

Above: A historical photo of a Boutwell, Milne & Varnum Company Quarry, Barre. On the cover: An artist uses the pointing machine method to reproduce a marble sculpture in the early 20th century.

## This is a Vermont Department of Tourism and Marketing cultural heritage publication.

With thanks to: Dimensions of Marble **Poultney Historical Society Preservation Trust of Vermont** Rock of Ages Slate Valley Museum

Vermont Division for Historic Preservation Vermont Geological Survey Vermont Granite Museum Vermont Marble Museum



1-800-VERMONT

For your safety, when visiting quarries wear closed-toe shoes and be wary of unstable stone piles and heights. Also, in the case of private property, please respect the landowner's preferences and view the site from the public roadway

## The **Vermont Stone Trail**

A Visitor's Guide to Granite. Marble and Slate in the Green Mountain State

Serendipity and the dynamic nature of the earth's crust gave Vermont rare and excellent deposits of granite, marble and slate. With hard work, creativity and the efforts of many, each of these resources has been developed into a highly successful industry that continues to offer products that are sought after throughout the world.

The Vermont Stone Trail is a guide to geological regions of Vermont where granite, marble and slate were guarried, manufactured and utilized. Vermont's diverse geologic resources have been used to create some of the finest buildings, provocative memorials and stunning works of art found around the world. The Vermont Stone Trail invites visitors and residents alike to find a wealth of historical, artistic, cultural and recreational experiences ranging from visiting museums and sculpture parks, to exploring old quarries on foot or by mountain bike.

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#### Using this Guide

The information in this guide is arranged into southern, central and northern regions of Vermont. Each section begins with a map showing the number and location of landmarks and points of interest described in the guide pages. The guide pages include a landmark description and graphic icons indicating the type of stone, features and activities for each location.

#### **Landmark Legend**

Type of stone

Marble

Granite

Slate



Combination

Other Dimensional

Stone

Landmark features and activities

Geology







Museums/ Sculpture



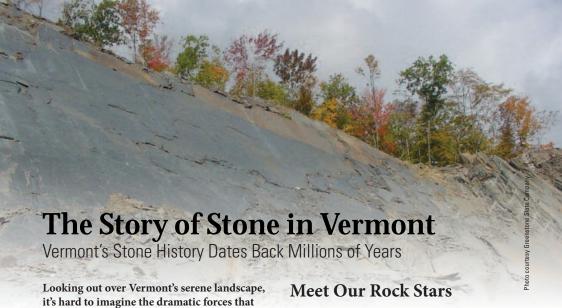
Architecture

Parks/

Preserves



Monuments/ Cemeteries



once went into forming it. But, oh, the drama!

It started quietly enough. Vermont's geologic history dates back 1.4 billion years to when sand, lime mud and clay were slowly deposited in seas adjacent to a much smaller North American continent than exists today. These sediments eventually became tens of thousands of feet of solid rock.

Next came a long period of pushing and pulling as the earth's crust slowly moved, forming and reforming continents. The pushing created mountains, broke the earth's crust to form faults, and created intense heat and pressure that transformed rocks from one type into another. The pulling allowed molten rock to intrude into the earth's crust, and to rift apart large plates of bedrock.

In more recent geologic history, glaciers scoured Vermont and, along with thousands of years of weathering, removed more than a mile of rock from what is Vermont's land surface today.

We now see evidence of this long and complex history in exposed landforms throughout Vermont. Some—including the Chazy Fossil Reef, the Barre granite quarries and the Champlain Thrust Fault—bring visitors from around the world.

Geologists tell us that Vermont is indeed a very exciting place.

Just what are the stones of Vermont's Stone Trail? Granite, marble and slate are our rock stars, along with some supporting types, too. What they all have in common is that they belong to the three types of rock.

**Sedimentary rocks** are formed when particles of pre-existing rocks and/or organic matter are moved and deposited by water, wind, or ice, and solidified over time. Shale is a sedimentary rock made of layers of clay. Limestone is made largely of skeletal fragments of marine organisms such as coral and molluscs. Sandstone is made of sandsized minerals or rock grains.

Igneous rocks are formed from cooled molten lava, or magma. Volcanic igneous, or extrusive, rocks were rapidly erupted onto the earth's surface and cooled quickly; whereas plutonic, or intrusive, igneous rocks cooled slowly deep within the earth's crust. Granite is an intrusive igneous rock that has large mineral crystals visible to the eye. Variations in the kinds of minerals within the granite influence the final color of the rock.

Metamorphic rocks are sedimentary or igneous rocks transformed by heat and/or pressure into denser rocks made of rearranged or new minerals. Metamorphism is common where two regional plates of the earth's crust converge and form mountains, such as the Green Mountains. Slate is formed from shale that is metamorphosed at a low temperature and pressure, which results

in a rock that can be split easily. Marble is formed from the metamorphism of limestone or dolostone. Soapstone is another metamorphosed dolostone found in Vermont. Quartzite is formed from quartz-rich sandstone. Stone trades use the term "marble" broadly to encompass limestones and quartzite that can be polished.

## **Vermont's Marble Industry**

Marble is a durable stone that is relatively easy to split and carve. Early American settlers quarried marble from surface outcroppings and used it for house foundations, fireplace lintels, hearths and tombstones. Over time, demand for the versatile stone grew and numerous quarries and workshops were established along the Vermont marble belt including Dorset, West Rutland, Brandon and Middlebury.

Over the course of the 19th century, successful small enterprises evolved into companies that quarried, cut, carved, polished, sold and shipped marble blocks and finished products. In 1880, a number of southern Vermont companies were consolidated under the management of businessman and politician Redfield Proctor. Eventually, the new Vermont Marble Company would expand to include a railroad, bank, power



Historical Photo: Lifting a slab of marble 110 feet at the Vermont Marble Company

station, store and additional quarries located throughout the country and, for a time, it was the largest marble company in the world.

At a time when Vermont's population was declining and railroads were opening up new markets for Vermont products, Vermont's emerging stone industry needed skilled and able workers. Immigrants filled the void. Skilled laborers and talented carvers came from the famous Northern Italian quarries of Carrara. Over time, these workers were joined by large numbers of workers from Poland, England, Ireland, France, Sweden and Finland, all of whom helped to shape the evolving culture of Vermont.

Vermont marble comes in colors of green, blue and gray and a remarkable layer of white marble is still being mined today in a vast underground quarry in Dorset Mountain. Likewise, Isle La Motte's Champlain Black, Rochester's Verde Antique and Swanton Red are known as prized marbles but in strict geological parlance they are limestone, serpentine and quartzite metamorphic cousins, so to speak.

Vermont marble is prized by artists and architects for its high quality and range of colors and can be found in buildings and monuments such as the New York Public Library (1895), Tomb of the Unknown Soldier at Arlington Cemetery (1921), Thomas Jefferson Memorial in Washington, D.C. (1943), and Beinecke Rare Book and Manuscript Library at Yale University Library (1963).

## **Vermont's Slate Industry**

Slate of varying quality is found throughout Vermont, but it is Vermont's Slate Valley, running north and south for 26 miles along Vermont's western border, that is world-renowned for high quality slate occurring in multiple colors including green, purple, red and gray. Slate quarrying began in this region in 1843, on Scotch Hill Road in Fair Haven. Durable and easy to split, slate was initially quarried and milled for slate writing tablets and pencils, but within the next 20 years, products expanded to include roof tiles, washbowls, bathing tubs, fireplaces, mantelpieces, tabletops, flooring and more.

As in other Vermont stone trades, slate work was physically demanding and dangerous. Early quarries used blasting, manual labor and oxen and horses to remove slate, rubble and water that



Trimming slate

collected at the bottom of quarries. To meet growing market demands, quarry and mill owners hired skilled laborers from Wales who were critical to the launch of the slate industry. Later, Polish, Austrian, Irish, Slavic, Italian, Hungarian and Canadian immigrants joined their ranks.

Over the years, a number of labor-saving machines were developed, but even today, every slate shingle is split and trimmed by hand. The slate industry has gone through significant booms and busts. At the turn of the 20th century, Vermont's slate industry was worth almost as much as the granite industry, and since the 1880s, Vermont has ranked as the second largest slate producing state in the nation. Vermont is home to more than 30 companies producing high quality slate for home, business and architectural products shipped all over the world.

Numerous slate quarries are visible from secondary roads throughout the Slate Valley. Likewise, pristine historic slate headstones populate cemeteries, and milled slate is in evidence on everything from 19th century barn roofs, to churches, homes and places of business. Traveling the valley, it becomes a treasure hunt to find slate in one form or another around each bend.

## **Vermont's Granite Industry**

To early Vermont settlers who had to raise their own food, stones could be seen as a nuisance to be farmed. Field stones were eventually moved to become stone walls and when more extensive deposits of granite were discovered, farmers turned to breaking apart the durable stone for building needs. Soon, bustling stone industries emerged in the north in Derby, Hardwick, Groton and Ryegate; in central Vermont in Woodbury, Barre, and Bethel; and in Windsor and Dummerston in the south. Products included door steps, hearthstones, mantelpieces, mill stones and tombstones.

Early quarrying tools were crude and the work was laborious. A star drill—basically a metal rod with a pointed end looking like four joined chisels—could be struck with heavy sledge, rotated, and hit again to form a series of shallow holes to be filled with black powder and detonated. An alternate splitting method was to fill the holes with water-logged wooden wedges. Over the winter, freezing and expansion of the wedges caused the stone to crack along the drill lines. Winter was the time for transporting granite, too—on large sledges pulled by teams of oxen and horses—when the roads were frozen and the farm animals were not needed for agricultural purposes.

In the 1870s, steam-powered drilling equipment replaced hand tools and railroads crisscrossed Vermont, allowing for the rapid expansion of Vermont's granite industry in the last quarter of the 19th century. Barre, already the state's largest center for granite, saw its population jump from 1,882 residents in 1870 to 6,790 just twenty years later. Acres of granite sheds located on railway sidings housed laborers at work on hundreds of lathes, column cutters and polishing machines. Rough granite came in and finished products shipped out.

Today, Vermont is a major source of granite in North America, vying domestically with the states of Georgia and Minnesota as the top producers of granite in the United States. Vermont granite is used to fabricate things as diverse as cemetery memorials, civic statuary, building façades, press rolls used in the manufacture of paper, and surface plates and machine bases used by industries such as tool and die, electronics, aeronautics, communications and space exploration.

## **Perils and Progress**

For families of quarry workers, anxiety was a way of life. Horrific accidents were common, and maiming or death could result in dire circumstances for the remaining household.

Season by season, workers faced extremes: sweltering heat, numbing cold, massive falling blocks, flying or sliding rock and debris, and accidents with tools, hoists and animals—all while working a 10-hour work day for low pay. Early quarrying involved splitting large blocks in a laborious fashion with chisels, hammers and explosives, and depending on large teams of oxen or horses to move the blocks. Mill work was equally archaic and dangerous.

Water power helped, but it was steam power that opened up huge opportunities. Local railroads meant that stone could be easily moved from the quarries to the mills, and then on to regional markets for final deliveries. Steam also powered derricks for moving stone at the quarries and mills, and made way for the groundbreaking channeling machine. This invention—credited to Vermonter George L. Wardell—created a safer means for quarrying rock that also cut down on waste. Large blocks of stone could be cut by drilling a line of holes and pulverizing the connections to form a continuous cut or channel. Next came pneumatic tools that greatly increased efficiency, as did the introduction of much larger saws, lathes, surfacers and polishing machines.

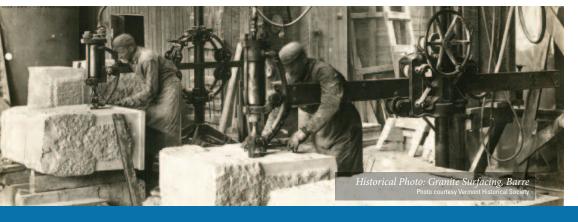
But mechanical advancements didn't necessarily always benefit the workers. When steam-powered jackhammers replaced the work formerly done by 12 hand-drillers in the Dorset marble quarries, a disgruntled employee frequently stole onto the worksite at night and sabotaged the machine. Marble strikes started in 1859, and the fight was always over wages and hours. In 1868, a West Rutland strike resulted in workers being turned out of their company housing and the hiring of French Canadian workers to take their jobs. In the early days of the Vermont Marble Company,



Historical photo: Granite workers, Barre

the owner was credited with providing workers with access to accident insurance, free medical care, a company-owned bank and store, housing, a town library and English-language literacy classes. Later, as the company's fortunes declined and services were cut, a nine-month strike ending in 1935 was at times violent and resulted in only a 2.5 cent increase.

In Barre, many Italian workers brought with them political views shaped by bitter economic problems at home. Unions were organized early on, and from the 1880s to about World War I, those calling themselves anarchists wore the label proudly. Their efforts resulted in winning a 9-hour work day in 1890 and an 8-hour work day in 1900, as well as gradual pay increases. Slowly but surely the industry changed through the efforts of agitation, and eventually new laws and policies. Improved air systems in the 1920s and 1930s sought to manage granite dust and the hundreds of early deaths caused by silicosis. Better machines and safety procedures have obliterated the disease, and today workers are aided by high-tech machines and diligent worker safety programs.



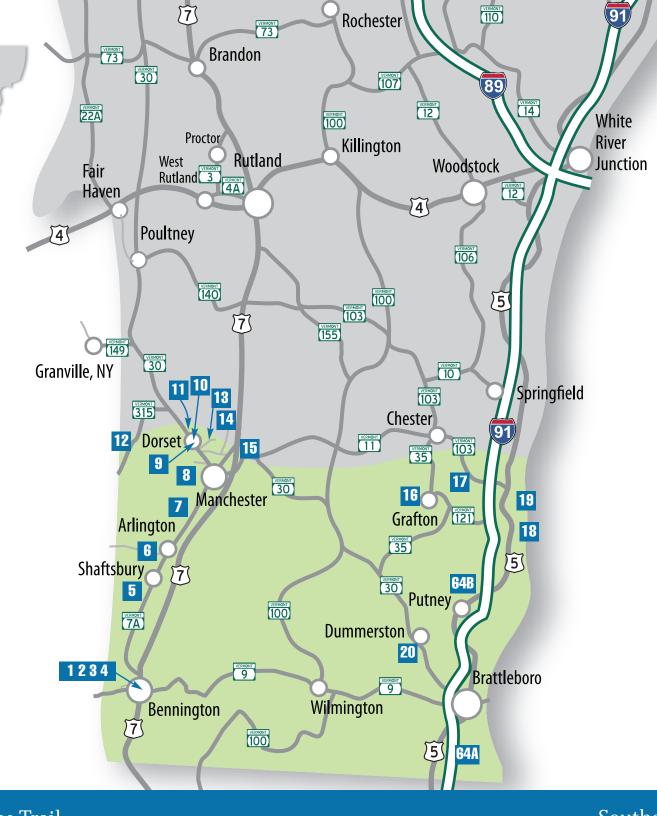
## Vermont Stone Trail Landmark Locations

Southern Region

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- 2 Robert Frost's Grave
- 3 Bennington Museum
- 4 Bennington Railroad Depot
- 5 Center Shaftsbury Cemetery
- 6 The Arlington Inn
- 7 The Inn at Ormsby Hill
- 8 Manley-Lefevre House & T.D. Manley Quarry
- 9 Maple Hill Cemetery
- 10 Dorset Historical Society
- 11 Norcross-West Quarry
- 12 D&H Rail Trail
- 13 Freedly Quarry Trail and Inclined Railway
- 14 Collson Cemetery
- 15 Freedley Marble Mill
- 16 Grafton Historical Society
- 17 Rockingham Meeting House
- 18 Immanuel Church
- 19 Waypoint Visitor Center
- 20 The Stone Trust

Map not drawn to scale

G4A Guilford Northbound
G4B Putney Southbound
See Central Vermont page 31 for landmark information



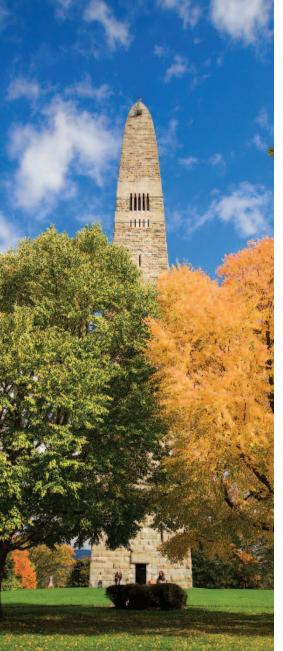


Photo courtesy Vermont Historic Sites

Bennington Battle Monument

## ■ Bennington Battle Monument State Historic Site ■ 🌭 💿

15 Monument Circle, Bennington

Soaring 306 feet above Bennington, a gateway to Vermont's marble region, is the Bennington Battle Monument. It was constructed in 1891 on the site of a miltary supply depot to

commemorate the Battle of Bennington, a turning point in the Revolutionary War. It was built using Sandy Hill Dolomite from nearby Hudson Falls, New York. Like limestone (from which marble is formed), this blue-gray sedimentary rock originated in the mud and shell debris of warm, marine environments. Stairs and an elevator lead visitors up to the observation level for panoramic views of three states.

#### 2 Robert Frost's Grave 🚨 🗅

Old First Church Cemetery Route 9 & Monument Avenue, Bennington

Amongst the graves of two centuries of Bennington's citizens is a simple marble slab denoting Robert Frost's final resting place. His inscription reads "I had a lover's quarrel with the world." One of Vermont's most important quarried stone types, white marble like this has been treasured as a monument and grave stone material for centuries.

## 3 Bennington Museum 🐧 💁

75 Main Street, Bennington

The Bennington Museum offers rich collections that tell many stories of Vermont through furniture, glass, pottery, fine art and more. The historic collections include a patent model for the groundbreaking stone quarry channeling machine invented by Vermonter George L. Wardwell, along with acclaimed special exhibits featuring regional and national contemporary artists.

### 4 Bennington Railroad Depot III 🗅

150 Depot Street, Bennington

The Depot's exterior is built of West Rutland Blue Marble, first quarried in 1807. The color of marble is a result of mineral composition. Vermont marbles are found in shades of white, gray, green and blue.

## **5** Center Shaftsbury Cemetery **A** Route 7A, Shaftsbury

This cemetery contains some superb examples of 18th-century marble gravestones. The marble for these gravestones came from Shaftsbury's West Mountain Quarry, which was also known as the White Marble Quarry.



Center Shaftsbury Cemetery

## **6** The Arlington Inn **Ⅲ №**

3904 Route 7A, Arlington

In regions where stone is readily available you will see it used for everything from house foundations, street curbing, fencing and sidewalks. The sidewalks in front of this Victorian-era country inn and the approaching walkway are all marble.

#### **7** The Inn at Ormsby Hill **10**

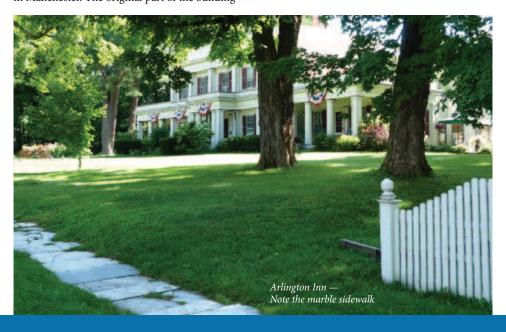
1842 Main Street Historic Route 7A, Manchester

Built in 1764, this is one of the oldest buildings in Manchester. The original part of the building



The Inn at Ormsby Hill

still contains one of the earliest jail cells in the town (in the basement), complete with the original bars, all marble floor, and a marble slab where prisoners slept. Ormsby Hill was later owned by Robert Isham, who acted as host to his friend and frequent visitor, Robert Todd Lincoln. When Lincoln asked Isham to sell him some land, he replied, "You're my best friend and law partner; you're NOT going to be my next-door neighbor." It was not until Isham died that Lincoln was able to purchase the land behind Ormsby Hill where he oversaw construction of the house now known as Hildene.



The Vermont Stone Trail



Photo courtesy Marble House Project

#### **8** Manley-Lefevre House & T.D. Manley Quarry III 💩

Marble House Project 1161 Dorset West Road, Dorset

Through artist residencies, sustainable agriculture and community engagement, the Marble House Project fosters the exchange of ideas and nurtures the imaginative spirit. Much of this activity takes place in and near the Project's federal style Manley-Lefevre House. Built between 1815 and 1820, the foundations, walls, lintels, sills and chimneys were constructed with marble hand-quarried from an outcropping 200 feet from the building site. Later, in 1840, one of Dorset's most successful production quarries began operations just 600 feet from the house. The Manley-Lefevre House was significantly expanded between 1908 and 1928. Formal gardens, designed in the Italianate style by Charles Downing Lay, included a marble teahouse, pergola and walkways. Visitors are welcome for special programs.

## **9** Maple Hill Cemetery **a**

Route 30 (1/4 mile south of village green), Dorset

Dorset has 14 cemeteries that offer fine examples of headstones made of slate, marble and granite. Of the three stones, marble is the softest when it comes to holding details of lettering. Regardless, visitors will see that better quality marbles have been able to withstand the rigors of time and weather for over 175 years. Other village cemeteries to visit are St. Jerome's Catholic and East Dorset Cemeteries (both in East Dorset).

### 10 Dorset Historical Society 1 🌭 🗅

Route 30 at Kent Hill Road, Dorset

A visit to the DHS's Bley House Museum will provide visitors with a good understanding of

Manley-Lefevre House, Marble House Project

Dorset's marble industry. Featuring permanent and changing exhibits focused on the story of Dorset, its people and their pursuits, the marble exhibit explores the geology of marble, where the Dorset quarries were located (and why), how the marble was cut and extracted, what tools made the work possible, who did the work, who had



The Dorset Historical Society's Bley House Museum

the work done, and how they transported the marble to market. Guided hikes to marble quarries are offered in June and July.

#### 11 Norcross-West Quarry 🕮 🜭 🗅 Route 30. Dorset







Dorset and the surrounding villages once had more than 30 large marble quarries, 20 of which supplied a total of 15,805,000 cubic feet of stone from 1785 until just after World War I. The marble was used for tombstones, sidewalks, and, most notably, large public buildings, including the New York Public Library and the Supreme Court Building in Washington, D.C. When operational, water was pumped from the base of the Norcross-West pit quarry, but today its owners welcome visitors for swimming and picnicking. This quarry was first mined in 1785, making it one of the oldest commercial marble quarries in the United States.



The Vermont Stone Trail

#### 12 D&H Rail Trail 🕮 🜭 🔕





Rupert, Pawlet, Poultney, and Castleton

Once known as the "Slate Picker," this section of the D&H Rail ran a daily freight and passenger service that moved tons of roofing slate from the Slate Valley to markets along the eastern seaboard. Today it is a year-round recreation trail welcoming cyclists, walkers, horseback riders, cross-country skiers, snowshoers and snowmobilers. A map is available at www.vtstateparks.com/pdfs/dhrailtrail.pdf.

#### 13 Freedly Quarry Trail and Inclined Railway 🕮 🜭 🗅

Between 1450 and 1513 Lower Hollow Road, Dorset

An easy 11/2 hour hike up Mount Aeolus takes walkers to the Freedly Marble Quarry. The quarry was carved into the mountainside and, today, inside the mountain, the quarry pit is filled with standing water. In the winter, the water freezes with a glass-like surface that can last into early spring. Hikers can also explore the remains of the quarry's gravity-powered, inclined rail line that transported marble blocks to the North Dorset valley below. Hiking directions are available at the Dorset Historical Society.

### 14 Collson Cemetery **1**



Dorset Hill Road, approximately a half mile south of Squirrel Hollow Road, East Dorset

This is one of four cemeteries located on a road that was an important thoroughfare between Dorset and Danby during the years of the most significant marble quarrying in this region. The road was also home to many quarry workers and their families. These smaller cemeteries suggest it may have been more convenient to be buried in family plots than in the larger Catholic or Protestant cemeteries located in the East Dorset valley.

### 15 Freedley Marble Mill 🕮 🗅

Near 3287 Route 7, North Dorset

This mill—one of the largest of several marble processing and finishing mills in the area—was where workers labored with hand and steamdriven machines to cut and fashion marble blocks into a variety of products. All that remains are the main building's huge stone block walls, which are easily visited on foot by way of a dirt road at the southern end of the railway overpass.

#### 16 Grafton Historical Society 🐧 👟 🙆



Soapstone—also called steatite—is another of Vermont's quarried stones. It's a metamorphic rock that got its name from the soft, or soapy, feel of its surface, which is due to the presence of talc in the stone. Because it is formed at the convergence of plate boundaries, it's no surprise that soapstone deposits are found from Jay in the north, to Readsboro in the south. Native Americans used the soft rock to make bowls, cooking slabs, smoking pipes and ornaments 3,000-5,000 years ago. Grafton was the largest producer of soapstone in Vermont and one of the two largest in the United States. Ten to fifteen men worked in the quarries and teams of oxen drew wagon loads of soapstone blocks down the mountain to J.L. Butterfield and Company finishing mill in nearby Cambridgeport. The Grafton Historical Society Museum exhibits a wide variety of soapstone products, many that were designed to make the most of its properties that allowed it to withstand high temperatures. Guided tours of a nearby soapstone quarry are scheduled each summer.

#### **17** Rockingham Meeting House

Meeting House Road, one tenth mile south of Route 103, Rockingham

A pride of Vermont, this is the most intact 18th-century public building in the state and one of the best second-period colonial-style meetinghouses in New England. Standing atop its granite foundation, the wood clapboard building is both austere and elegant, inside and out. It is surrounded by stone walls, granite and picket fences, and a burial ground with fine early headstones.

#### 18 Immanuel Church III 🕒

20 Church Street, Bellows Falls

Suggestive of a rural English parish church, part of the power of this invitingly prominent building is found in the rock-faced granite masonry and buttresses that echo the roof slopes, while multi-colored slate installed to create geometric shapes gives the roof itself a Victorian-era style.

### 19 Waypoint Center III 🔕

17 Depot Street, Bellows Falls

Bellows Falls was once a dynamic hub for rail and water transportation. That heritage is reflected in this modern building evocative of a steam engine. Two angular exterior walls come together at one end of the building suggesting the "cow catcher" metal guard that acted as a bumper for 19thcentury engine cars. Faced in slate, the walls are that much more dramatic for their smooth finish.

#### 20 The Stone Trust 1 0

Scott Farm

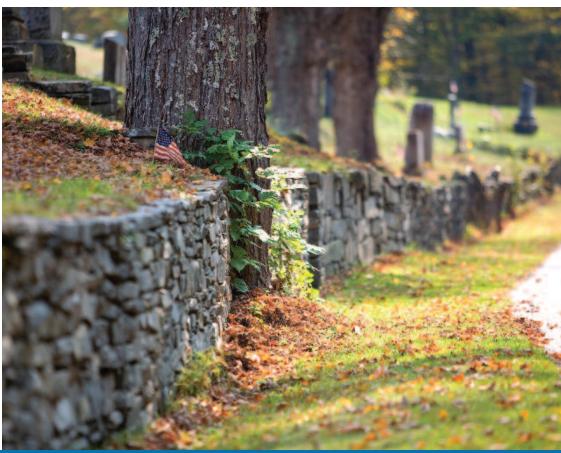
707 Kipling Road, Dummerston

An iconic part of Vermont's landscape is the stone wall. Like so much of the state's traditional culture, the art of "stonewalling" is flourishing. One can guess that a slightly irregular 19thcentury stone wall was built of stones gathered from the nearby forest or farmland, whereas a new wall complementing a modern house most

likely was built of Vermont stone quarried or gathered off site. The Stone Trust-established in 2010 and promoting the standards of the Dry Stone Walling Association of Great Britain works to preserve and advance the art and craft of dry stonewalling through an expanding program of classes, workshops, consulting and outreach. Upcoming classes are announced at www.thestonetrust.org.



Above and below: The Stone Trus



The Vermont Stone Trail Southern Vermont

## Vermont Stone Trail Landmark Locations Central Region

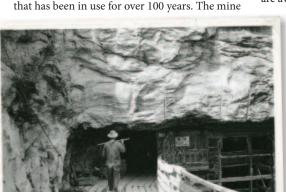
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- **45** Omya
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- 47 Marble Works District
- 48 Frog Hollow, Middlebury Falls and Battell Bridge
- 49 Henry Sheldon Museum
- 50 Middlebury College Campus
- 51 Button Bay State Park



#### 21 Dorset Mountain 🚳 🗅

Danby

Dorset Mountain is home to the largest underground quarry in the world and is the source of the acclaimed white Danby Marble. The quarry is entered through the same opening that has been in use for over 100 years. The mine



Danby Quarry entrance

is 1½ miles deep and covers the equivalent of 70 football fields. Vermont Quarries Corporation took over the production and operation in 1992. **The quarry is not open to visitors.** 

## 💯 The Slate Valley Museum 🐧 👟 🔕

17 Water Street, Granville, NY

The Slate Valley Museum invites visitors of all ages to explore the science and art of slate quarrying and its influence on the culture of the Slate Valley. Numerous exhibits create the Slate Valley experience all under one roof. A geological display explains the origin of the valley's slate belt, while large-scale quarry equipment, a rebuilt quarry shanty and quarrying tools illustrate the labor-intensive work of extracting slate and preparing it for market. Historic photographs and

documents explore the immigrant groups who worked and settled in the valley, and models provide examples of how slate has been used in the structure and decor of local buildings. Artworks in slate and other media are shown as well, and copies of the Slate Valley Driving Tour are available for pick-up.

## Virtual Slate Industry Tour



www.pearlstreetslate.com

Third-generation slate worker Paul Labas speaks with passion about the industry while he demonstrates quarrying and tile manufacturing in a short film found at his specialty products website.

# Slate Sentinel Gateway and Vermont Slate Industry Memorial &

Town Hall Green Intersection of Routes 30 and 140, Poultney

Two slate sentinels stand tall at the intersection to East Poultney and the village's downtown. One pays tribute through words and images to Vermont's slate industry and the workers who made it possible. The other features a poetic inscription that serves to elevate the spirit of the community. "The stones are slightly larger than human size and stand like guardians of the town, inviting dialogue and offering viewers an immediate connection to the slaterich landscape surrounding them," says sculptor Kerry O. Furlani, who is working in collaboration with the Poultney Historical Society on The Silent Friend Slate Project. The name is inspired by an historic East Poultney slate business, The Silent Friend Slate Company. The Slate Sentinel Gateway is the first phase of this project. The second phase, River of Slate Timeline, will be installed along the grasses of the downtown.

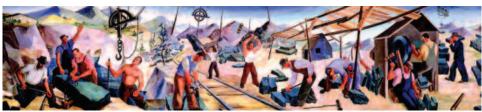


Photo courtesy The Slate Valley Museum

The Slate Valley Museum



The Slate Sentinel Gateway

#### 24 Poultney Downtown III S

Main Street, between Route 30 and College Street. Poultney

Slates quarried in the northern section of the Slate Valley keep their original color when exposed to weathering, while some slates from the southern section are referred to as "fading." Visitors can see the brownish-colored semifading slates on rooftops along the east end of this section of Main Street, and unfading purple and green slates closer to Green Mountain College. Both the town hall and post office on Main Street are clad in the region's range of colorful slate. At the top of Main Street is a row of large brick buildings that feature rare historic slate lintels, some with detailed hand carving. On Route 30, next to the town offices, the Welsh Presbyterian Church has one of the most decorative slate roofs in town. The western end of Bentley Avenue, which parallels Main Street, still retains historic slate sidewalks.

## 25 Kerry O. Furlani Studio 🐧 🔕

Main Street, Poultney

Kerry O. Furlani is a letter carver and sculptor whose passion for slate is palpable. Known for her expressive carvings of incised and burgeoning forms, Kerry uses mallets, chisels and traditional methods introduced to her in England and Wales. Her work has been exhibited throughout Vermont, New York, and Washington D.C. and is in private and museum collections. For over a decade, Furlani has been teaching slate carving workshops. The sculptor, with her rich knowledge of lettering history and techniques, offers visitors tours to the region's cemeteries and slate carving workshops. Tours and visits to her studio are available by reservation at www.kerryofurlani.com.

## 26 Quarries, Forests and Farmland Tour 🌐 👟 🔕

Poultney Historical Society, Poultney

The Poultney Historical Society owns three historic buildings on the green in East Poultney, dating from 1891 to 1896, that house a broad range of historic resources. These resources, along with carefully researched and scripted audio tours, explore 200 years of American history seen through the particular lens of Poultney history. One tour takes visitors on a narrated five-mile loop through Poultney quarries, forests and farmland, with stories of quarry workers, immigrants, industry and agriculture. Available at www.poultneyhistoricalsociety.org/tours/



Taran Brothers Slate Company

## **☑** Taran Brothers Slate Company ♠ ♠

York Street Extension, Fair Haven

This is the third generation of the Taran family to work this quarry, having progressed from workers to owners. Appointments can be made to visit the quarry and tile mill where a trimming machine made by a 19th-century Poultney foundry is still being used today. Call Stephen Taran at (802) 287-9308.



Slate Valley Cemeteries

#### 28 Slate Valley Cemeteries 🖺 🕒

28A Mettowee Valley Cemetery Middle Granville, NY 28B East Poultney Cemetery 28C Old North Half Cemetery 17 West Street, Fair Haven 28D Horsford Crossing Cemetery

65 Saltis Road, Poultney

The practice of marking a burial plot with a carved gravestone is relatively recent, beginning in the 1600s with churchyard burials. Slate was among the earliest stones used for this purpose, and visitors will see a number of high quality slate markers in Vermont cemeteries that still show great carving detail today. Marble became popular in the mid-1600s and was relatively easy to carve. A century later, granite—a harder stone requiring greater carving skill—became popular and remains so today. Regardless of material, early carvers employed the same basic carving tools: a hammer and three basic chisels for roughing out the stone, shaping, and finishing.

## 🛂 Eureka Quarry 🚭 🔕

Saltis Road, North Poultney

This slate quarry first opened in 1852 and has been in continuous operation ever since. From the road, visitors will see a tall wooden pole that is one of the last remaining quarry sticks. These

masts were used in conjunction with cables and carriages to hoist blocks of slate from the pit to the surface. The Slate Valley Museum says that at the height of the industry—in the early 1900s—several hundred would have been in use. The conical-shaped piles of slate seen at this site and at other older slate quarries were created by these derricks dumping stone refuse.

### 30 Camara Slate 🚳 🔕

963 South Main Street, Fair Haven

Visitors are welcome to visit this family business for quarry and/or manufacturing plant tours.

#### 31 Fair Haven Slate Roofs III 🔊

Village Green, West Park Place, Fair Haven

Fair Haven abounds with a variety of inventive applications of multi-colored slate roof shingles. Visitors to West Park and other downtown streets will see a variety of geometric patterns, stripes, flowers and stars, along with slate hitching posts, sidewalks, steps and foundations. A walking tour of places to visit in and around Fair Haven is available at the Fair Haven Historical Society at 3 North Park Place.

## 32 Marble Mansion Inn M

12 West Park Place, Fair Haven

In the mid-1840s, three prominent men in Fair Haven were successful marble processors in nearby West Rutland. One, Joseph Adams, built the ornate home of marble on South Park Place that is now refurbished and serves as affordable housing. Another, Alonson Allen's nephew and business partner Ira C. Allen, built a similarly elegant home—with a mansard roof to show off

multi-colored slate—that is today the Marble Mansion Inn. Both homes are clad in marble block with detailed architectural embellishments

West Castleton RR and Slate Company

made of green and cream marble at Adams's mill. These homes would be remarkable anywhere, but built with local materials and skills, they are uniquely remarkable for this reason, too.

## West Castleton RR and Slate Company 🕸 👟 🔊

Bomoseen State Park
22 Cedar Mountain Road, Castleton

A provocative ghost town today, close to 250 Irish "slaters" worked in Castleton in 1854. The Bomoseen State Park self-guided Slate History Trail takes hikers to several quarry holes, rubble piles, slate foundations of worker housing, and walled remains of the company mill building. Nearby, visitors can stroll by the company office and managers' homes made of stacked-slate walls, and swim in Lake Bomoseen where boats and sleighs once carried finished slate down-lake to be off-loaded on the company's waiting rail cars.

## 34 Carving Studio and Sculpture Center **↑** ♣ **ⓒ**

636 Marble Street, West Rutland

The Carving Studio and Sculpture Center offers unique sculpture education programs amid inactive quarries and manufacturing facilities of the Vermont Marble Company. The former company store serves as the center for workshops, lectures, communal dinners and special events. Visitors are welcome to explore the CSSC sculpture garden and site-specific installations mingled among post-industrial



Carving Studio and Sculpture Center

ruins. Workshops invite participants to work side-by-side with people of all ages and experience levels to learn to work in marble, granite, slate, metals and fibers. Stone artists from across the world come for residency programs. Class schedule is available at www.carvingstudio.org.

#### 35 Hitching Posts M 🗅

230 Marble Street, West Rutland

There are more than five marble hitching posts still in existence in West Rutland on Pleasant Street, Whipple Hollow Road and Marble Street. An ornate example of one sits just to the left of West Side Press at 230 Marble Street.

### 36 St. Bridget Church 🔳 🎹 🐿

28 Church Street, West Rutland

The West Rutland marble industry attracted many Irish workers. After grueling days in



St. Bridget Sacred Heart Cemetery

quarries and mill shops these same workers volunteered their evenings to build St. Bridget's Church using local marble. The church was completed in 1861. The headstones of marble workers can be found in the St. Bridget Sacred Heart Cemetery at 806-915 Main Street.

#### 37 West Rutland Art Park 🐧 🗅

1450 Clarendon Avenue, West Rutland

In 2013, artist Barbara Carris and her husband invited sculptors from around the world to create works of art in metal and marble on their home's extensive acreage. Today, it's an outdoor art park open to visitors year round. This contemporary artwork includes work in a variety of marbles.

#### 38 Vermont Marble Museum 1 🗅

52 Main Street, Proctor

The Vermont Marble Museum is the largest marble exhibit in the world. Housed in an

expansive former mill building of the Vermont Marble Company, the museum tells the unique story of the people and places of Vermont's marble industry, linking historic, artistic and cultural traditions, and connecting the past with the present. Exhibits include mineralogy and geology, immigrant and industrial history, stunning large-scale samples of Vermont and world marbles, bas-relief sculptures of the Last Supper and all U.S. Presidents, and historic drawings and photographs that present the history of some of Vermont Marble Company's most prestigious projects, including the Tomb of the Unknown Soldier at Arlington Cemetery. Interactive in nature, there is a family exhibition about earth sciences, a theater showing a variety of films, a sculptor-in-residence, art gallery and gift shop.

#### 39 Sutherland Falls Marble Quarry 🕮 👟 🗅

Proctor

The Sutherland Falls quarry opened in 1836 and went through several owners before Redfield Proctor took it over in receivership. When Proctor learned about the area's water power, sand supply, promising quarry, and established equipment and railroad, he decided to bring various struggling or defunct marble companies into one ownership and build an effective business. Visitors can see the original Proctor quarry from a viewing area located only a quarter mile walk from the Vermont Marble Museum parking lot.



Marble Bridge, Proctor

## 40 A Company Town IIII 🌭 🗅



Proctor was founded in 1886 and was named for and almost completely owned by Vermont Marble Company President, Senator Redfield Proctor. The influence of the Vermont Marble Company is visible throughout the former company town. Local marble was used for everything from sidewalks, benches, foundations and steps, to churches and civic buildings. A walk along Main Street from the Proctor Memorial Bridge to former marble finishing mills takes visitors by the fire station made with marble from the Sutherland Falls quarry, the site of the former company store and the former Vermont Marble Company headquarters. In the 1880s, just 36 of the Proctor homes were privately owned. Company houses built for workers range from modest wood-frame homes on the southern end of Market Street (circa 1885), to more substantial homes on Williams Street. built at a time of

company prosperity, around 1905.



Photos courtesy Vermont Marble Museum and BH Farnum Photography



Vermont Marble Museum



#### 41 Gawet Marble & Granite 🕮 🕒

805 Business Route 4. Center Rutland

Founded in 1919 to make use of high-quality scrap marble, today Gawet Marble is managed by the third generation and specializes in a number of lines of quality custom marble production. Visitors may peruse varied products at their onsite showroom.

#### 42 Commercial Buildings III 🗅

45 to 116 Merchants Row, Rutland

Walking along one of Rutland's main commercial streets, visitors will see buildings ranging from a 1920s neoclassical all-marble bank to a number of others that use Vermont Verde Antique. This stone—serpentine—is known in the building trades as a marble, but is actually a metamorphosed igneous rock that takes a shine. At nearby 30 Center Street is the Paramount Theatre, built in 1912-1913 by George Chaffee. The building's exterior reflects the "City Beautiful" movement of the time, and displays local Vermont white marble as well as Vermont Verde Antique. The interior design suggests the look of a Victorian-era opera house, and contains white marble accents with examples of Champlain Black in the lobby.

## 43 Hitching Posts, Curbs, & Walkways M

Park Street, Brandon

With the plethora of marble posts, curbs and walkways to many of the homes on Park Street, one can guess that Brandon played a role in Vermont's marble industry. That it did. There are at least five former quarries in and around Brandon, with the Brandon Italian Marble Quarry, just north of town, being the largest. Brandon marble was most often cream-colored or blueish-gray.

## 44 Brandon Town Hall and Lilac Inn III M

West Seminary and Park Streets, Brandon

Marble also is featured in many Brandon buildings and homes. The 1861 Brandon



Lilac Inn, Brandor



Paramount Theatre, Rutland

Town Hall at the corner of Route 7 and Seminary Street is one of the most monumental municipal buildings of mid-19th century Vermont, with imposing front steps made of Rutland County marble. Local marble was also used in the showy entrance pavilion to one of Brandon's most illustrious homes, "The Arches." Located at 53 Park Street, it welcomes guests as the Lilac Inn.

## 45 Omya 🕮 🗅

Middlebury

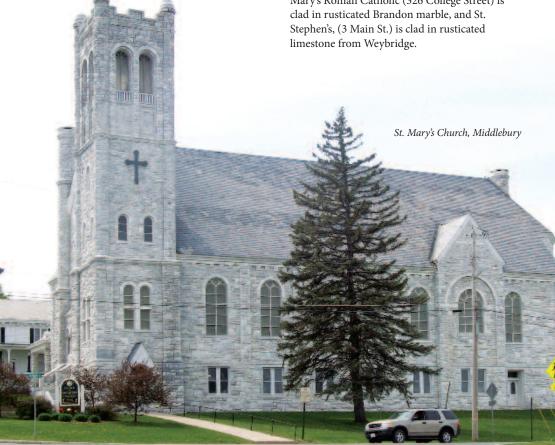
Omya is a worldwide mineral processing company with holdings in North, Central, and South America. In Vermont, Omya quarries marble that is ground, milled, and purified to produce a finely ground calcium carbonate—a necessary ingredient in a wide array of consumer products ranging from paint and paper, to vinyl

siding and diapers. A significant player in Vermont's economy, the Middlebury quarry site hosts an annual open house. For information, visit www.omya.com.

## 46 Middlebury Churches III 🕒

Middlebu

Memorial Baptist (97 South Pleasant Street) is constructed with textured, rusticated marble blocks from the Brandon quarries of the Brandon Marble Company. A "rusticated" block has a rough or natural-looking finish, as opposed to smooth or polished finished. Popularized during the Italian Renaissance, American architect H. H. Richardson revived this style of stonework in the 1870s by using contrasting rusticated blocks on many of his buildings. United Methodist (47 North Pleasant Street) reflects late Victorian style under the influence of Richardsonian style, with its combination of regionally-quarried gray limestone and brown quartzite, and slate tiles. St. Mary's Roman Catholic (326 College Street) is clad in rusticated Brandon marble, and St. Stephen's, (3 Main St.) is clad in rusticated limestone from Weybridge.





Marble Works District, Middlebury

#### 47 Marble Works District 🕮 🕒

2 Maple Street, Middlebury

Constructed in the 1800s of limestone and marble, the weight-bearing walls of some of these buildings measure from 24-30 inches thick. This complex was used by the Brandon Italian Marble Company for processing and finishing marble after their mill in Brandon burned down. The company was, for a time, the largest employer in town. The Vermont Marble Company bought out the company in 1909 and operated the plant until the depression in 1931. The mills were later altered and added to for commercial use. The complex is now restored and re-adapted for a variety of commercial and retail uses.

#### 48 Frog Hollow, Middlebury Falls and Battell Bridge 🕮 🜭 🕒

Middlebury

Easily viewed from the pedestrian bridge connecting Frog Hollow and the Marble Works, this hollow was the site of the inception of Middlebury's notable marble industry. In 1802, Eben Judd and ten-year-old Isaac Markham invented a machine to saw marble quarried from the riverbed. Just eight years later, Judd's finished marble products were said to be "cut and curved



Henry Sheldon Museum, Middlebury

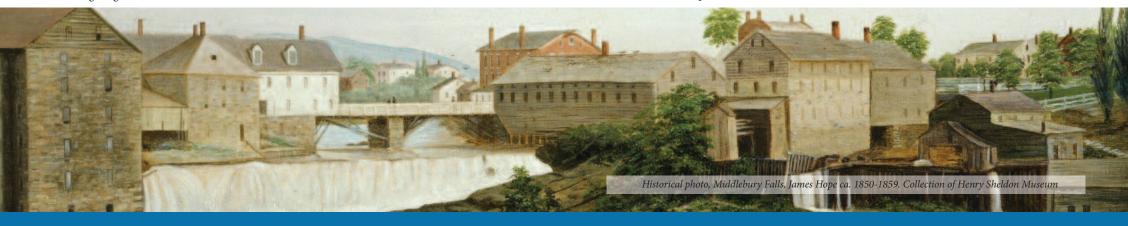


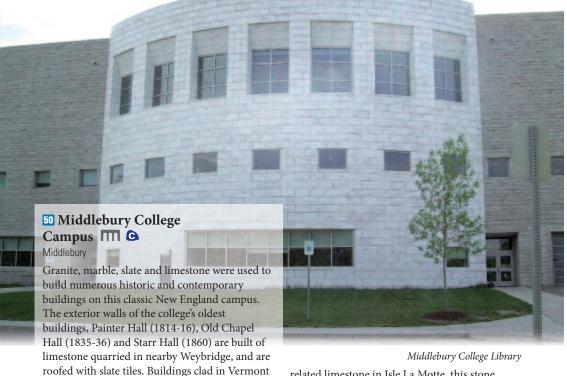
Atlantic." The business ended in 1837, with the deaths of both Judd and his son-in-law and partner, Lebbeus Harris. Their home is now the Henry Sheldon Museum. Notice the naturally occurring marble integrated into a man-made marble foundation on the northeast side of the falls. The Battell Bridge, built in 1892-93 with limestone arches was meant to outlast the many bridges in the same location that succumbed to fires and floods. It has.

### 49 Henry Sheldon Museum III 🗅

1 Park Street, Middlebury

This 1829 home was built by Eben Judd and his son-in-law Lebbeus Harris with the profits and some of the marble products from their Marble the porch's ionic marble columns and rectangular lintels. Within, the six black marble fireplace mantels were made of the rare Shoreham black marble. It has almost no veining and contains some fossils. Companies like the West Castleton Marble Company tried to compete by developing ways to paint their white marble (as well as other stone materials) black. The museum's extensive archives contain books, primary documents, and photographs related to the Vermont marble industry. The museum's collections extensively document Middlebury-area history, to include the marble industry, and are complemented by inventive special exhibits that explore connections through the arts.





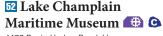
## 52 Lake Champlain

## 58 Vermont State Office Complex M 6

280 State Drive, Waterbury

When Tropical Storm Irene flooded the former Vermont State Psychiatric Hospital in 2011, it displaced over 1,300 state workers who were based at the complex. Part of the rehabilitation plans included restoring the original historic core

related limestone in Isle La Motte, this stone fissures naturally and does not take a polish. The building that houses Stone Block Antiques in nearby Vergennes (219 Main Street) was built with Panton stone.



4472 Basin Harbor Road, Vergennes

At over 100 miles long, Lake Champlain served as a corridor of commerce during the 19th- and early 20th-centuries. Canal boats that could use both the lake and canal systems to get the product to market often carried quarried stone. Exhibits at the Lake Champlain Maritime Museum—including the Lois McClure, a fully outfitted, floating replica canal schooner-bring this history to life.



Photo courtesy Lake Champlain Maritime Museum, Eric Bessette

Lake Champlain Maritime Museum

of buildings and demolishing a number of nonhistoric buildings and additions. Granite ashlar foundation walls support multi-story, loadbearing walls of Victorian brickwork surmounted with slate and copper roofing. A new office building was constructed adjacent to this historic core and its design features a number of Vermont-sourced materials, including the exterior masonry veneer composed of Bethel white granite, chunky Vermont slate blocks and polished Champlain black marble trimmings

from Isle La Motte limestone. Flood-proofing treatments to the historic core buildings included filling in the basement level with a lightweight concrete slurry. The Barre granite walls are partially above ground, so the existing windows were removed and infill walls of Woodbury granite were built in the same place to seal the openings and blend into the walls, while still marking the original window openings.



Vermont State Office Complex

#### 51 Button Bay State Park 👫 👟 🍏 💪 5 Button Bay State Park Road, Ferrisburgh

marble include the historic Starr Library, the

in a combination of both in the McCullough

Professor Emeritus History of Art and

contemporary Middlebury College Library, and

Student Center. In a unique marriage of style and

materials, Mead Chapel, writes Glenn M. Andres,

Architecture, "draws freely upon the vocabularies

of the American classical styles of the eighteenth

and nineteenth centuries in its translation of the

marble." Andres provides a wealth of information

traditional New England meeting house into

about the history of Middlebury's college and

.edu/walking/tour/.

town buildings at www.midddigtal.middlebury

Located on a stone bluff bordering Lake Champlain, visitors can explore the exposed limestone bedrock that was formed about 450 million years ago and contains fossilized coral, snails and other marine organisms. Less common today are the park's namesake: naturally cemented "button" shapes made of clay deposited by a glacier 10,000 years ago. The bedrock, known locally as Panton Stone, is used for foundations, walls, and chimneys, but unlike the

#### 54 Vermont State House III 🕒

109 State Street, Montpelier

When Vermont's first State House was considered too small, it was replaced in 1832 with a stately design by Ammi B. Young, and built with huge granite columns and smooth-surfaced blocks that were brought daily from Barre quarries by oxen straining over the course of a 20-hour round trip. This same granite survived an 1857 fire that otherwise ruined the building, and today all but a few blocks of the superstructure comprise Vermont's third—and present—State House (1857 to 1859). Recognized nationally as an architectural gem, the Vermont State House is fondly referred to as a "working museum." Legislators and citizens conduct the state's business in the oldest capitol building with authentically restored chambers. The interior foyer is a "checkerboard" of Vermont marble. The white marble tiles are from Danby. The black marble tiles are from Isle La Motte and contain some of the fossils that Isle La Motte is famous for. Guided tours are available.

#### 55 Federal Building/ U.S. Post Office III 🗅

87 State Street, Montpelier

This building showcases a fine example of Rochester, Vermont's Verde Antique marble on its first-story exterior; and Vermont white marble above it on the second story.

## 56 Kellogg-Hubbard Library M @

135 Main Street, Montpelier

Built in 1895-1896 with funds bequeathed by former Montpelier and Barre residents, both the historic building and the 2001 addition are walled in Vermont granite. Along with restored woodwork throughout, marble wainscoting, stairways and fireplaces ornament the interior.

#### 57 Vermont Granite Museum 🕯 🕒

7 Jones Brothers Way, Barre

Housed in the evocative setting of a massive granite shed on the site of the former Jones Brothers manufacturing plant, the Vermont Granite Museum celebrates the history, artistry, technology, and science of Vermont's granite industry. Jones Brothers was founded in 1882 by siblings who owned a Boston granite memorial company. Over time the company grew to include a number of Millstone Hill quarries and 85,000 square feet of manufacturing space. Today, visitors explore dynamic exhibits and hands-on activities amid the company's remaining shed. Modern for its time, the

Vermont State House

58 Elmwood and Hope Cemeteries 

from a number of granite businesses.

Vermont Granite Museum — Sandblasting a Rose

building includes overhead traveling cranes for

moving granite weighing in the tons, banks of

ventilation, machine and forge shops, and the

machines for shaping, sandblasting booths for

creating a mirror-like surface. Jones Brothers

and massive columns for St. John the Divine

Cathedral, to a full range of memorials and

monuments. One of the key ingredients to the

success of a company like Jones Brothers was the

plaster casts, measuring tools, and finished work

illustrate the steps in creating lasting works of art.

The museum also maintains an extensive archival

collection of documentary and artistic collections

skill of its carvers. Exhibits using stone carvers'

many tools of the trade: saws, lathes and grinding

lettering and carving, and polishing machines for

produced everything from industrial rolling mills

windows that provided natural light and

58A 124 Washington Street, Barre 58B 201 Maple Avenue, Barre

Elmwood Cemetery features early slate, zinc and marble headstones and numerous granite markers that mark the graves of some of Barre's most famous former residents. Hope Cemetery is full of history, too, but it is more famous for the artistry of many oversized sculpted granite memorials. Here you will find a life-like, threequarter scale memorial to granite carver Elia Corti who was mortally wounded during a heightened discussion between socialists and anarchists at the Socialist Labor Party Hall in 1903. Other sculptures range from the religious to the secular, from depictions of angels and flowers to a race car, biplane and pajama-clad

couple holding hands in bed. It is said that about 75% of the headstones were designed by the granite carvers whose graves they mark, and most likely carved by artisans they knew.

## 59 Socialist Labor Party Hall 🕮 🕲

46 Granite Street, Barre

The "Old Labor Hall" was built by Italian immigrants in 1900 in a Barre neighborhood of granite worker tenements and shops. The turn of

the 20th century was an era when the social and cultural centers of many immigrant communities rested in labor unions and fraternal societies with radical politics. In Barre, the Old Labor Hall



Old Labor Hall

became a major community center for the large Italian community, serving as a venue for agitation, education, entertainment and commerce. In addition to supporting local workers, the Socialist Labor Party sent contributions to silk, copper, coal and steel worker labor movements in other states and marble workers in Italy.

### 🛍 Sculpture City Art Stroll 🕯 🜭 💁





Studio Place Arts 201 North Main Street, Barre

Downtown Barre offers a beguiling array of outdoor granite sculpture. Contemporary works

range from gargoyle bicycle racks to the world's largest granite zipper (both 2014). Commemorative pieces include memorials to Scottish poet Robert Burns (1899) and Italian-American Stonecutters (1985) and a sculpture and installation dedicated



Studio Place Arts

to world peace (1924). Tour brochures are available at Studio Place Arts, a contemporary art gallery and education center that hosts Rock Solid, an annual stone sculpture exhibit.

The Vermont Stone Trail



Rock of Ages Quarry

#### 61 Vermont History Center & Archaeology Center 1 @

60 Washington Street, Barre

30

Between 1880 and 1940, Barre's population increased from 2,206 to 11,855 as the small city became known as the granite center of the world. In addition to their diverse customs and languages, many of Barre's new residents also had political beliefs that contrasted with the natives. The Vermont Historical Society, which operates the Vermont History Center, presents a special exhibit, "The Emergence of the Granite City: Barre 1880 to 1940," that explores the ways in which immigrant populations from French-Canada, Scotland, Italy and many other European countries created a cosmopolitan city distinct from others in Vermont. Also housed at the Vermont History Center is the Vermont Archaeology Center. Exhibits and collections document the uses of stone tools by Vermont's indigenous people.

## **62** Rock of Ages Visitor Center



558 Graniteville Road Barre

Rock of Ages Corporation is America's premiere granite quarrying and finishing company. Founded in 1885 and welcoming visitors since 1924, the company still works the world's largest "deep hole" granite quarry, high on historic Millstone Hill. Visitors are introduced to the living industry of Vermont's granite industry at the Rock of Ages Visitor Center with historic and computer-based exhibits that provide a history of the people and mechanical innovations that have made this industry possible. Then it's outdoors to the awe-inspiring quarry itself on a narrated tour that can be followed by a tour of the 160,000 square-foot factory. A study of contrasts, visitors view artisans using hand tools in much the same way as Michelangelo did centuries ago, mingled among computer-guided, diamond-tipped saws, precision grinders and laser-etching equipment. All ages can enjoy an educational movie on granite, the gift shop and even an outdoor granite bowling lane.

#### 63 Millstone Touring and Recreation Center 🕮 🜭 🕲

34 Church Hill Road, Websterville

One hundred years ago the lands around Millstone Hill were the site of over 75 small, independent granite quarry operations, fueling Barre's dramatic 19th-century growth and prosperity. Today, 1,500 acres are preserved and over 70 miles of trails are maintained for mountain biking, walking, hiking and skiing. Dozens of dramatic-looking water-filled quarries make for spectacular scenery. There are also remnants of machines that made quarrying possible, and stone sculptures carved along the Grand Lookout trail. Trails range from familyfriendly to expert, and a range of lodging and sites for camping is also available. Millstone Hill's legacy is celebrated annually at RockFire, an event that combines art, music and fire-lit installations and six live performance stages. www.rockfirevt.com

### 64 Interstates 89 and 91 sculptures 🕻 🕒

Many of the sculptures on Interstates 89 and 91 are the result of the 1968 and 1971 international



Millstone Touring and Recreation Center

carving symposiums organized by the late Paul Aschenbach. Hosted by the Vermont Marble Company and S.T. Griswold Company, the marble and concrete sculptures can be found at the rest stops at the exits on:

- 64A Guilford Northbound\*
- 64E Randolph Northbound and Southbound
- **64B** Putney Southbound\*
- \* See Southern Vermont man page 7
- **64C** Springfield Northbound
- 64D Hartland Northbound and Southbound

## 65 Rock of Ages Bethel Quarry 🕮 🕲

One of the most unique—and valuable geological features in Central Vermont is the Rock of Ages "Bethel White" granite quarry. Visible to the west from Interstate-89 just north of Exit 3, the quarry was expanded in 2015 to meet worldwide demand for this highly durable and clear white granite. Bethel White will face La Grande Arche de la Defense on the Champs-Elysees in Paris. It is known as the world's whitest granite and is used in a Shanghai, China office building and a 122-foot spire at an Abu Dhabi airport. This quarry is not open to the public.

#### 66 Quechee State Park 👫 👟 🎳

5800 Woodstock Road, Hartford

The park's focal point is the Quechee Gorge, formed by glacial activity 13,000 years ago. When an ice dam holding back glacial Lake Hitchcock broke, the sudden and powerful waterflow cut through the bedrock forming a gorge that today is over 160 feet deep. View from the bridge spanning the gorge, or hike down to explore.

#### 67 Mt. Ascutney State Park m 🌭 🍏 😉

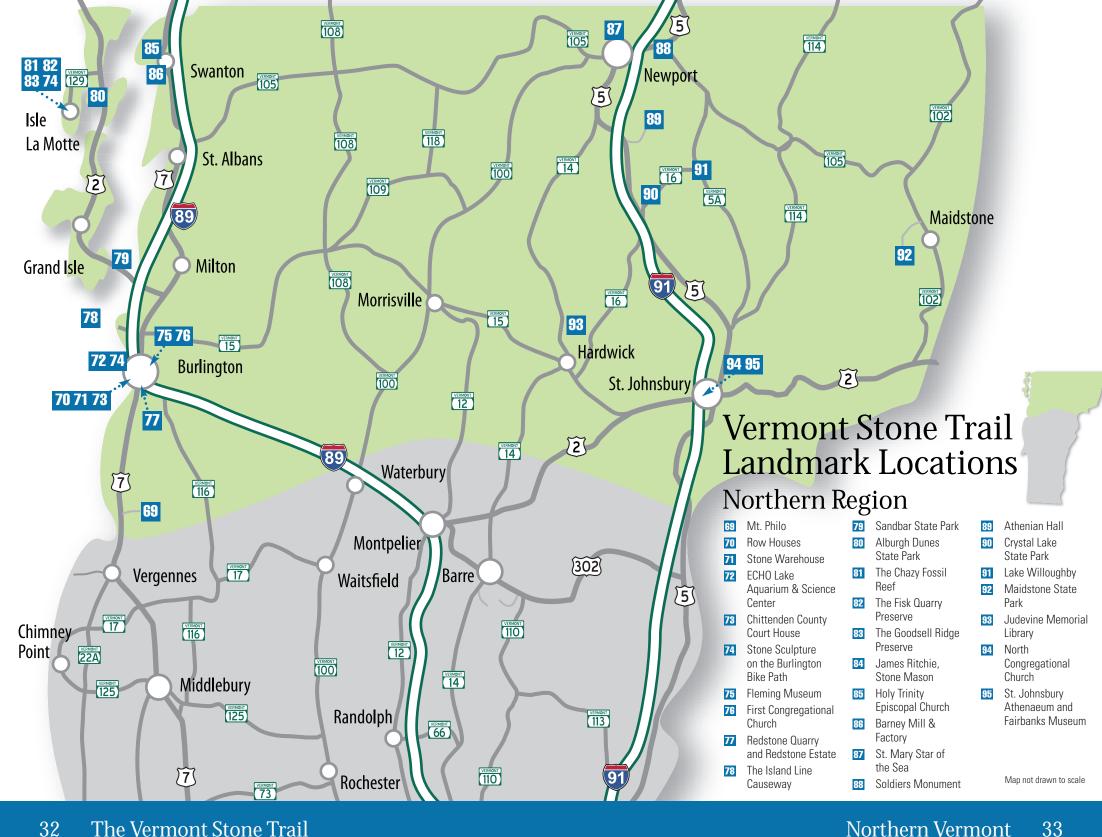
1826 Back Mountain Road, Windsor

Geologically speaking, Mt. Ascutney is the closest thing to a volcano that Vermont has. Mt. Ascutney is comprised of three main types of igneous rock, one of which is granite. The rocks were formed 120 million years ago well below the volcano that was on the Earth's surface at the time. A short drive and hike takes you to the peak of Mt. Ascutney where you can ponder this long and remarkable history at the park's openair pavilion constructed of Ascutney granite.

### 68 Stone Village III 🙆

113 - 250 North Street/Route 103, Chester Depot

Once a small village on its own, this historic district is unique for its collection of stone houses, a church and a school. Each building's exterior walls are faced with gneiss slabs in the style of "snecked ashlar." Scottish-born stone masons and brothers Alison and Wiley Clark arrived in Chester and built these buildings beginning in 1834. Snecked ashlar, derived from Aberdeen and the Scottish Highlands, describes a certain type of rubblestone siding used to finish buildings. Exposed deposits of gneiss—a metamorphic rock similar to granite—is removed in slabs and arranged on the exterior walls in courses or in random patterns. The slabs are secured with lime mortar reinforced with moss or horsehair and snecked (secured) with pieces of mica schist as interfill to produce a stable wall facing.



The Vermont Stone Trail Northern Vermont 33



Photo courtesy Vermont State Parks

69 Mt. Philo ♣♣♠ 🍏 🙆

5425 Mt. Philo Road, Charlotte

Mt. Philo provides an accessible panorama of the fields, lake and mountains of the Champlain Valley. You get this view standing atop the ancient Champlain Thrust Fault created when the Earth's crust cracked under pressure, causing the east side to be pushed over the west. The highpoint of the park rises steeply 100 feet and is composed of Monkton Quartzite. This hard pink, red and brown rock-metamorphosed sandstone—is used as a dimension stone in buildings throughout the Champlain Valley. This is the upper plate of the fault, whereas the Stony Point Shale—found at the base of the mountain is the lower plate of this fault. This fault line runs along a north-south line of eastern Vermont. Buck Mountain and Snake Mountain (also part of this fault line) can be viewed to the south from atop Mt. Philo.



Row Houses

View from Mt. Philo

70 Row Houses 94-106 Maple Street, Burlington

This multi-family building provided housing for workers at the nearby rail yard and industrial area. Of note is the multi-colored and patterned slate roof advertising the building's owner, contractor and slater, father and son Horace and Loomis Smith.

#### 71 Stone Warehouse III @

215 Battery Street, Burlington

Built in 1828 using granite-block, load-bearing construction, this building originally served as a warehouse for the comings and goings of goods aboard the canal schooners—the tractor-trailer trucks of their day. The building's design is similar to other canal-era warehouses found in Vergennes, Orwell and Shoreham. Goods were raised to each floor by a simple block and tackle hanging from two hoisting arms that were protected by the two small gables on the lakefacing side of the building. The original building was enlarged and embellished in 1841 and since then the exterior has not changed.

## ZECHO Lake Aquarium & Science Center \$ 650

1 College Street, Burlington

Visitors are invited to get their heads and hands around Vermont's geologic history at ECHO's "Before the Basin" exhibit. Travel back in time to explore the world of the Champlain Valley when the Adirondack Mountains were as high as the Himalayas, or to the time when beluga whales and seals swam in the salty waters of the Champlain Sea. Touch a live sea star, build your own mountain, or try your hand eroding rocks. As a bonus, the Perkins Geology Museum at the University of Vermont (180 Colchester Avenue) exhibits a whale fossil found in the Champlain Valley.

## Chittenden County Court House

175 Main Street, Burlington

Originally opened as a US Post Office and Customs House, it took four years of construction for designer James Knox Taylor to complete his trademark Beaux Arts design in 1907. In 1974, the Federal Government donated the building to the county for use as a courthouse. Original features including the white marble exterior, massive iconic columns, classically detailed parapet, intricate doorway design, marble finished interior, hand carved oak archways, and Vermont red marble fireplaces are as impressive now as they were over a century ago.

## ✓ Stone Sculpture on the Burlington Bike Path ♦ 🌭 🕒

Burlingtor

Once a hub for the transport of goods and materials, Burlington's waterfront was stabilized using marble, granite and limestone blocks.

Today, a multi-modal recreation path winds its way over eight miles, passing a variety of public

sculptures. An exuberant sun located between the ferry terminal and ECHO was carved by Justin Rose, who maintains a studio at 418 Pine Street, where visitors are welcome. At Oakledge Park, Earthclock's granite markers tell time by the sun, while five groupings of marble created with crevices for sunset-viewing crests Battery Park Extension. For more abstract and representational sculpture throughout Burlington, visit www.burlingtoncityarts.org/art-public-places.

#### 75 Fleming Museum 🕯 🕒

61 Colchester Avenue, Burlington

The University of Vermont's Robert Hull Fleming Museum, built in 1931, includes an impressive public room called the Marble Court. Marble from France, Italy and Vermont grace this room in its grand staircase, columns and the floors. Collections include classic marble sculptures and Native American decorative objects made from slate.

## First Congregational Church

38 South Winooski Avenue, Burlington

One of the largest buildings in Burlington, this church's front steps are made of Isle La Motte black marble and the foundation is limestone cut from Lake Champlain's fossilized coral reef. The marble tower completes the Greek Revival style of the church and is modeled after the Choragic Monument to Lysicrates in Athens, Greece. Marble artifacts are showcased within the church's sanctuary, which is generally open to the public during business hours Monday through Friday.



The Vermont Stone Trail

Northern Vermont



The Colchester Causeway

#### **77** Redstone Quarry and Redstone Estate 🕮 IIII 💿

Hoover Street and 330 South Prospect Street, Burlington

Redstone—a metamorphozed sandstone that is not quite quartzite—was a popular building material in Burlington in the 1800s. Appreciated not only for its color and durability, the stone was readily available at a small quarry within the city limits. The former quarry is now owned and managed by the University of Vermont for geology classes; visitors are welcome. Just blocks away—and also owned by the University—is the estate built for lumber and shipping magnate Andrew A. Buell. Stone from this quarry was used to construct the estate walls, home, carriage barn and gardener's house.



36

#### 78 The Island Line Causeway 🕮 👟 🗅

Airport Road, Colchester

A most amazing stretch of rail bed is this marble causeway constructed to provide direct access to the Great Lakes for Rutland's marble industry. The construction of the Island Line across the lake—including 41 miles of track, six miles of marble causeways and trestles, and four drawbridges—was completed in just over one year's time. The Colchester Causeway is now an extension of the Burlington Bike Path, which traverses Lake Champlain connecting to the island town of South Hero, and is a popular bike route.

#### 79 Sandbar State Park 👫 👟 🍏

1215 Route 2 Milton

Vermont's geologic history is tied, of course, to the weathering of the land surface. The Green Mountains once stood greater than a mile taller than they are today, and it is because of weathering that today the tallest peak—Mt. Mansfield—is 4,393 feet instead of 10,000 feet. Another great example of weathering that you can experience are the sizable sand deposits at Sandbar State Park. The shallow bay was once 150 feet deep, but over tens of thousands of years the bay has filled with sand washed downstream from the Lamoille River Valley.

### 80 Alburgh Dunes State Park 👫 🌭 🎳

151 Coon Point Road, Alburgh

Explore first-hand Vermont's glacial history. You'll find sand that originated with deposits that were left behind when the last glacier melted, and rare beach plants and peat bogs that tell scientists that the land slowly rose when unburdened by the enormous weight of the glaciers.

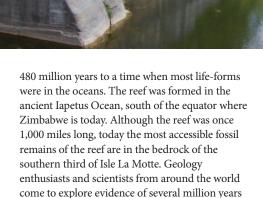
## **81** The Chazy Fossil Reef \*\*\*

Isle La Motte

The Chazy Fossil Reef is the oldest-known biologically-diverse reef on Earth, dating back

The Chazy Fossil Reef





of the evolution of this early reef, which can be

seen in exposed outcroppings and quarries on Isle La Motte. Sections of the reef have been preserved and are open to the public through the



efforts of the Isle La Motte Preservation Trust, in cooperation with the Lake Champlain Land Trust and Preservation Trust of Vermont. These sites have been designated as National Natural Landmarks by the US Department of the Interior. Access to the reef is located at The Fisk Quarry and Goodsell Ridge Preserves.

#### 82 The Fisk Quarry Preserve **(4)**

Parking area south of 3849 West Shore Road, Isle La Motte

The oldest layers of the reef are on the southern tip of Isle La Motte on private property. Open to the public, however, is the Fisk Quarry Preserve, a 20-acre nature and geological preserve revealing the middle layers of the Chazy Reef. The quarry itself, located just 100 feet from the shore of Lake Champlain, was one of six that

The Fiske Quarry Preserve

operated on Isle La Motte in the 19th-century. Stone from this site was first quarried in 1664 by the French, who burned it for lime to make mortar for the construction of Fort St. Anne (the first European settlement in Vermont) and later, in 1788, for furnishing building stone. Marketed as black and gray marble, the stone was limestone which had not metamorphosed into the marble that characterizes the stone in the more southerly portions of the state. Early on, the extracted stone was transported by boat to the Barney Marble Company in Swanton for milling. Isle La Motte "marble" was highly prized, and was used in prestigious locations including The National Gallery of Art in Washington, D.C., and Radio City Music Hall in New York. Visitors will notice large white shapes in the quarry walls. These are cabbage-shaped fossils known as stromatoporoids, now extinct but possibly related to the sponges of today.

## **183** The Goodsell Ridge Preserve

**\*\*** 

239 Quarry Road, Isle La Motte

The Goodsell Ridge Preserve is an 83-acre nature and geologic preserve with reef outcrops visible in the old pastures and woodlands. Here visitors can see a greater variety of fossilized life-forms in the rocks. These are the youngest layers of the Chazy Reef, revealing that these reef layers had evolved into a biologically diverse community, different from the earlier, simpler reef layers on Isle La Motte seen in the Fisk Quarry Preserve. The Visitor Center and Museum includes a video, exhibits, and fossils. Trails with interpretive





Ira Hill House, Isle La Motte, ca. 1895 signage guide visitors to "Discovery Areas" where representative fossils can be seen.

#### **84** James Ritchie, Stone Mason **111 (a)**

67 Church Street, 2304 Main Street, and 24 Quarry Road, Isle La Motte

Scottish by birth, James Ritchie came to Isle La Motte by way of Canada after completing a seven-year apprenticeship in his homeland. Although he may only have been familiar with granite, he quickly adapted to Isle La Motte limestone and used it in eight buildings that he constructed from 1822 to his death in 1850. The Methodist Episcopalian Church (1843-1847) shows his work at its best—a pleasingly designed and built building that served as a church and space for town meetings and schooling. The Ira Hill House (1822), now a private residence, shows Ritchie's discernment and confidence. The best stone blocks appear in the home's lower level facing the road, and massive stone posts and beams in the connected barn provide sturdy bracing. For

1843 Schoolhouse, Isle La Motte

1 Foundry Street, Swanton

Swanton's marble industry was once a major economic force. Quarries were located near town where the Missiquoi River powered finishing tools at the riverside mill. Finished products could be shipped on the river to Lake Champlain for delivery at ports both north and south. The Barney Mill and Factory operated from the 1850s until the 1930s, when it could no longer compete in the global market. The remaining foundations of the Barney Mill—the only

**B6** Barney Mill & Factory 🕮 🐠

marble mill north of Middlebury—is now the publicly accessible Marble Mill Park. Much of Swanton's red marble was cut and processed here and remnants of the sluiceway and samples of Swanton red marble and Verde Antique green, which was quarried in Rochester and processed here, can be found on the shore of the Missisquoi at this location.

#### 87 St. Mary Star of the Sea III @

191 Clermont Terrace, Newport

Although it dominates the region from its location high on Prospect Hill, financial difficulties plagued the building of this robust and decorative granite church and rectory. The foundation laying began in 1904, with granite brought four miles by rail from a Derby quarry.



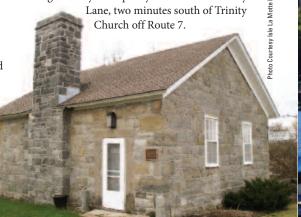
#### **85** Holy Trinity Episcopal Church

cleverness and constraint, Ritchie grounded the walls of the 1843 School House on bedrock just two feet below the surface, and made do with cheaper, uneven blocks by adding smaller stones and mortar as he built up the weight-bearing walls. Interestingly, Ira Hill—who hired Ritchie to build his home, inn, tavern and barn—was later involved in making the Church and School

38 Grand Avenue, Swanton

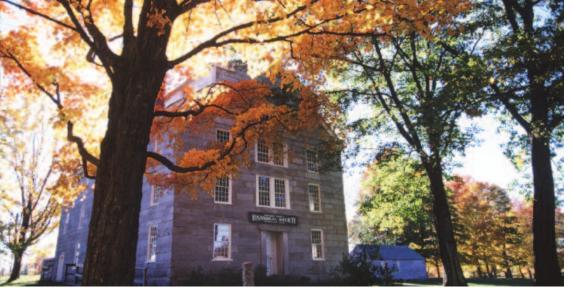
House possible, too.

This edifice is constructed of rough-cut native red marble supplied by the Barney Marble Company. The lovely variegated marble is actually a highly durable limestone quarried from a hill on the edge of town in the late 1800s by George Barney. The quarry is located on Barney



The Vermont Stone Trail

St. Mary Star of the Sea Church



Athenian Hall (Old Stone House Museum)

Yet it was not until 1909 that a silver statue was raised to its permanent position between the two granite towers to mark the completion of the church's construction.

#### 88 Soldiers Monument (a) (a)

2955 Derby Line Road, Derby

This is said to be the first of more than 80 Civil War Monuments to be erected in Vermont. The memorial was made of granite most likely from A. C. LaCasse Granite, quarried in Derby and installed in 1866, one year following the end of the war. Construction of monuments to remember the Civil War dead resulted in higher sales of granite. For more Civil War monuments, visit www.vermontcivilwar.org.

#### 89 Athenian Hall MG

Old Stone House Museum 109 Old Stone House Road, Orleans

Located in a quiet hillside village, the former Brownington Academy dormitory named Athenian Hall is now one of a number of historic buildings comprising the Old Stone House Museum. Athenian Hall was built between 1834 and 1836 by the Academy founder Alexander Twilight. Working to bring quality education to a rural area, Twilight believed that the success of his school would depend, in part, on its ability to house students. Almost as a testament to his will, the massive granite structure still dominates the landscape much as it did 150 years ago. Locally

quarried granite blocks, most likely cut from field boulders, form weight-bearing walls reaching three stories to a monitor roof. Granite lintels support up to five flights of windows. Speculation on Twilight's design for the building ranges from its resemblance to New England textile mills of the same period, to Painter Hall at Middlebury College, where Twilight lived while becoming the first African American graduate of that college in 1823.

## Orvstal Lake State Park \*\*\* III 6

96 Bellwater Avenue, Barton

While the predominant bedrock in the Northeast Kingdom is granite, the number of deposits of high-quality dimension stone are not as many as one might expect. However, at Crystal Lake State Park, steamboats once barged granite-laden boats from the quarry at the eastern side of the glacial lake. The park's beach house was made of granite from this quarry in the late 1930s, and its modern architectural design earned prominent recognition the year it was built.

## 1 Lake Willoughby \*\* I was a second with the second with the second will be second with the second with the



Route 5A. Westmore

Vermont's stone industries have, at root, glacial scraping and erosion to thank for exposing the marble, slate and granite beds for which the state is famous. For a great view of the power of glaciers, take a hike up Mt. Pisgah or Mt. Hor in the Willoughby State Forest to view their sheer

cliffs descending into the deep lake that is home to wild trout and stocked salmon.

#### 92 Maidstone State Park 👫 🌭 🍏

5956 Maidstone Lake Road, Maidstone

Maidstone is the most remote of Vermont's state parks and still retains much of the character associated with the Northeast Kingdom. Maidstone Lake was created when glacial ice carved out a deep basin in a preexisting valley. When the last glaciers melted 12,000 years ago, a deep, clear, cold lake was formed.

#### 👊 Judevine Memorial Library 🕮 🕲

93 North Main Street, Hardwick

When the highest style building in Hardwick the Judevine Memorial Library—was built in 1896, Hardwick was experiencing a boom due in part to it's thriving granite businesses. In nearby Woodbury, Robeson Mountain was home



Historical Photo of Main Street, Hardwick Photo courtesy Vermont Historical Society

to multiple quarries producing a dark bluish-gray granite. When a railroad connecting Woodbury to the finishing mills in Hardwick was built in 1897 and, a year later, Hardwick's first granite finishing mill opened, things got even better. In 1903, the Woodbury Granite Company accepted a contract to supply 400,000 cubic yards of granite over two years for the construction of the Pennsylvania State Capitol—a daunting contract for any company, and especially daunting for this company. Although they were successful, Barre would emerge as the granite center of the state and the country—leaving this one-time

competitor behind. With a nod to the designer's appreciation for architect H.H. Richardson, the Judevine Memorial Library is constructed of Massachusetts sandstone on a Hardwick granite base.

#### 94 North Congregational Church III 🗅

1325 Main Street, St. Johnsbury

It took 600 train cars to transport the Isle La Motte marble used to construct this landmark church. The Coventry, Vermont-born carpenterpattern maker-architect, Lambert Packard, based his Romanesque design on an unbuilt church designed by H.H. Richardson, adding a flying buttress and porte-cochere.

#### 95 St. Johnsbury Athenaeum and Fairbanks Museum III 6

Main Street, St. Johnsbury

Once you start looking for marble, granite and slate in Vermont's built environment you will see it everywhere. But questions arise about other building materials. Wood clapboard made from Vermont's extensive forests was the most common and affordable siding material. Production of bricks began in the late 18th-century, using clay dug from riverbanks that was then molded and fired at low temperatures. Once a good railway system was in place, building materials were easily imported from nearby states. Even so, local materials were and are still readily incorporated in many of our buildings. The Fairbanks family, which made a fortune in

local industries, provided funding for two St. Johnsbury landmarks: St. Johnsbury Athenaeum (1871) and Fairbanks Museum (1890-1891). The Athenaeum, containing a library and a museum of acclaimed 19th-century landscape art, is sheathed in brick and stands on a granite foundation beneath a slate roof. The Fairbanks Museum, a more grandiose statement designed by Vermont's most prominent Richardsonian Romanesque architect, Lambert Packard, was built entirely of Massachusetts sandstone with a Pennsylvania slate roof. Interestingly, the carbonrich Pennsylvania slate roofing had to be replaced in 1979 with more durable Vermont slate.

The Vermont Stone Trail Northern Vermont