is often used by civic group and organizations.

B. Transportation

Roads and Highways

Charleston depends on the 60 miles of local and state roads within our borders and road maintenance is a top priority. Charleston has 10.15 miles of Class 2 roads, 30.51 miles of Class 3 roads, 9.01 miles of Class 4 roads, and 5.85 miles of legal trails. The state highways account for another 13.88 miles of road (see Map 5). Vermont Route 105 runs through the Town, roughly parallel to the Clyde River, connecting the Town to Island Pond and Derby. Route 5A runs perpendicular to Route 105 in West Charleston, connecting to Brownington. Various classes of roads connect residents to Island Pond, Morgan, Derby, Brownington, and Westmore, and to each other. Ninety percent of the Town's workforce travels to work by car, truck or van—with almost half on the road before 7:00 am. One-third is at work in 20 minutes or less; another 45% reach work within 35 minutes; and the rest travel up to an hour or more. Twenty percent of households have one vehicle; 35% have two; and 40% have three or more. Only 1% has none.

The Selectboard members serve as the Town's Road Commissioners and take an active role in road maintenance. The Town maintains its own Town Garage to house road maintenance equipment that consists of one grader, two loaders, three primary six-wheel dump trucks, and a spare dump truck. The Town provides maintenance on this equipment to the degree possible within the skill and tools of the road crew, with major repairs done by equipment dealer or area heavy equipment mechanics. The Town requires three trucks in working order to be efficient. The Town Garage is well maintained, and a new roof and exterior paint were completed in 2012. Needs are assessed yearly. The Town adheres to State of Vermont town road and bridge standards required for the Town to receive state aid for highways, which is necessary to meet the annual costs of maintaining our roads. At this time, our road crew of three is able to perform basic maintenance of roads and equipment, plow and sand winter roads and undertake some smaller projects and road resurfacing. The Town hires spare drivers or other equipment as needed.

To provide for future needs, the Town has purchased two gravel pits in the past four years: the former Erma Worth pits on the Ten Mile Square Road was secured for winter sand and rough fill; and the former Ned Fauser pit was acquired in 2012 to secure product to make crushed gravel for many years to come. This pit produces a better packing crushed product, and should result in future roads being better able to withstand rains, traffic, and every day wear and tear.

Citizens must buy their own driveway culverts and the Town will install them. The Town maintains a culvert survey that assesses over 800 culverts, with data on length, overall condition, size and location of each culvert. This guides our culvert maintenance and replacement plan. All culverts removed from the Town roads become the Town's property. Usable culverts will be reused on Class 4 roads. Less useful culverts are sold on a first come first served basis and others are sold as scrap metal. Guardrails are placed on an as needed basis or as required by the state. A supply of beam rail and posts are stored at the Town Pit on Ten Mile Square Road.

Parking and Bus Service

Two pull-over areas—one in the East Village and the other in the West Village—are available for short term parking. A few informal parking areas are provided as a courtesy by private landowners. Greyhound bus service is available at White River Junction and Rural Community Transportation (RCT) in Newport operates local bus service Monday through Saturday within Newport, Derby, and Derby Line. On the first, third, and fifth Thursday of each month, the free RCT "Island Pond Shopper" transports passengers from the (currently closed) East Charleston Country Store in East Charleston Village to Waterfront Plaza in Newport by reservation.

Airports

The Newport State Airport in Coventry has two 4,000 foot paved runways designed for aircraft weighing less than 12,500 pounds and with wingspans of less than 79 feet. Visual and navigational aids are available to allow for non-precision approaches for aircraft equipped with electronic navigational instruments. Following a business expansion of the nearby Jay Peak ski area and downtown Newport, plans are in the works for a nine-year project to upgrade the Newport State Airport, potentially adding 1,000 feet to the runway, improving water and sewer services and adding services from Customs and Border Protection and the Transportation Security Agency. The John H. Boylan State Airport in Island Pond is a public, state-owned facility that maintains two turf surface runways. A private airport with a small, privately owned airstrip is in Norton, and a seaplane base is located on Lake Memphremagog. Commercial air service is available in Burlington, VT; Manchester, NH; Boston, MA; Portland ME; and Montreal, Quebec.

Railroads

Freight points for rail service are in Newport and Island Pond. Passenger train access points are in White River Junction and Montpelier.

Rivers, Trails and Recreational Routes

The Clyde River follows a meandering path from the southeast to the northwest end of the Town. The river, its tributaries, riparian areas, and associated wetlands provide wildlife habitat, scenic amenities and recreational opportunities—particularly via boat/fishing access points at Pensioner Pond and the downstream end of Buck Flats. Vermont Route 105 parallels the Clyde and is used both by pedestrians and cyclists. Some Class 4 roads are used seasonally by snowmobilers. Charleston is a gateway to numerous hiking trails in the area's irreplaceable hills

and mountains. The 740-mile long Northern Forest Canoe Trail from New York to Maine follows the Clyde River through Town, and VAST snowmobile trails connect Charleston to this network. The NorthWoods Stewardship Center maintains 10-12 km of hiking/ski trails on its own and neighboring private lands. A number of trails traverse private land by owner permission. Charleston is along the route of many professional bike touring companies and the Charleston section of the Clyde is mentioned in Northeast Kingdom paddling guides.

Scenic Roads

Due to Charleston's rural setting, most of our roads are dramatically scenic and contribute greatly to the beauty and economic development of our Town. Routes 105 and 5A in Charleston follow the proposed route of a Northeast Kingdom Scenic Byway, a partnership of the Northeast Kingdom Travel and Tourism Association and the NVDA. East and West Echo Lake Roads provide important scenic vistas and Hinton Hill Road—well traveled as a short-cut between Island Pond and Westmore—is named as a scenic drive in travel guides, including *Vermont: An Explorer's Guide (1999)*, and has appeared in Vermont Life Magazine and others.

C. Utilities and Facilities

Educational

Major educational institutions based in Charleston are the Charleston Elementary School, NorthWoods Stewardship Center, and Siskin Ecological Adventures. These are described in the Education section of this Plan beginning on page17.

Libraries and Museums

The Charleston Elementary School houses a school library. The Town is also served by the Dailey Memorial Library in Derby, the Island Pond Public Library in Brighton, and the Haskell Library in Derby Line, which provide access to the Vermont and the Quebec library systems. The Big Read Book Wagon based in Derby brings books to a variety of locations throughout the area. West Charleston is also home to the museum of the Charleston Historical Society, which is open to the public during the summer. The NorthWoods Stewardship Center maintains a natural history library that is available to the public.

Recreational

As noted above in this Plan, recreational opportunities abound in Charleston. Already described are the NorthWoods Stewardship Center, Clyde River Recreation, Charleston Elementary School, the numerous hiking trails and snowmobile trails, and our lakes and rivers and woodlands that offer year-around opportunities for residents and visitors to immerse themselves in a wide range of healthful recreation in rare, beautiful, and irreplaceable natural settings.

Fire and Rescue

Fire and rescue services are provided by the Charleston Volunteer Fire Department, Inc.—an independent, non-profit, 501(c)(3) corporation managed by its Board of Directors. The

department was founded in 1954 and was originally housed under the East Charleston Store. The fire station was re-sited in 1966 to where it stands today in the center of East Charleston Village on Route 105. Additions to the fire station were added in 1976 and 2001 to bring the building to its current configuration with four vehicle bays and a meeting room. The department operates five apparatus and is part of the Northeast International Mutual Aid System.

With 20 active members, the fire department provides emergency services to neighboring towns and can receive aid from several other communities. The department responds to a wide variety of emergencies, with fire calls and motor vehicle accidents accounting for the bulk of the runs. The department continues to focus on upgrading apparatus as well as fire fighter equipment and tools by maintaining an active equipment budget. The department's annual budget is about \$60,000, with two-thirds of this cost provided for in the Town's annual budget. The Vermont State Police handle dispatch of emergency services, and emergency medical services are available from Derby Line, Brighton, and Newport. Technical rescue services (high angle, confined space, etc.) are available through Northeast Kingdom Mountain Rescue.

Hospitals

Charleston is served by North Country Hospital in Newport, a 25-bed acute care facility with adjacent physician practices; and Northeastern Vermont Regional Hospital in St. Johnsbury, an acute care facility with 24-hour physician staffed emergency services. Ambulance service is provided by Derby Line Ambulance.

Power Plants

Charleston hosts Great Bay Hydro's West Charleston Hydroelectric Plant—a residential scale renewable energy facility, as well as the smaller Barton Village hydro power plant. Both are described in greater detail below.

Water and Sewer

Water and sewer systems are the sole responsibility of the property owner, and are required to meet state and federal regulatory standards.

Refuse Disposal

Residential and commercial solid waste is handled via independent Town-based businesses and hauled to the Waste USA landfill in Coventry, VT. Charleston's recycling program is subcontracted by the Town to a Town resident and delivered to the Northeast Kingdom Waste Management District recycling center in Lyndonville. A redemption center for refundable containers is located in West Charleston.

Storm Drainage

The Town's road crew maintains storm drainage. Ditching is performed along all Town roads. Culverts are maintained and replaced as needed.

Telecommunications and Internet

Telecommunications services are available throughout the Town via landlines serviced by FairPoint Communications. Cellular phone service is available from AT&T and other carriers. High speed Internet services are provided by FairPoint Communications via landline, by major satellite companies (such as DISH and Direct TV), and by GAW High Speed Internet Services which uses line-of-site radio technology. Comcast provides broadband telephone, Internet, and television service via fiber-optic cable along main roads. Television programming is provided by Fair Point (cable) and major satellite companies. Limited antenna reception is possible in some areas.

Municipal

The Town Clerk's Office is located on a three-acre parcel between East and West Charleston on Route 105. The Town Garage also occupies this property. The Town Office building provides office and record storage space for the Town clerk, assistant clerk and a work area for the Town listers and auditors. A conference room and space on the first floor are used for meetings of the Selectboard and others. The first floor space also serves as the polling place for state and national elections. The annual Town Meeting is held in the Elementary School.

Religious

East Charleston has three churches: Plymouth Congregational, Church of the Nazarene, and Zion Pentecostal Church. West Charleston has two: St. Benedict Labre and the Free Will Baptist Church. Each of these churches holds services year-round.

Other

Post offices are located in East Charleston Village and West Charleston Village.

The Town maintains six public cemeteries:

- Hillside
- Bly
- West Village
- Buck
- Crawford
- Morrill

D. Natural Resource Areas

Charleston's natural environment is a uniquely valuable and important resource of unspoiled natural beauty within the Northeast Kingdom. The purity of the air and water, the abundance of wildlife, and the integrity of our natural resources are critical contributors to Charleston's strength and character as well as to the health and welfare of all our citizens. The natural resource areas identified in this Plan are to be preserved in their natural condition and protected from development.

1) *Mountain Ridgelines and High Elevation Habitats*

Charleston's mountain ridgelines and high elevation habitats contribute to the scenic landscape of the Town and are some of the most highly visible and important landscape features. The mountain ridgelines provide important high elevation, unfragmented wildlife habitat. The mountain ridgelines and their steep slopes are uniquely sensitive to soil disturbance, clear cutting, and development activity which alter the sensitive ecosystems.

2) *Headwater Areas*

Headwaters are an environmentally critical resource that serves as a source for the highest quality and purest surface waters in the Town. Headwaters are generally characterized by steep slopes and shallow soils and contain streams, and intermittent and ephemeral surface waters highly vulnerable to erosion and man-made disturbance. Headwater seeps, located at higher elevations on the landscape, serve as the source for downslope streams and are protected as Class II wetlands.

3) *Rivers, Streams, and Surface Waters*

Rivers, streams and surface waters comprise unique, sensitive, and irreplaceable natural features found in the Town. Charleston's rivers, streams, lakes and ponds are important assets to our community providing recreational and aesthetic functions as well as supporting plentiful and diverse fisheries and aquatic species. The surface waters host unique aquatic natural communities supporting diverse species ranging from fresh water mussels to brook trout to common loon to river otter. Echo Lake has been a site of successful loon nesting with resulting chicks (Echo Lake Protective Association). A 2006 study conducted by the Eastern Brook Trout Joint Venture identified the upper Clyde River subwatershed as among only 14% of watersheds in Vermont with intact brook trout populations (>90% of possible habitats occupied). Water quality surveys and stream geomorphic assessments completed over the past decade have identified the Clyde River (particularly the upper watershed) as in the best condition of the four tributaries of Lake Memphremagog—an international lake that is the public water supply for large populations in Sherbrooke and Magog, Quebec. Charleston's lakes and streams are also highly valued for their scenic and recreational qualities, and parcels with frontage on Pensioner Pond and Echo Lake have the highest per acre values in the Town. Development along the lakes and rivers has led to some concerns, including pollution and sedimentation due to a lack of riparian forest buffers, reduced public and wildlife access to lakeshores, and the introduction of invasive exotic flora or fauna. The Echo Lake Protective Association and other conservation-minded individuals and groups are active in various ways to mitigate these threats and educate landowners about ways to limit the impacts of development.

4) *Wetlands and Vernal Pools*

Wetlands are important natural resource areas that provide erosion protection and shoreline stabilization, recharge underground aquifers, provide natural purification of water, and provide necessary habitats for many species of fish, wildlife, migratory birds and plants. Wetlands provide scenic areas for hunting, fishing, canoeing, kayaking and other forms of recreation and are important locations for environmental education and research. The Vermont Wetland

Rules provide wetland classifications and outline protective measures for Class I and Class II wetlands. The Town of Charleston contains critical areas of state designated significant wetlands.

The Town's wetlands, particularly the extensive wetlands complex extending along most of the Clyde River, include a mix of forested, shrub, and herbaceous plant communities. Surveys conducted by the Vermont Nongame and Natural Heritage Program in 1998 documented a number of rare or uncommon natural community types in these wetlands as well as several endangered plant species and one species not previously known to occur in Vermont (Engstrom et al. 1999). The large (50-acre) Intermediate Fen found between Route 105 and the Brighton town line—rare in the state and uncommon globally—was identified in this survey as one of the highest quality examples in Vermont. More detailed mapping conducted in this area by the NorthWoods Stewardship Center in 2010-2012 found 84% of the 310 acres mapped to harbor rare or uncommon wetland natural communities, and a diverse assemblage of uncommon plant species such as mare's tail (*Hippuris vulgaris*), marsh mermaidweed (*Proserpinaca palustris*), swamp fly honeysuckle (*Lonicera oblongifolia*), mountain fly-honeysuckle (*Lonicera caerulea* var. *villosa*), bog willow (*Salix pedicellaris*), shining rose (*Rosa nitida*), bog sedge (*Carex exilis*), long sedge (*Carex folliculate*), bog rush (*Cladium mariscoides*), rose pogonia (*Pogonia ophioglossoides*), small bedstraw (*Galium trifidum*), and Loesel's twayblade (*Liparis loeselii*), among others (Benoit, 2012).

Over 130 species of birds are also known to utilize these wetlands, including (stars indicate confirmed nesting) wood duck*, hooded merganser*, Canada goose*, black tern, northern harrier, sora, osprey*, rusty blackbird*, merlin*, pied-billed grebe, bald eagle, and black-backed woodpecker, attracting both waterfowl hunters and birders (NorthWoods, unpublished).

The Vermont State Wetland Inventory (VSWI) delineates the approximate boundaries of wetlands deemed to be of significant public value and sensitivity. VSWI has delineated and mapped 2703 acres within Charleston as Class II significant wetlands. This designation conveys certain protections from development within the wetlands and 50-foot buffer, and places limitations on allowed activities such as logging. Class I wetlands are protected by a 100-foot buffer and a special petition process is required to elevate wetlands to this designation. Portions of the Clyde River wetland complex would likely qualify for Class I wetland designation.

Vernal pools are small wetland areas—generally located within upland forests—that are critical seasonal habitats for amphibians such as spotted salamander and wood frog. These unique and sensitive areas were added to the state's Class II wetland designation in 2010, and a statewide inventory of vernal pools using color infra-red aerial photography and field surveys was completed about the same time. Seven vernal pools are currently documented within Charleston, all of these occurring on privately-owned lands. At least three of these are currently being protected through special forest management practices.

5) *Special Wildlife Habitats*

Charleston has a large and diverse wild animal population that depends for their survival upon undeveloped natural resource areas. A forested area in the south part of Charleston, totaling 334 acres, is mapped by the Vermont Department of Fish and Wildlife as a critical deer wintering area. White-tailed deer are near the northern limit of their range in Vermont and require the protective mature softwood cover provided in deer wintering areas as a relative refuge from deep snow, cold temperatures, and wind. In years with deep snow and/or extreme cold, deer sometimes migrate many miles to congregate in these areas.

Several threatened and endangered species and significant natural communities have been identified within the Town of Charleston and are protected by the Vermont Endangered Species Act and applicable federal laws. Data about these areas is maintained by the Vermont Non-game and Natural Heritage Program monitored by the Vermont Agency of Natural Resources.

6) *Groundwater Recharge Areas*

Groundwater is one of our Town's most valuable resources. Our headwater areas, surface waters and wetlands all contribute to productive aquifers found within our Town. Groundwater provides the primary supply of potable water for Charleston's citizens.

E. Aesthetics and Scenic Beauty

Charleston's natural environment is uniquely valuable and important as an area of unspoiled beauty in the Northeast Kingdom. Charleston's mix of rolling topography, roadside farm fields, lakes, river, and small villages result in a number of highly scenic vistas that add to the quality of life for residents and to the experience had by visitors. Many of the best views are found along the two paved roads (Routes 5A and 105), and East and West Echo Lake Roads, and portions of the Class II and III Town roads, and collectively take in much of the Clyde River wetlands, the lakes, and the forested side slopes and highlands. Residents value both these views and the working landscape that they encompass.

Charleston's scenic features includes significant scenic views of Bald Mountain and Mt. Elan, the Clyde River Falls, the rapids that flow through West Charleston, the Clyde River at Bucks Flat with views of Dolliff Mountain and ridgelines around Island Pond, as well as our rolling countryside with numerous farms and scenic hillsides.

F. Historical Sites and Features

The Vermont State Register of Historic Places lists 63 sites within the Town of Charleston, including a mix of barns, private residences, power plants, and unoccupied structures. These are distributed throughout the Town, but are most concentrated in the two villages and around Echo Lake. In addition, the J.S. Sweeney Store, Barn, Livery and Hall in East Charleston village is recognized on the National Register of Historic Places maintained by the National Park Service (U.S. Department of the Interior). The barn, livery, and hall portion of this building was

demolished several years ago after falling into dangerous disrepair, though the Civil War-era cupola was retained and restored by the Charleston Historical Society and is on display at the CHS museum in the former Grade School building in West Charleston. Many other historical artifacts are found throughout the Town in the form of foundations, barn high drives, stone walls, and other features. These include the largely intact Lang Round Barn foundation located along the Ten Mile Square Road and dating back to 1908.

G. Educational Facilities

Pre-School and Elementary School

The Charleston Elementary School, located on Center School Road, serves pre-school students through 8th grade. Pre-school is available to all Town children. With a staff of 18 professionals and 19 support staff, the school serves 117 students in nine regular classrooms. The Town provides two buses to transport students to and from the elementary school and on field trips. The school building is used extensively beyond the regular school day. The cafeteria/gymnasium and classrooms are used for after-school programs, and the gym is used steadily for numerous basketball teams. Annual school concerts are held in the cafeteria/gymnasium, which is also the site of the annual Town Meeting. Other organizations use the school as a meeting place. The school population fluctuates from year to year but is currently increasing, particular due to the Town's commitment to universal pre-school for all Town children. Upgrading and expansion of the current facility is being discussed by the Town School Board, a three-member governing body elected by Town residents.

Secondary Schools

Charleston students are served by North Country Union High School (grades 9 through 12) in Newport; Lake Region Union High School (grades 9 through 12) in Barton; United Christian Academy, a private school in Newport that serves grades K through 12; and Turning Points, also in Newport. Some parents home-school their children, both part-time and full-time.

Libraries

The Charleston Elementary School houses a school library. The Town is also served by the Dailey Memorial Library in Derby, the Island Pond Public Library in Brighton, and the Haskell Library in Derby Line, which provide access to the Vermont and the Quebec library systems. The Big Read Book Wagon based in Derby brings books to a variety of locations throughout the area. West Charleston is also home to the museum of the Charleston Historical Society, which is open to the public during the summer. The NorthWoods Stewardship Center maintains a natural history library that is available for reference to the public.

NorthWoods Stewardship Center

The nonprofit NorthWoods Stewardship Center is located in East Charleston within a 1500 acre forested tract owned and managed by the Center for public recreation, scientific research, education, and sustainable forestry. Through its Forest Stewardship Institute, the land serves as demonstration forest for educational programs for students, landowners, the public, and

forestry professionals. NorthWoods is a destination for natural history information, youth and adult education, sustainable land-management and conservation services, and outdoor recreation. Groomed and backcountry hiking and skiing trails, interpretive nature and history trails, a newly renovated challenge course, and a small pond are some of the features found here. NorthWoods' facilities include a large conference building with kitchen, dining and meeting areas, a log cabin classroom and woodworking shop, high and low ropes courses and initiative events, wilderness campsites, 10-12km of hiking and cross-country ski trails and access to nearly 3000 acres of woods, fields, ponds and streams. The Charleston Volunteer Fire Department maintains a dry hydrant allowing access to water in NorthWoods' pond for fighting fires. Each year, NorthWoods provides:

- Summer Conservation Corps employment for 70+ young people, completing approximately 16,000 service hours on projects in Vermont and New England.
- More than 130 K-to-adult experiential learning programs totaling nearly 3000 student days, focused on environmental science, outdoor skills, and team-building; and summer camp experiences to an additional 90 children and teens.
- More than 50 public programs that engage more than 800 individuals in building land management, natural history, conservation, and outdoor skills.
- Assistance to private landowners with forest management plans, guiding conservation on well over 8,000 acres to date—including a management plan for the Charleston Town Forest.

Siskin Ecological Adventures/Coutts-Moriarty Camp

Siskin Ecological Adventures/Coutts-Moriarty Camp is a private 501(c) non-profit organization with an educational mission of instilling the knowledge, caring, and motivation necessary to empower students of all ages to take responsible action on behalf of themselves, their communities, and the natural world. Each year, this mission is realized through the delivery of over 500 educational school and community programs that last year reached 10,000 children and adults from Vermont, northern New Hampshire, and southern Quebec. Additionally, over 500 area children spend the summer learning and living these values during seven-week summer camp. This organization is a consistent presence in the educational lives of Northeast Kingdom children and families. The programs Siskin/Coutts offers take full advantage of this region's best wild spaces and rich cultural traditions—relying heavily on locations in Charleston, Derby, and the Nulhegan Basin. In addition, hearty and healthy meals are served that contain many locally grown ingredients to fuel and nourish young bodies while supporting Vermont farm families. By hiring over 25 local youth and young adults, Siskin/Coutts contributes to the local economy while training the next generation of educators and community leaders.

H. Energy

Energy Resources

Energy resources are available to Charleston in sufficient supply. Vermont Electric Cooperative, Barton Electric, and Citizens Energy supply electricity. Wood, heating oil, and propane gas are all available through local distribution. Gasoline and diesel fuel are available in adjacent towns and through local fuel suppliers.

Conservation of Energy

The Town of Charleston promotes energy conservation and acknowledges individual responsibility for conservation of energy and protection of our natural resources. Charleston believes that the most effective conservation efforts begin with the individual to incorporate lifestyle behaviors which reduce our demand for energy. The Town Planning Commission is undertaking a Town-wide program to share information about technologies and programs to help residents and business increase energy conservation.

Vermont's energy conservation efforts in recent years have focused on demand side management (DSM) to increase energy efficiency, reduce energy demand and increase available energy supplies. Several energy conservation programs exist in the State such as Efficiency Vermont, which can help the Town as well as private homeowners identify and put into use energy conservation practices for their homes. The Vermont Residential Energy Code—Residential Building Energy Standards (RBES)—was passed by the Vermont State Legislature in May 1997 to establish standards to promote energy conservation in all new residential construction.

Renewable Energy

Charleston hosts two residential scale renewable energy facilities that contribute to the State of Vermont's renewable energy goal of developing in-state renewable generating resources. The West Charleston Hydroelectric Plant, federally licensed as the Clyde River Hydroelectric Project (FERC Project No. 2306), reclaimed the West Charleston Dam, originally constructed in the early 1900's. The facility ceased operation in 1998 due to poor condition but Great Bay Hydro, a private energy company based in Portsmouth, NH, acquired the facility from Citizens Utilities in 2004. Great Bay moved power generation upstream to the dam to provide environmental enhancements by eliminating a 1600 ft. bypass section of the river and improve water quality in the Clyde River. The new configuration, which began operation in April 2011, allows the facility to use all of the river flow and operate in a "run-of-river" mode with little impact on the river's water levels. West Charleston Hydro is a SPEED facility with a 20-year power sales contract to Vermont utilities.

Upstream from Great Bay Hydro's operation is the two-turbine Barton Village Hydropower Project (FERC No. 7725), operated by Barton Village Electric, which serves more than 2,000 customers in Barton, Westmore, West Charleston, Brownington, Evansville, and Sutton. The plant operates in "run-of-river" mode. Originally constructed in the 1890s, the current facility is between 60 and 70 years old.

Residential scale solar installations are also present in Town.

I. Housing

Housing Stock

Housing stock in the East and West Villages tends to be older and is generally occupied by long-term residents. These villages are characterized by mixed land use (residential and commercial). Homes around Echo Lake and Pensioner Pond tend to be newer. Historically, housing around Echo Lake has tended to be vacation or recreation homes owned by nonresidents, but in recent years many residences around Echo Lake have been upgraded to allow for year-round use. Properties around Pensioner Pond tend to be year-around residences owned by full-time residents. Many former vacation homes in various parts of Charleston have become full-time or primary residences over the past two decades, and new homes are being built in many areas of Town. Mobile Homes occupied by full-time and part time residents continue to be a significant part of the housing mix (17% of overall housing units).

According to the 2010 U.S. Census, about one-third of the Town's housing stock was built before 1950 (27% before 1940), and almost half was built between 1960 and 1990. About 12% has been built since 2000:

- About 45% of housing is valued between \$50,000 and \$150,000.
- 13% between \$150,000 and \$200,000.
- 28% between \$200,000 and \$300,000.
- 8% above \$300,000.
- 43% of rental units cost between \$500 and \$750 per month.
- 50% cost between \$750 and \$1000 per month.
- 7% cost between \$1000 and \$1500 per month.

Housing Affordability

Most people in Charleston reside in their own homes. More than 80% of housing is owner-occupied, with about 20% rented. Half of owner-occupied houses have mortgages and half do not. About two-thirds of housing units are occupied year-around; about one-third are occupied seasonally. The homeowner vacancy rate is just above 2% and the rental vacancy rate is about 7%.

According to the 2010 U.S. Census, homeowners in Charleston who earn more than \$50,000 per year in household income pay less than 30% of their household income for their housing costs, indicating that housing is affordable for them. About half of renters pay less than 20% of their household income for their housing. This indicated that housing is generally affordable for these residents.

Some homeowners in Charleston pay more than 30% of their household income for household costs: about one-third of those earning \$35,000 to \$50,000; about half of those earning \$20,000 to \$35,000; and most of those who earn less than \$20,000. About half of renters pay 30% or more of their household income for their household costs. These data suggest that housing affordability may be a challenge for some residents.

J. Economic Development and Employment

Charleston has a diverse economic base in which many residents are employed in pursuits closely tied to the Town's abundant local natural resources, including farming, logging, forestry, nurseries, sugaring, hunting and fishing, and outdoor recreation. Service business also abound: auto and machine repair, small retail, food services, construction, manufacturing, transportation, waste management, insurance, and real estate. Other residents provide public and professional services: road maintenance, education, health care, and civic administration. Our Town's current businesses are on a smaller scale, with most employing fewer than five people (see Table 2). Some residents are employed by businesses located in neighboring cities and towns, and out-of-state, and they commute to work either physically or electronically. About 15% of the Town is self-employed. In 2010, the Town's unemployment rate among workers in the civilian workforce was 5%.

Charleston can benefit from attracting new business. Although unemployment in our Town is lower than in the State and the nation, there is strong support among Town residents for new job opportunities and the contribution that new business can make to our Town's tax base. New business areas appropriate for our Town include farming, agriculture, manufacturing, technology, health care, service businesses, tourism, and other residential scale enterprises that can be well integrated with our rural setting in ways that protect our Town's natural resources and scenic beauty.

K. Development Trends and Plans of Adjacent Municipalities

Charleston is adjacent to five municipalities: Brighton to the east; Morgan to the east and north; Derby to the north and west; Brownington to the west and south; and Westmore to the south. These towns vary in land use but are similar to Charleston in their rural character, except Derby and Brighton each have centralized business districts that serve the towns around them.

Brighton

As a result of the connectivity between the towns provided by Route 105 and the Clyde River, there may be areas of mutual benefit and concern between Brighton and Charleston. Water quality issues and watershed development on the Clyde River may be impacted by Brighton's land use. The use of industrial wind turbines on Brighton's elevated regions would severely impact Charleston due to the massive scale of construction and operation of these facilities. The construction of any commercial industrial scale facility for the generation, transmission or distribution of wind energy upon Brighton's mountain ridgelines and high elevation habitats would significantly interfere with the orderly development of Charleston and the local region and would directly conflict with the objectives and land conservation measures set forth in the Charleston Town Plan.

Morgan

Due to the rural nature of the land use along the boundary between Charleston and Morgan, we do not anticipate any major issues between the two towns. With the outlet of Seymour Lake in Morgan as the main inlet for Echo Lake, which is in turn a major tributary of the Clyde River, the maintenance of high water quality in Seymour Lake is important to our Town. The construction of any commercial industrial scale facility for the generation, transmission or distribution of wind energy upon Morgan's mountain ridgelines and high elevation habitats would significantly interfere with the orderly development of Charleston and the local region and would directly conflict with the objectives and land conservation measures set forth in the Charleston Town Plan.

Derby

The Clyde River continues from Charleston through Derby and is an area of mutual interest in terms of water quality, maintenance of natural habitat, and tourism. Derby is a vibrant commercial area that is growing in scale. For the present, this growth is not negatively impacting Charleston.

Brownington

Due to the rural nature of the land along the boundary between Charleston and Brownington, and Brownington's commitment to retain its current natural character, Charleston does not anticipate any major impact on our Town as a result of Brownington's town plan. Charleston is concerned about an out-of-state commercial enterprise called Three Town Farms that is buying up large parcels of adjacent farm acreage in Brownington, Westmore, and Charleston. The purpose of this large scale land acquisition has not been disclosed. The construction of any commercial industrial scale facility for the generation, transmission or distribution of wind energy upon Brownington's mountain ridgelines and high elevation habitats would significantly interfere with the orderly development of Charleston and the local region and would directly conflict with the objectives and land conservation measures set forth in the Charleston Town Plan.

Westmore

Due to the rural nature of the land use along the boundary between Charleston and Westmore, we do not see any major issues between these two towns at present. As noted above, Charleston is concerned about the large land acquisitions being made in Westmore, Brownington, and Charleston by the anonymous Three Town Farms. The construction of any commercial industrial scale facility for the generation, transmission or distribution of wind energy upon Westmore's mountain ridgelines and high elevation habitats would significantly interfere with the orderly development of Charleston and the local region and would directly conflict with the objectives and land conservation measures set forth in the Charleston Town Plan.

NVDA Regional Plan

The Charleston Town Plan is generally aligned with the rural town goals in the region plan prepared by the Northeastern Vermont Development Association, and the goals expressed in the NVDA regional plan's section on natural resources. Many of the goals in the NVDA regional are not applicable or appropriate for our small, rural Town; these are self-evident.

IV. Implementation of Town Plan Objectives

Charleston provides an undisturbed natural setting which attracts visitors from across the state and nation, and is the lynch pin of many of our local businesses. Charleston's economic future is dependent on our ability to attract new business and economic development on a proper scale that preserves and protects the integrity of our Town's natural setting and resources. The Town's scenic beauty and natural environment contributes to our quality of life, and allows residents and visitors to experience an unspoiled natural environment which inspires and refreshes the human spirit. As pristine natural environments become rare in the United States, people will travel to the remaining few to have unforgettable experiences of natural beauty in all seasons of the year. Such places will also attract new business and new residents to support the local tax base. All policies and programs affecting our Town must be developed and assessed in light of their impacts on our undisturbed natural environment.

Determining Proper Scale

The term "proper scale" as used in this Town Plan is intended to be a legally enforceable community standard for determining whether a proposed development is compatible with the rural character and natural scenic beauty of the Town. It is the Town's policy that a proposed project is not of a "proper scale" if it does not conform to the following standards:

- a) Development will not disturb more than five contiguous acres in its construction or operation;
- b) Development will not require construction of new Town roads;
- c) Development related structures will not exceed 50 feet in height;
- d) Development will not exceed noise limitations of 55dBA (exterior)(Leq)(1 hour) at property boundary and 40dBa (exterior)(Leq)(night) at residences;
- e) Development will not cause unreasonable congestion or unsafe conditions with respect to use of local roads and public highways;
- f) Development will not cause an unreasonable burden on the local school district to accommodate additional students;
- g) Development will not cause an unreasonable burden on the ability of the Town to provide municipal or governmental services;
- h) Development will not have an adverse impact on scenic or nature beauty of the area, aesthetics, historic sites, or rare or irreplaceable areas;
- i) Development will not have an adverse impact on a natural resource area;
- j) Development will not interfere with the orderly development of the Town;
- k) Development will not place an unreasonable burden on the ability of the Town to accommodate growth attributed to the project;
- l) Development will conform to this Town Plan.

A. Land Use

It is the Town's policy to encourage land development that attracts new enterprises while preserving the land in its undeveloped rural setting to the maximum degree possible because our scenic, natural environment is essential to our Town's economic development. As such, it is the Town's policy to oppose large development for any purpose that is not in proper scale with our Town's rural setting.

Commercial

It is the Town's policy to encourage small and medium sized new business and commercial enterprises that are appropriate to our Town's rural way of life. The Town prohibits any large-scale commercial enterprises that are not in proper scale with our Town's rural setting.

Farming

The Town values and supports the critical role that active farms play in maintaining our desired rural character and their sustainable use of the natural resources of our Town when employing best management practices such as stream buffers and manure management. It is the Town's policy that farms in Charleston be protected by the "right to farm", free from ordinances that limit noise, odor, or other restrictions that unreasonably impede their responsible operation. It is the Town's policy that industrial farming, defined as any large-scale "factory" farming of livestock or produce, is prohibited in the Town because it displaces family farms, creates environmental and health issues, and is not in proper scale with our Town's rural setting.

Logging

It is the Town's policy to encourage the use of sustainable management practices so our forests can continue to provide irreplaceable benefits for residents and visitors as well as support the livelihoods of several logging professionals. At minimum, this management should follow VT AMPS and accepted silvicultural guidelines described by USDA guides. It is the Town's policy that the Town Forest will be managed using these and other standards to ensure protection of soil, water, and other long term resources.

Recreation

It is the Town's policy to encourage sharing access to private lands for uses such as hunting, fishing, boating, walking, and winter recreation, but to also respect that some residents may wish to post their land. Residents and visitors are requested to check with landowners for permission prior to entering their land for recreational purposes as a courtesy. It is the Town's policy to encourage new recreational enterprises in Charleston as long as these enterprises protect and preserve our natural resources, and are in proper scale with our Town's rural setting.

B. Transportation

Town Roads

It is the Town's policy to build our roads with good base material and good top crush, by removing shoulders to allow water to run off, and by maintaining shallow, wide ditches. These steps allow our roads to last longer and require less maintenance. Better Back Roads and other financial and technical assistance programs will be used to improve road drainage practices and minimize damage to streams and the Clyde River. The Town intends to bring one road, or at least a large portion of one road, up to state standards each year. Roads on Dane Hill have been upgraded under this plan in 2012 and half of the Hudson Road is scheduled for 2013. Bringing one road or a portion of a road, up to state standards each year will require ongoing taxpayer support from Town residents.

Parking, Public Transportation

Except as required by the Town's private commercial enterprises such as inns, retail stores, service business, and the like, it is the Town's policy to oppose development of large paved public parking areas that are not in proper scale with our Town's rural setting. It is the Town's policy to oppose an airport in the Town as this is not in proper scale with our Town's rural setting. It is the Town's policy that any public transportation facilities are in proper scale with our Town's rural setting.

Trails

The Town encourages development of hunting and hiking trails, and snowmobile trails through private investment and maintenance as these will serve our residents and bring visitors and new business to our Town.

C. Utilities and Facilities

Water and Sewer

It is the Town's policy that centralized water and sewer services are not appropriate or necessary for Charleston. State regulation of septic systems is sufficient to guard our natural resources. Private associations of residents who live adjacent to our lakes, ponds, and wetlands are encouraged to set standards for residences in their immediate area as long as these meet existing state and federal regulatory standards.

Fire and Rescue

It is the Town's policy to encourage and support efforts by the fire department to build a new fire station. The fire department's Board of Directors—believing that the present station has reached its full potential and the current needs of the community might be better served by a newer, multipurpose building—have begun discussions on this proposal. One of the possibilities being explored is a building with larger equipment bays to accommodate larger apparatus along with a multipurpose room to serve as an evacuation/emergency command facility for the Town. This room could also serve various nonemergency functions for the fire

department and the Town. The Board will work with state and federal agencies for assistance in planning and financing this new facility. This is a necessary, long-term project that will bring clear benefits to our community.

D. Natural Resources Areas

The preservation and protection of Charleston's natural resource areas is a core objective of our Town Plan. Charleston intends by this Town Plan to preserve and protect to the greatest extent possible in their natural condition the Town's natural resource areas. It is the Town's policy to prohibit any development within a natural resource area in the Town and any development that will cause degradation of a natural resource area in the Town.

Special Wildlife Habitats

Removal of the mature softwood cover in deer wintering areas through logging render these areas ineffective as deer wintering habitat. The Town encourages input from hunters, landowners, and biologists to help determine the current status of these areas, and shape Town policy around maintaining them. Wetlands and surface waters in the Town can be protected by adhering to VT AMPS, preventing sediment pollution (manure) from entering into streams, preventing and/or controlling invasive plant populations, and maintaining riparian buffers. The Town encourages protection of other rare or sensitive natural features or species as these are identified (including vernal pools).

E. Aesthetics and Scenic Beauty/Orderly Development of Town and Region

Charleston's aesthetics and scenic beauty are unparalleled in the Northeast Kingdom. Charleston's mountain ridgelines and high elevation areas contribute substantially to the scenic beauty of our area. It is the Town's policy that any development is prohibited in Charleston's mountain ridgelines and high elevation habitats as these are included within Charleston's natural areas that are to be preserved in their natural condition.

It is the Town's policy that construction of any commercial facility for the generation, transmission or distribution of electrical energy, including construction of meteorological towers that collect wind data, is prohibited upon ridgelines and mountain areas within the Town of Charleston.

Northeast Kingdom ridgelines and high elevation areas are particularly vulnerable to development for wind generation projects. Modern commercial wind turbines are massive industrial machines that are out of character with Charleston's unspoiled natural environment. Development of Charleston's mountain ridgelines and high elevation habitats would result in an undue adverse impact on the aesthetics and scenic beauty of our Town. The construction and siting of an electrical generation facility on Charleston's unspoiled ridgelines and mountain areas would be so out of character with our surroundings as to offend the sensibilities of the average person. Charleston's economic future is tied inextricably to our ability to preserve our

natural environment. Industrial scale facilities for the generation, transmission or distribution of energy located on Charleston's ridgelines or mountain areas would unduly interfere with the orderly development of Charleston and the surrounding region. The societal benefits attained by preserving the aesthetics and scenic beauty of our area, protection of our natural resources and maintenance of our rural character outweigh any potential economic gain or amount of energy that may be produced by commercial development of Charleston's ridgelines and mountain areas.

Charleston's prohibition against construction of any commercial electric generation facilities upon the Town's ridgelines or mountain areas is a clearly written community standard intended to preserve the aesthetics and scenic beauty of Charleston, and is a land conservation measure intended to protect and regulate the orderly development of Charleston and the region. This prohibition shall be construed by local and state regulatory bodies to achieve its full intended purpose.

F. Educational Facilities

Charleston Elementary School

The student population at the Charleston Elementary School has fluctuated from year to year but is now in a period of growth. While the Town might benefit from some expansion of the current facility, particularly in light of the school's commitment to provide pre-school services to all Town children, initial focus will be on making the human and financial investments needed to support academic opportunities and outcomes for our children.

It is the Town's policy to encourage student academic achievement by supporting the elementary school's efforts to develop a culture of high expectations for all students and staff, and ensure that Common Core Standards can be achieved in all classrooms to allow students to progress smoothly through grade levels, and be ready to achieve at the high school level when they graduate from our school. To support this, the Town's top priorities are to:

- Have sophisticated technology in the classrooms, including laptops for all students in grades 5 through 8 and an upgrade of the school's wireless capacity.
- Improve content in the school library to ensure students have learning materials to meet literacy goals of Common Core Standards, including access to non-fiction periodicals online.
- Increase the number of teachers to accommodate the growing population of the school.

It is the Town's policy to provide all students with opportunities to develop a positive sense of self, respect for others, and responsible behaviors, and to provide a learning environment appropriate to each child's needs, where all students experience the excitement of learning, can become independent learners, and strive to do their best. The Town intends our students to be at the forefront of the 21st Century.

G. Energy

Energy Resources

The most pressing energy need in Charleston is winter home heating. Wood is used by a majority of households as a primary or secondary home heating source. While wood is readily available in our Town and affordable for most households, many older homes are energy inefficient and this can drive up costs for all types of home heating. It is the Town's policy to inform residents about technologies and programs available to them to improve the energy efficiency of their homes and business. The pursuit of these resources is left to the discretion of individual homeowners, landlords, and business owners.

Energy Conservation

It is the Town's policy to promote energy conservation, and acknowledge individual responsibility for conservation and reduction in energy demands. The Town Planning Commission is undertaking a continuing effort to share information with Town residents and business owners to promote resources available to them to make their homes and businesses more heat and energy efficient, specifically:

- Northeast Employment and Training Organization (NETO) which administers a low-income Vermont State Weatherization Program as well as weatherization programs for other homes and businesses. NETO offices are located in Derby and St. Johnsbury. Derby: 147 Citizens Road, Derby, VT 05289 (mailing address PO Box 584, Newport, VT 05855), 802-334-7378 or 1-800-639-3212. St. Johnsbury: 84 Central Street (mailing address PO Box 186), St. Johnsbury, VT 05819, 802-748-8935.
- PACE: a joint program of Efficiency Vermont and Vermont Energy Investment Corp to help qualifying homeowners invest in specified energy efficiency and renewable energy improvements.

Renewable Energy

It is the Town's policy to support the generation of renewable energy as part of an overall energy policy that promotes energy conservation first and foremost, and uses technologies on a proper scale for our small rural Town. Charleston already shoulders a fair share of responsibility for renewable energy generation by hosting a residential scale renewable energy facility that provides renewable energy to sustain up to 250 homes a year. The West Charleston Hydroelectric Plant is in the "small plant" category with a maximum output of 675 kilowatts. Because of its proper scale and its low impact on our local natural environment, and the stringent federal regulation of the plant's design and operation, this plant is an appropriate way for our Town to contribute to the state's renewable energy goals. The Town will continue to support the plant's responsible operation.

It is the Town's energy policy to encourage use of residentially-based solar, wind and other technologies sited at individual homes or jointly serving a small number of contiguous homes primarily for personal consumption. To implement this policy, the Town absolutely prohibits any commercial energy generation facility upon Charleston's ridgelines or mountain areas and

prohibits any other energy facility for the generation, transmission or distribution of electric energy by water, solar, wind or other technologies that are not in proper scale with the rural, natural setting of our Town.

It is the Town's policy to support net metering to allow homeowners to utilize wind or solar as a renewable energy resource while operating an individual generation system. Under the State's net metering policy, a homeowner may connect suitable generating equipment to the public power grid. During periods when more energy is generated than the property is using, the metered amount of electrical energy provided to the grid can be used to reduce residential electric bills. To take part in net metering, State policy requires the homeowner to secure a Certificate of Public Good from the Vermont Public Service Board. It is the Town's policy to support passive solar net metering and wind net metering for individual homeowners so long as the solar array or wind turbine is suitably sited to avoid adverse aesthetic impacts of scenic areas, and is in proper scale with our Town's rural setting. The siting of residential wind and solar generation net metering shall be limited to areas where the turbines or solar arrays are not visible from offsite locations so that such facilities do not adversely affect the natural unspoiled beauty of the Town. It is the Town's policy to support renewable energy generation from manure lagoons or pits at the Town's several dairy farms to partially meet the energy needs of those farms.

H. Housing

Housing Affordability

It is the Town's policy that any program in Charleston to address housing affordability will focus on supports to help residents remain in their current housing rather than the provision of newly constructed or rehabilitated "affordable" units which is not in proper scale with our Town's rural setting. To help address housing affordability, the Town Planning Commission is undertaking a continuing effort to share information with Town residents and business owners to promote resources available to them to make their homes and businesses more heat and energy efficient, and thus more affordable.

Elderly and Disabled

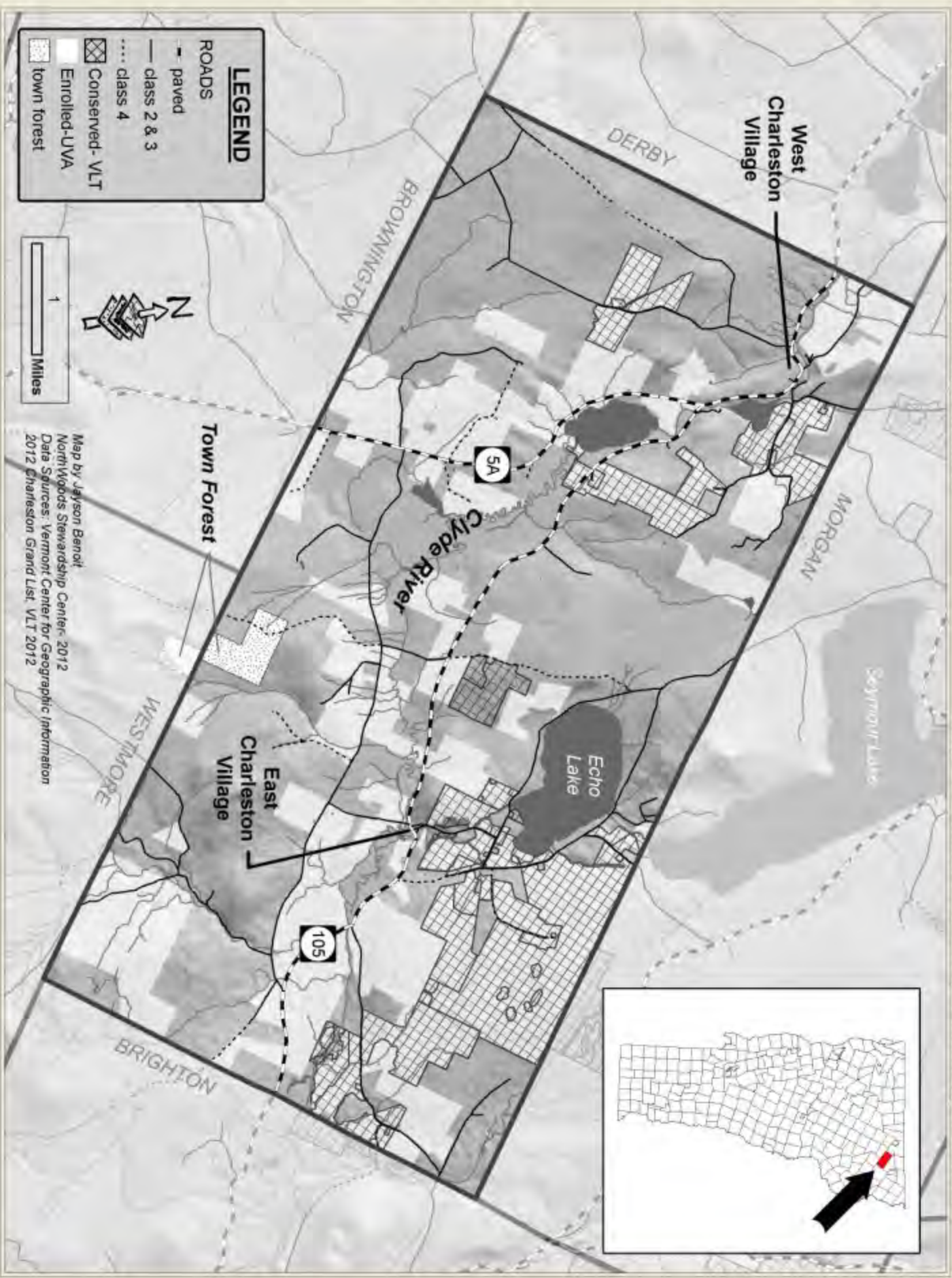
Nuclear and extended families remain an important part of Charleston's social fabric. Our Town's culture places family at the center of our rural life. Residents who might be viewed as elderly or disabled in other cities and towns are valued first and foremost as family members in Charleston, and are nurtured and cared for by their families and neighbors. All Town residents are housed at this time. It the Town's policy to let family, friends, and community look after our own.

I. Economic Development/Employment

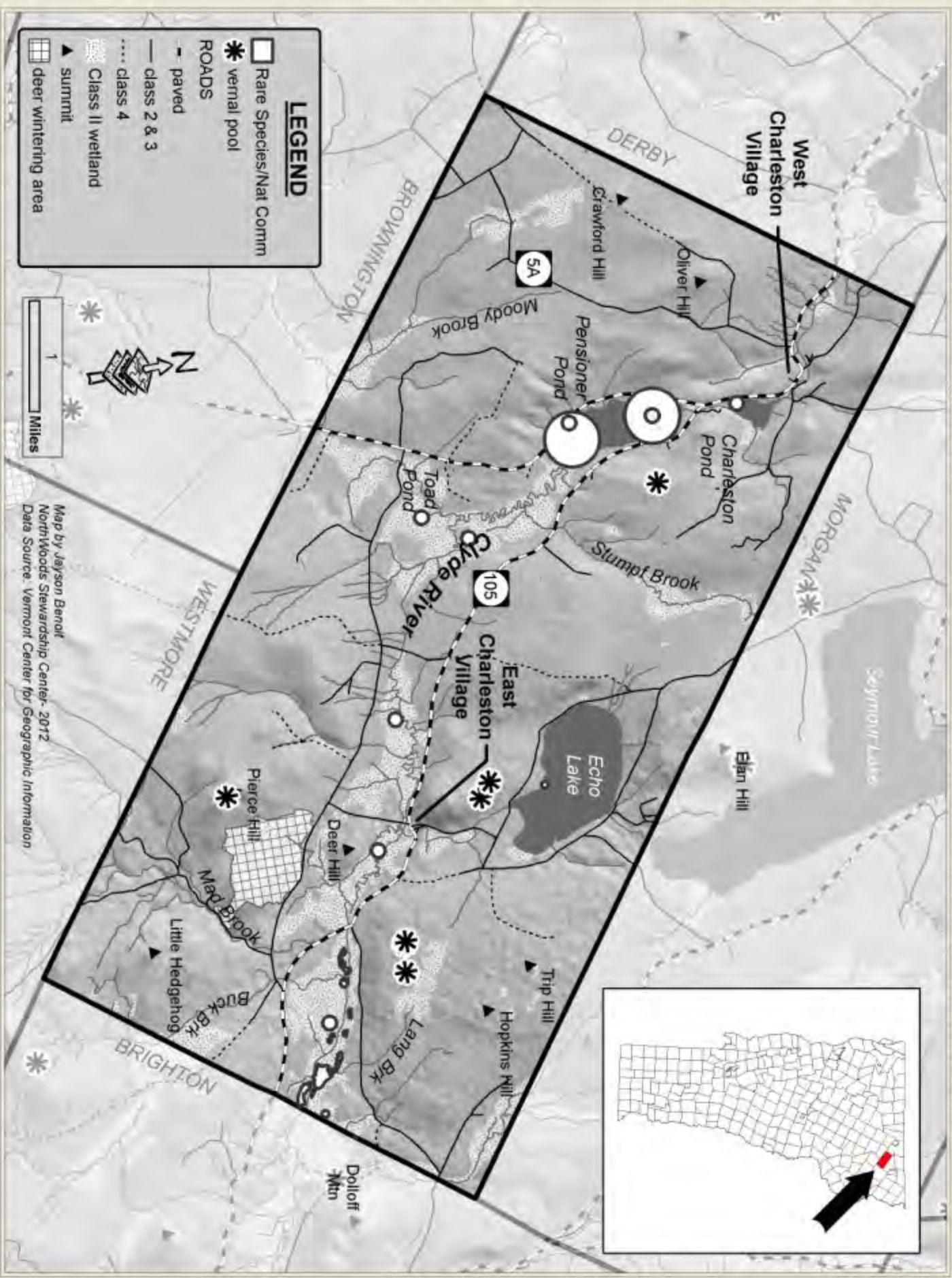
The overall picture in Charleston is a community with a mix of occupations, operating at a scale that makes sense for our Town's natural resource base, and small town atmosphere and quality of life. Residents feel strongly that this is how our Town should remain. There is also strong interest in attracting new business and new employment to the Town if these commercial interests and economic development opportunities are on a proper scale with our Town's rural setting.

Many of Charleston's businesses and enterprises are contingent on the Town's ability to protect our land, rivers, lakes, hills and mountains. Charleston will be able to continue to attract new business, new employment, new residents, and visitors from other parts of the state and nation to the degree to which we can maintain our Town's natural beauty and rural setting. As one of the few remaining undisturbed areas in Vermont, our natural, rural quality is one of the Town's chief economic asset and a central driver of economic opportunity for our community. It is the Town's policy that commercial and economic development in the Town is limited to smaller and medium scale businesses and commercial enterprises that are in proper scale with our Town's rural character and scenic beauty, and preserve our natural landscape.

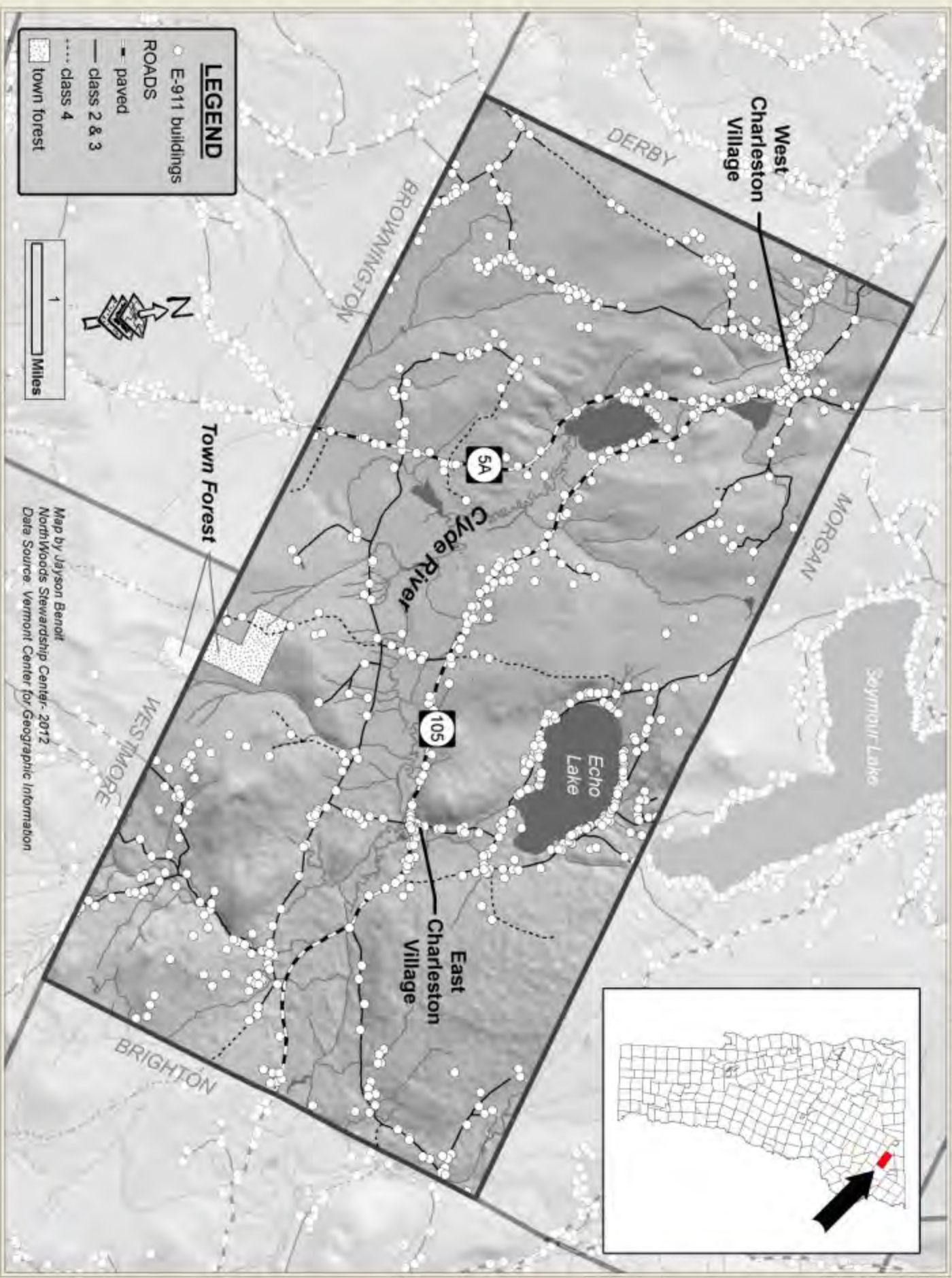


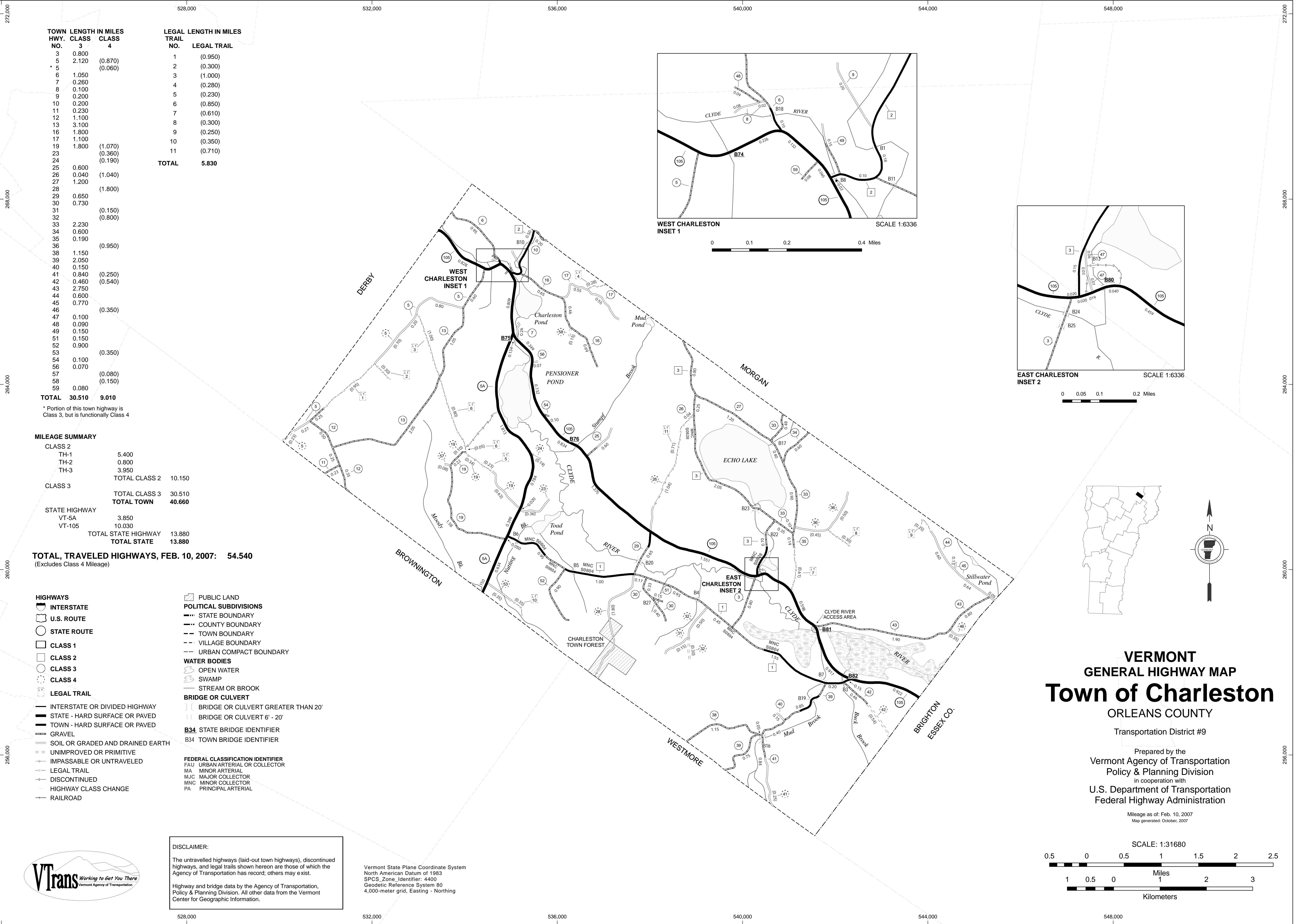


Map by Jayson Benoit
 Northwoods Stewardship Center- 2012
 Data Sources: Vermont Center for Geographic Information
 2012 Charleston Grand List, VLT 2012



Map by Jayson Benoit
Northwoods Stewardship Center, 2012
Data Source: Vermont Center for Geographic Information





TOWN HWY. NO.	LENGTH IN MILES CLASS 3	LENGTH IN MILES CLASS 4
3	0.800	
5	2.120	(0.870)
5		(0.060)
6	1.050	
7	0.260	
8	0.100	
9	0.200	
10	0.230	
11	1.100	
12	3.100	
13	1.800	
16	1.100	
17	1.800	(1.070)
19		(0.360)
23		(0.190)
24	0.600	
25	0.040	(1.040)
26	1.200	
27		(1.800)
28	0.650	
29	0.730	
31		(0.150)
32		(0.800)
33	2.230	
34	0.600	
35	0.190	
36		(0.950)
38	1.150	
39	2.050	
40	0.150	
41	0.840	(0.250)
42	0.460	(0.540)
43	2.750	
44	0.600	
45	0.770	
46		(0.350)
47	0.100	
48	0.090	
49	0.150	
51	0.150	
52	0.900	
53		(0.350)
54	0.100	
56	0.070	
57		(0.080)
58		(0.150)
59	0.080	
TOTAL	30.510	9.010

* Portion of this town highway is Class 3, but is functionally Class 4

MILEAGE SUMMARY

CLASS 2		
TH-1	5.400	
TH-2	0.800	
TH-3	3.950	
TOTAL CLASS 2	10.150	
CLASS 3		
TOTAL CLASS 3	30.510	
TOTAL TOWN	40.660	
STATE HIGHWAY		
VT-5A	3.850	
VT-105	10.030	
TOTAL STATE HIGHWAY	13.880	
TOTAL STATE	13.880	

TOTAL, TRAVELED HIGHWAYS, FEB. 10, 2007: 54.540
(Excludes Class 4 Mileage)

HIGHWAYS

- INTERSTATE
- U.S. ROUTE
- STATE ROUTE
- CLASS 1
- CLASS 2
- CLASS 3
- CLASS 4

LEGAL TRAIL

- INTERSTATE OR DIVIDED HIGHWAY
- STATE - HARD SURFACE OR PAVED
- TOWN - HARD SURFACE OR PAVED
- GRAVEL
- SOIL OR GRADED AND DRAINED EARTH
- UNIMPROVED OR PRIMITIVE
- IMPASSABLE OR UNTRAVELED
- LEGAL TRAIL
- DISCONTINUED
- HIGHWAY CLASS CHANGE
- RAILROAD

PUBLIC LAND

POLITICAL SUBDIVISIONS

- STATE BOUNDARY
- COUNTY BOUNDARY
- TOWN BOUNDARY
- VILLAGE BOUNDARY
- URBAN COMPACT BOUNDARY

WATER BODIES

- OPEN WATER
- SWAMP
- STREAM OR BROOK

BRIDGE OR CULVERT

- BRIDGE OR CULVERT GREATER THAN 20'
- BRIDGE OR CULVERT 6' - 20'
- STATE BRIDGE IDENTIFIER
- TOWN BRIDGE IDENTIFIER

FEDERAL CLASSIFICATION IDENTIFIER

- FAU URBAN ARTERIAL OR COLLECTOR
- MA MINOR ARTERIAL
- MJC MAJOR COLLECTOR
- MNC MINOR COLLECTOR
- PA PRINCIPAL ARTERIAL

DISCLAIMER:

The untraveled highways (laid-out town highways), discontinued highways, and legal trails shown hereon are those of which the Agency of Transportation has record; others may exist.

Highway and bridge data by the Agency of Transportation, Policy & Planning Division. All other data from the Vermont Center for Geographic Information.

Vermont State Plane Coordinate System
North American Datum of 1983
SPCS_Zone_Identifier: 4400
Geodetic Reference System 80
4,000-meter grid, Easting - Northing