AREA FORM **AREA NAME: NORTHERN RAILROAD**

1. Type of Area Form
   Town-wide: ☐
   Historic District: ☒
   Project Area: ☒

2. Name of area: Northern Railroad

3. Location: Former railroad right-of-way

4. City or town: Concord, Boscawen, Franklin, Andover, Wilmot, Danbury, Grafton, Orange, Canaan, Enfield, Lebanon

5. County: Merrimack, Grafton

6. USGS quadrangle name(s): Concord, Penacook, Webster, Franklin, Andover, Danbury, Grafton, Mt. Cardigan, Canaan, Enfield, Hanover

7. USGS scale: 1:24000

8. UTM/SP reference:
   Z19 4786503N 294143E
   Z18 4835971N 716621E

9. Inventory numbers in this area:
   AND0005, AND0007 , AND0016

   WB (Westboro Rail Yard District)

10. Setting: rural, farmland, wooded, village centers, downtowns, abandoned railyard, rail trail, railroad tracks

11. Acreage: 69.41 linear miles or approximately 555 acres

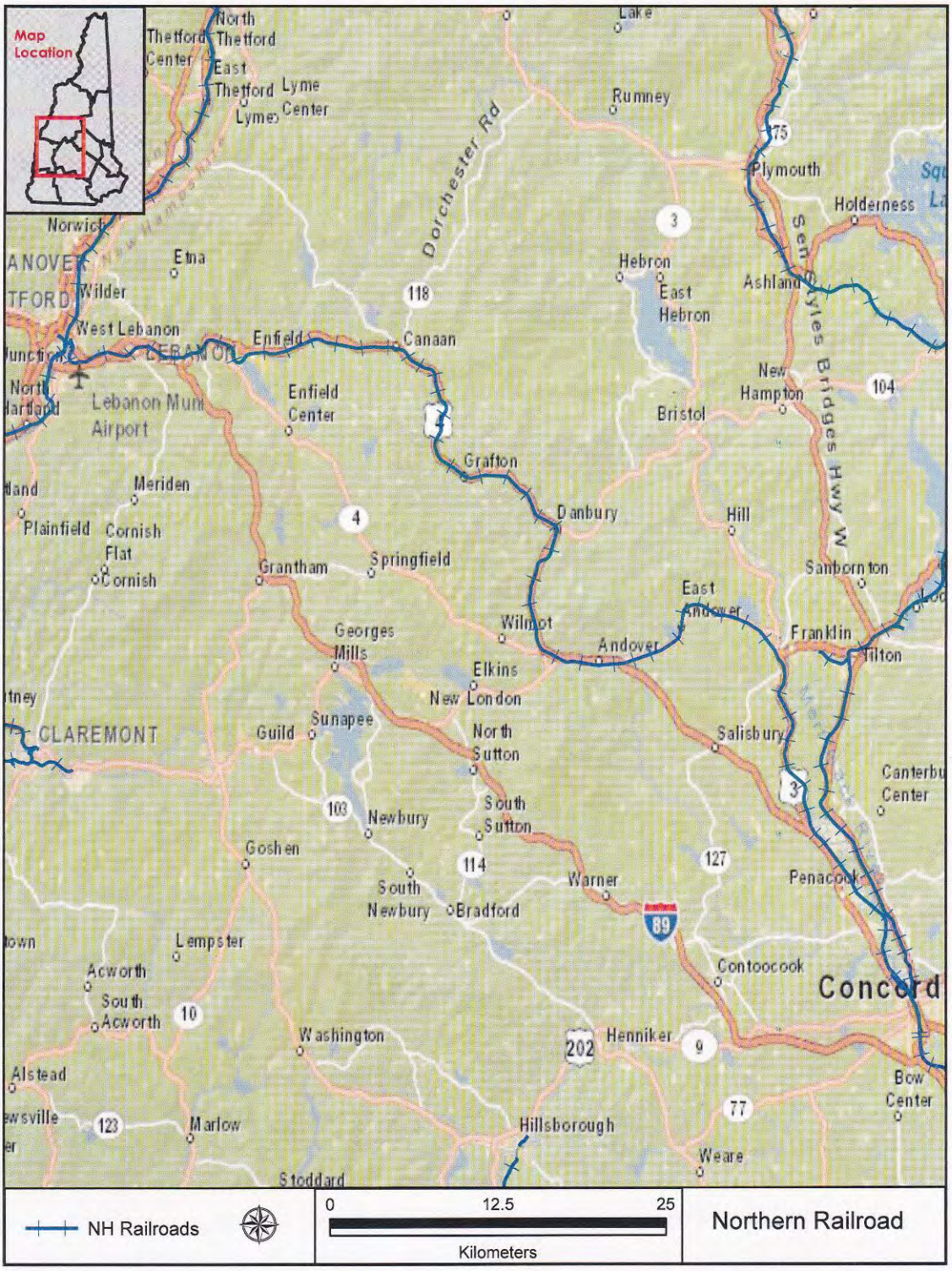
12. Preparer: Lisa Mausolf

13. Organization: NHDOT

14. Date(s) of field survey: May-Dec. 2013

15. Location map

See next page


Map Location
North Thetford
Thetford Center
East Thetford
Lyme
Lyme Center
Lake
Runney
Dorchester Rd
Plymouth
Holderness
Norwich
Etna
Hebron
East Hebron
Ashland
Wilder
West Lebanon
Enfield
Canaan
New Hampton
Bristol
Lebanon Muni Airport
Enfield Center
Grafton
Danbury
Hill
Meriden
Plainfield
Cornish Flat
Cornish
Grantham
Springfield
Sanbornton
East Andover
Georges Mills
Wilmot
Andover
Franklin
Tilton
Elkins
New London
CLAREMONT
Guild
Sunapee
North Sutton
Salisbury
Canterbury Center
South Sutton
Newbury
Goshen
Warner
Penacook
South Newbury
Bradford
Lempster
Acworth
South Acworth
Contoocook
Concord
Washington
Henniker
Alstead
Bow Center
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Hillsborough
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0
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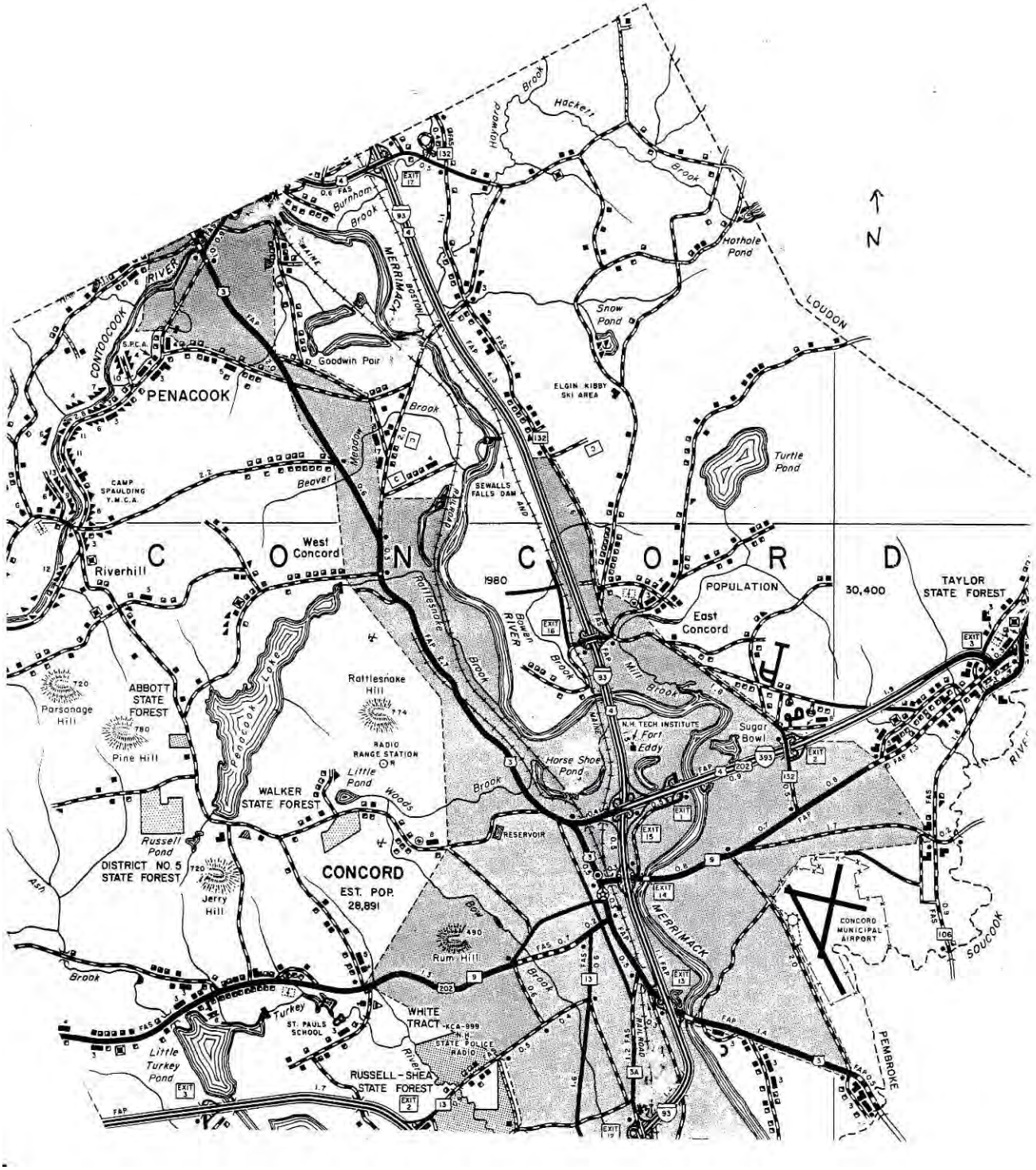
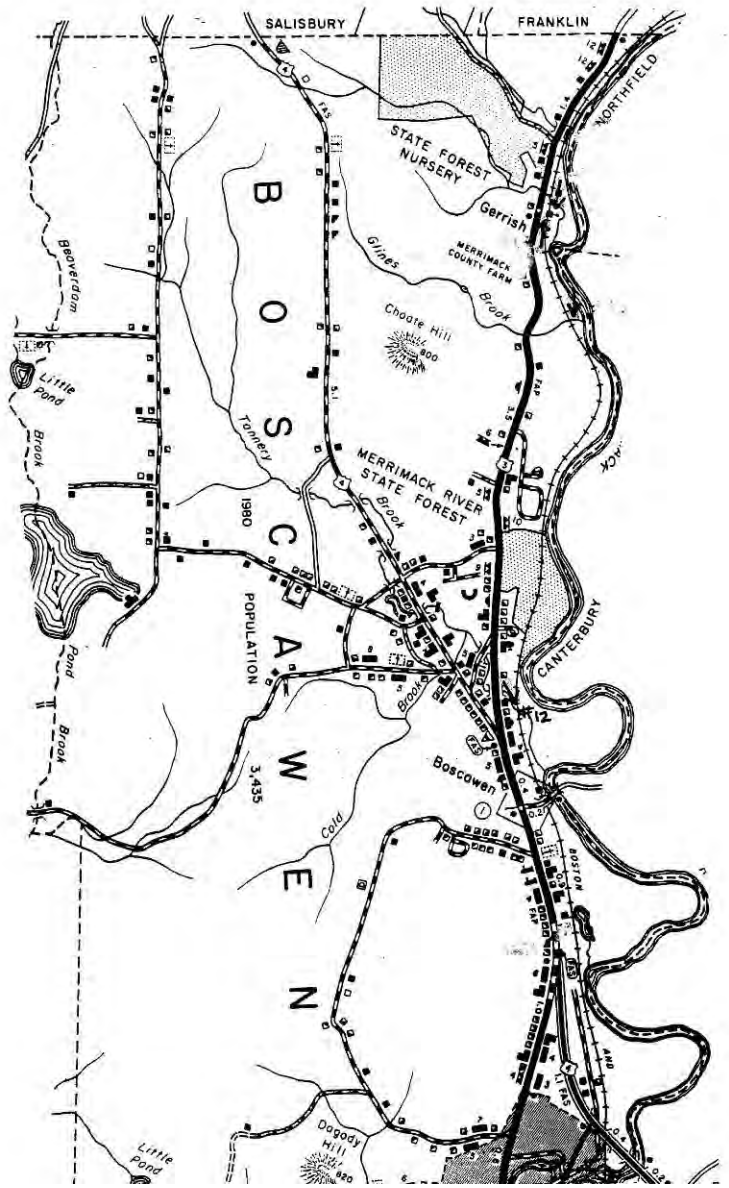
Kilometers
Northern Railroad

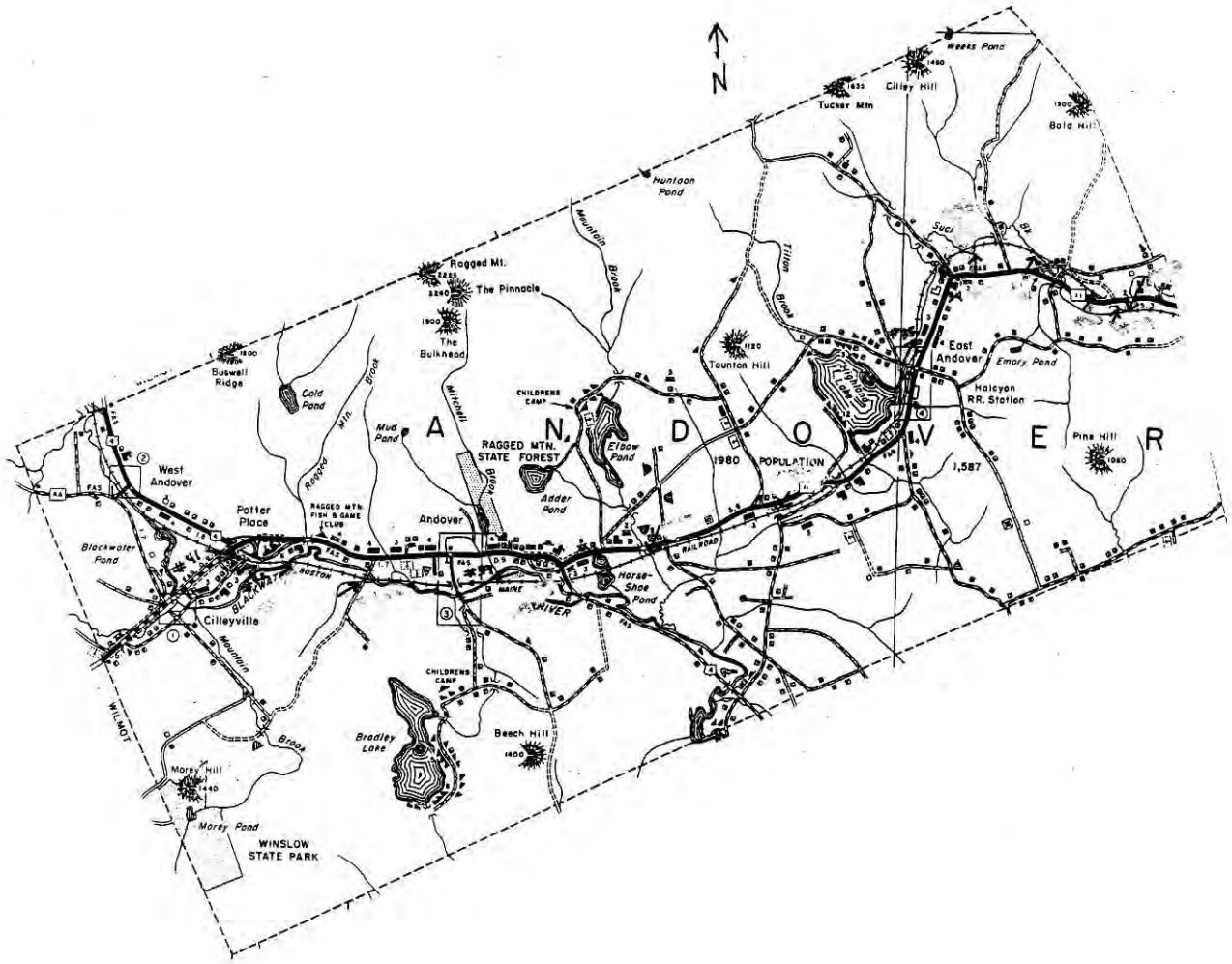


Location Map 1 – Concord
Northern Railroad highlighted in yellow

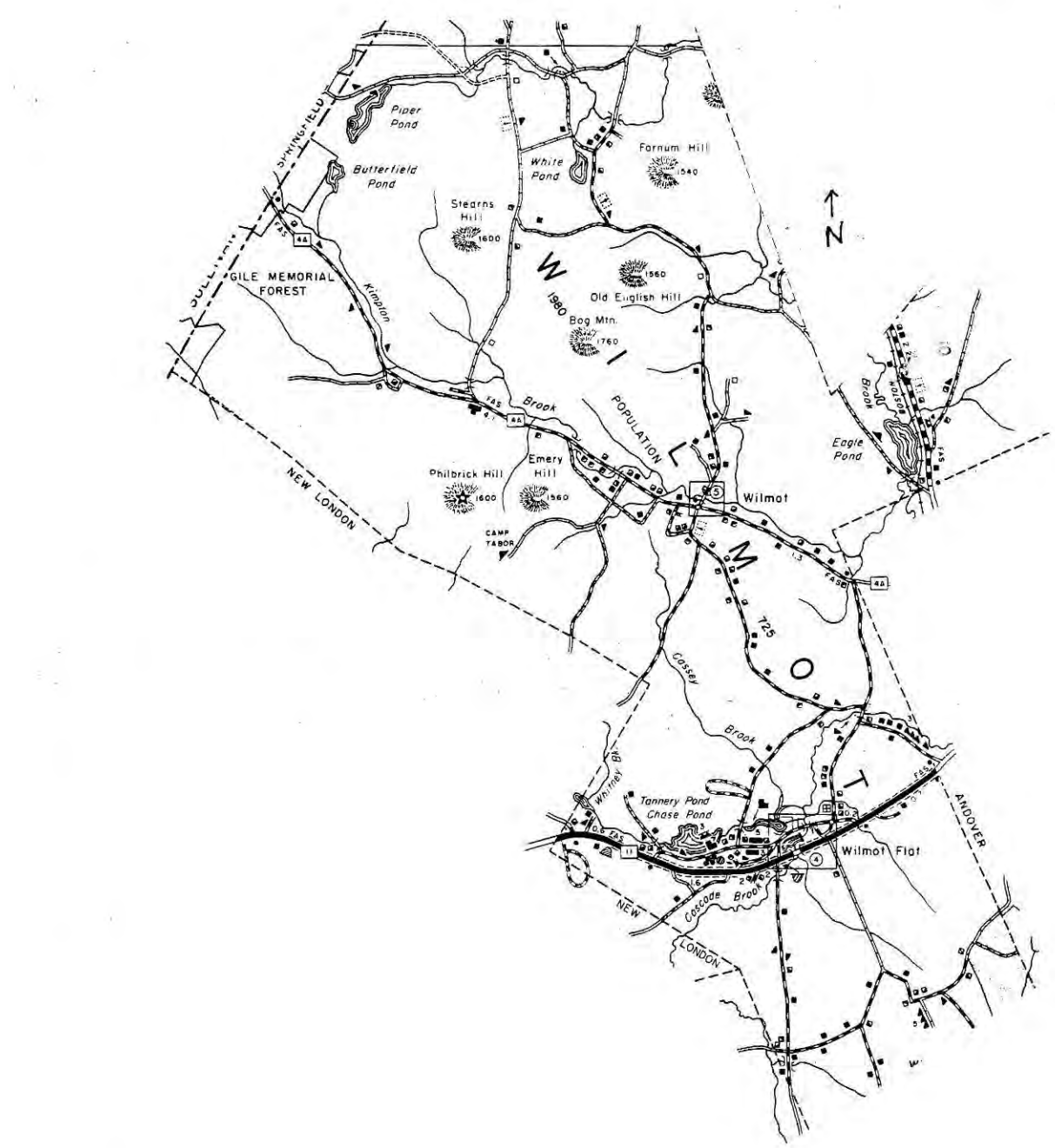


Location Map 2 – Boscawen
Northern Railroad highlighted in yellow

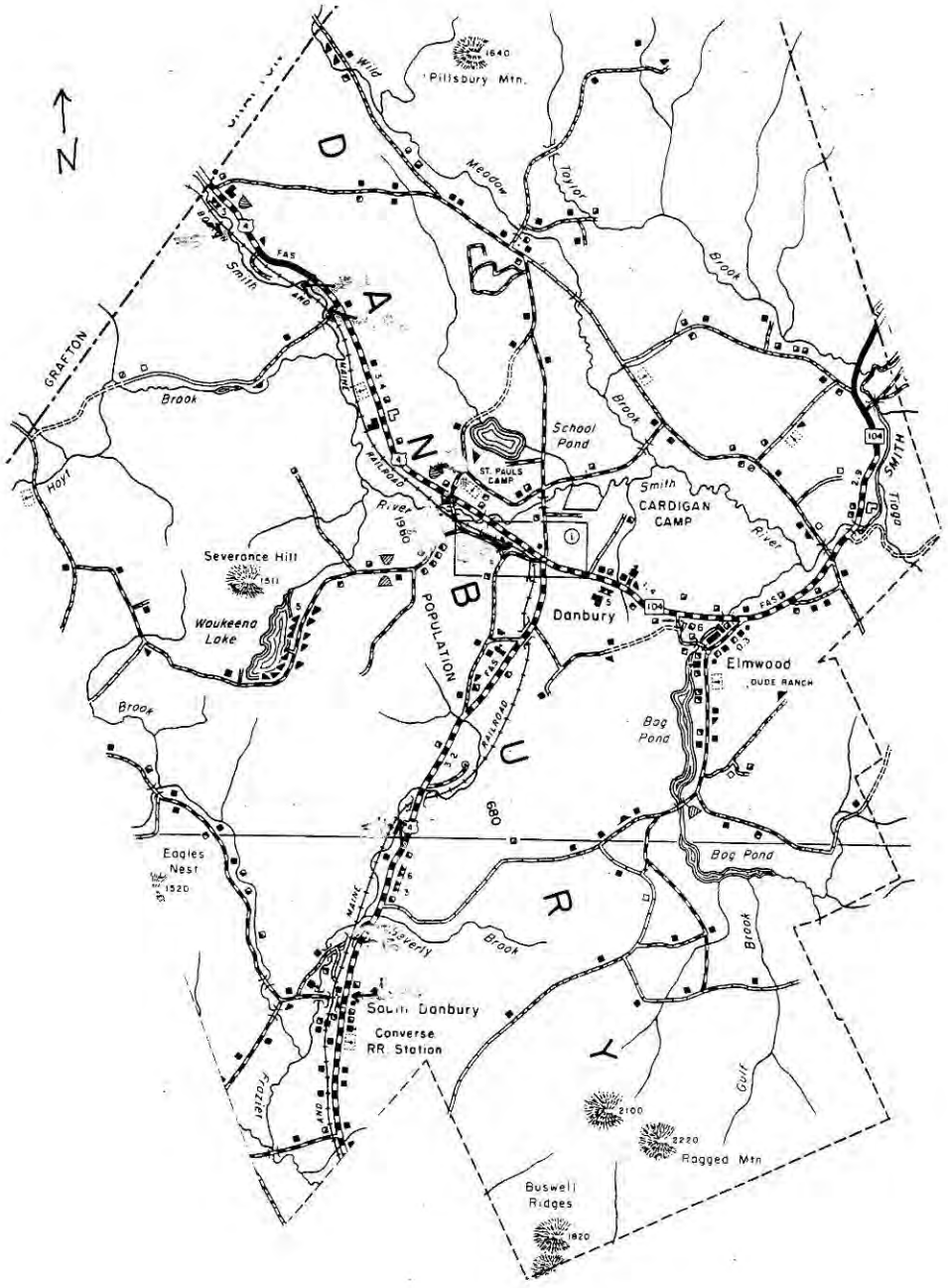
Location Map 3 – Franklin
Northern Railroad highlighted in yellow



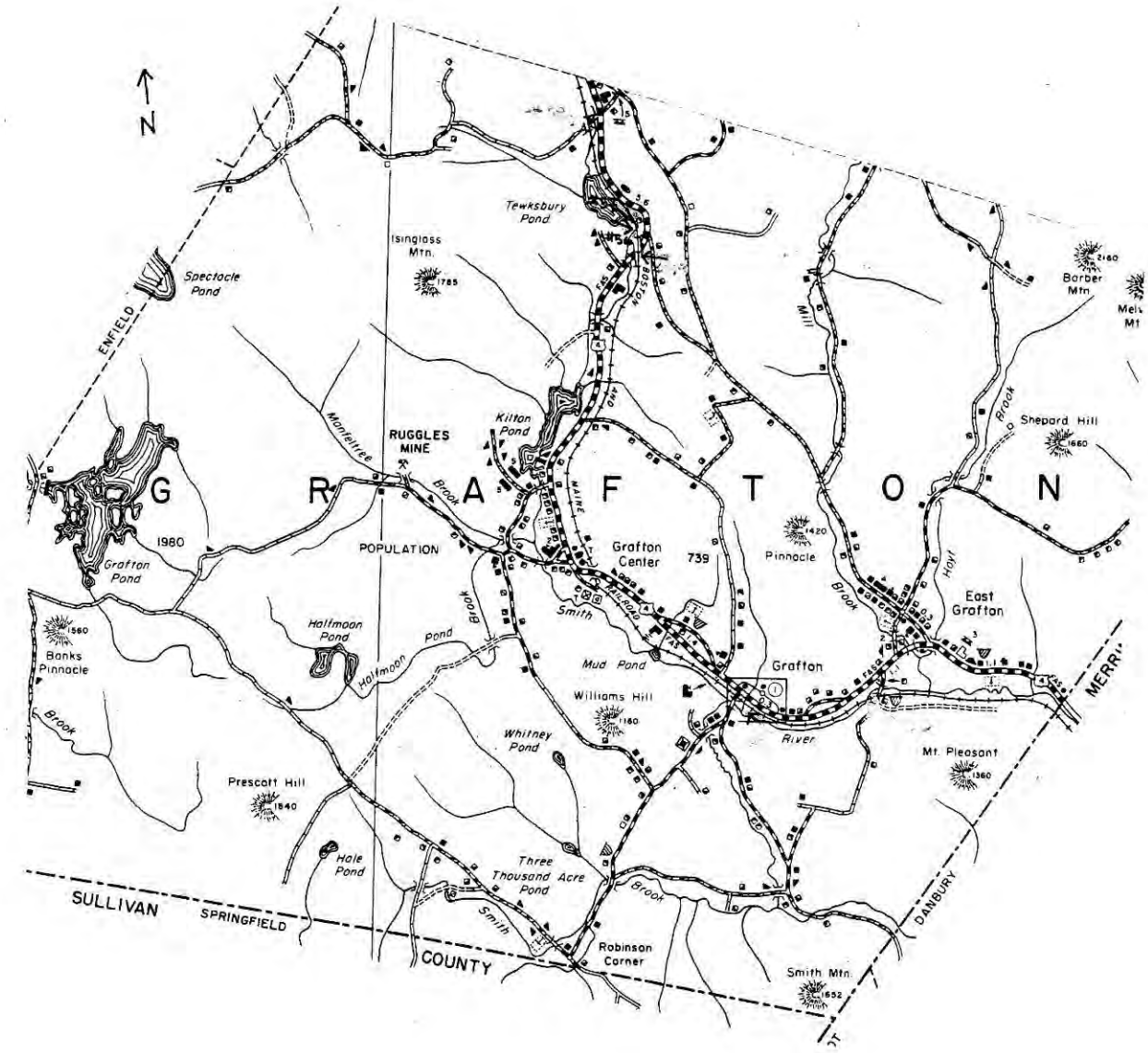
Location Map 4 – Andover
Northern Railroad highlighted in yellow



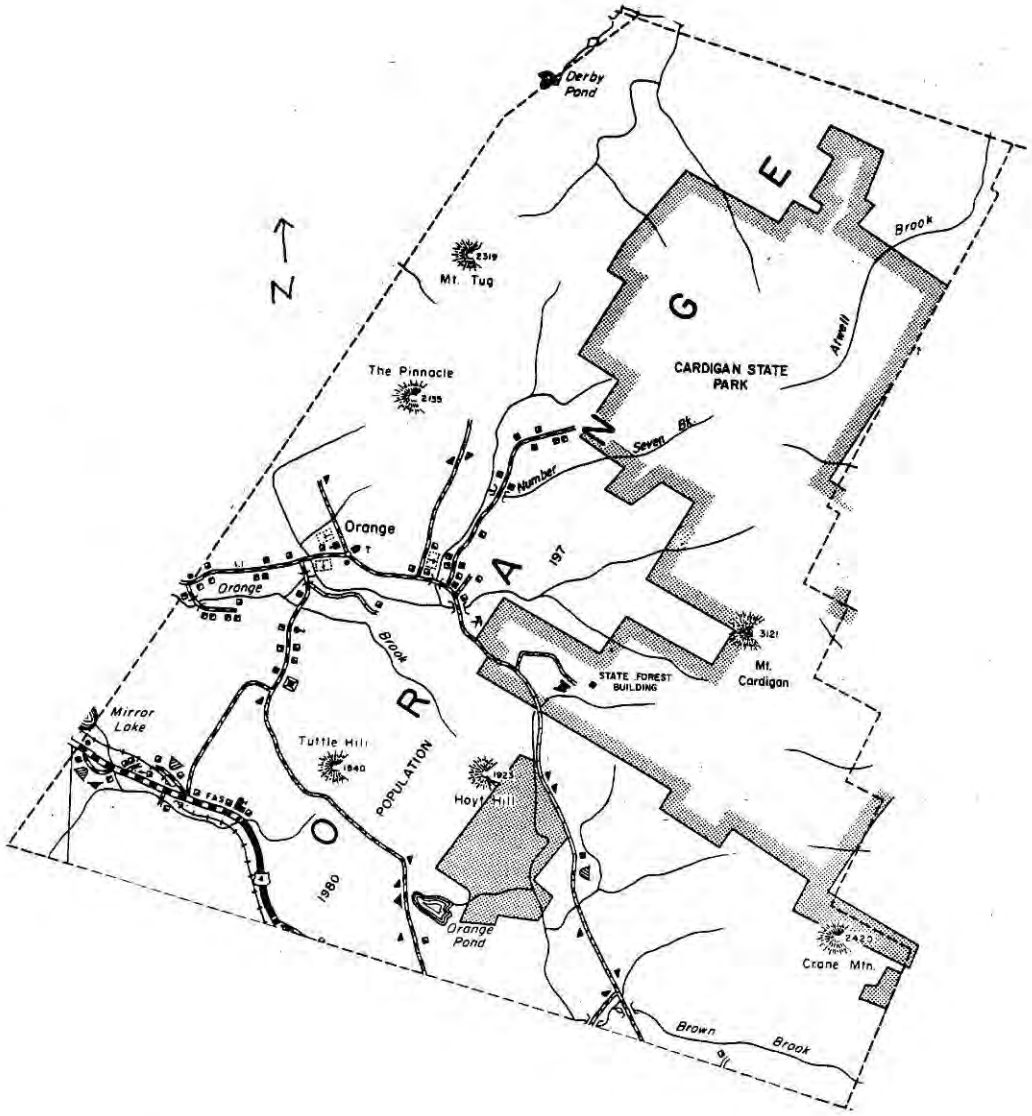
Location Map 5 – Wilmot
Northern Railroad highlighted in yellow



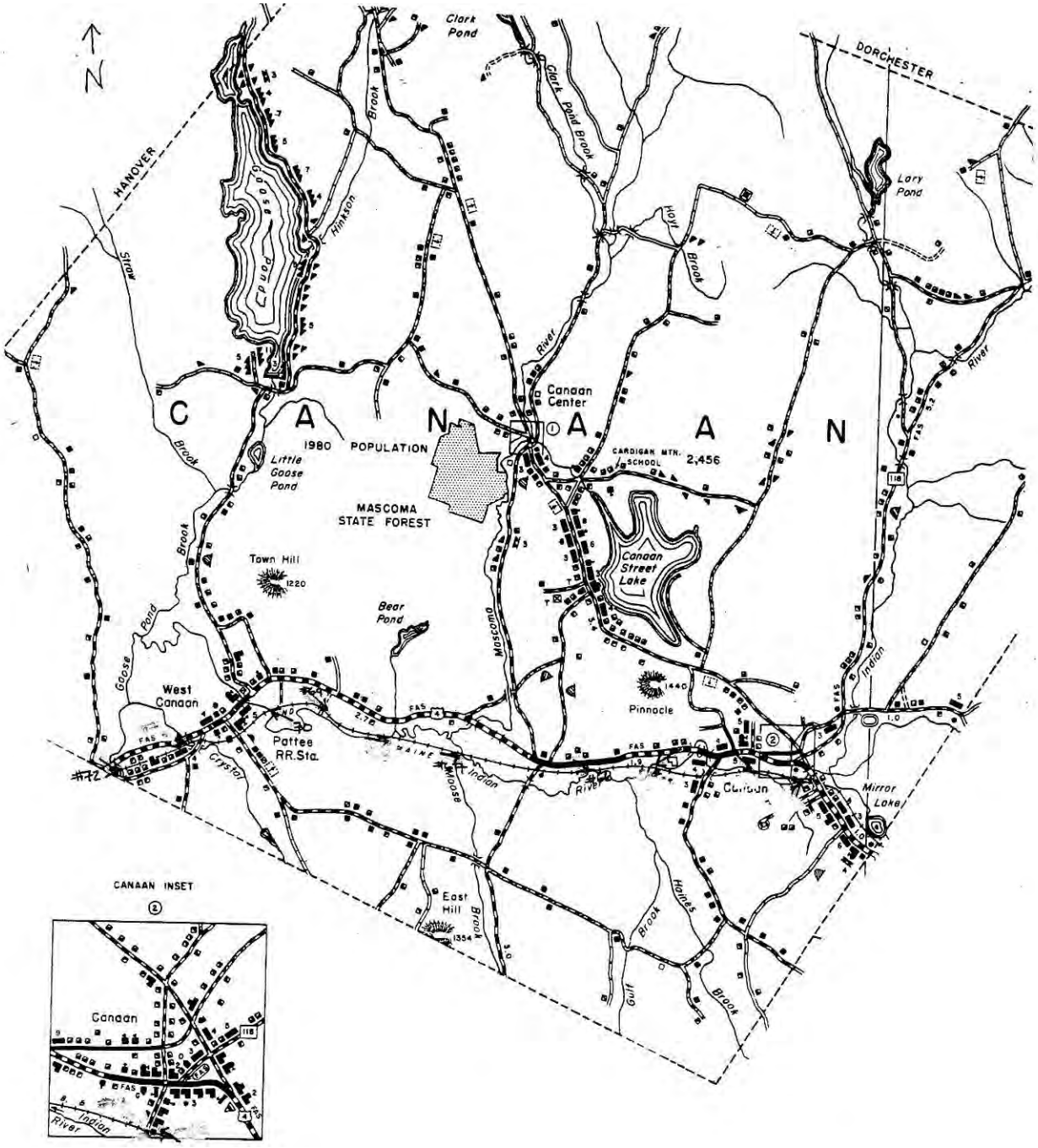
Location Map 6 – Danbury
Northern Railroad highlighted in yellow



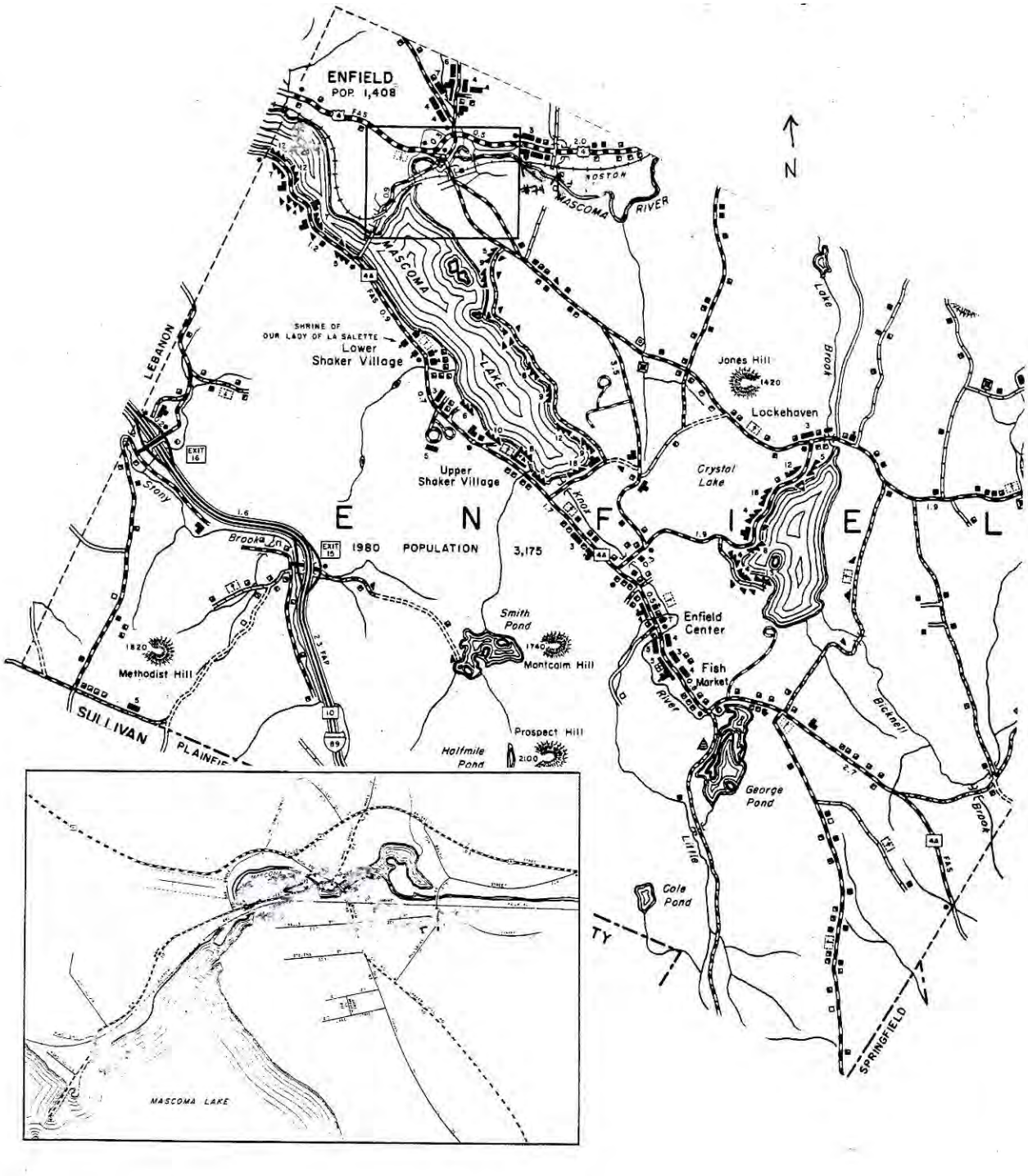
Location Map 7 – Grafton
Northern Railroad highlighted in yellow



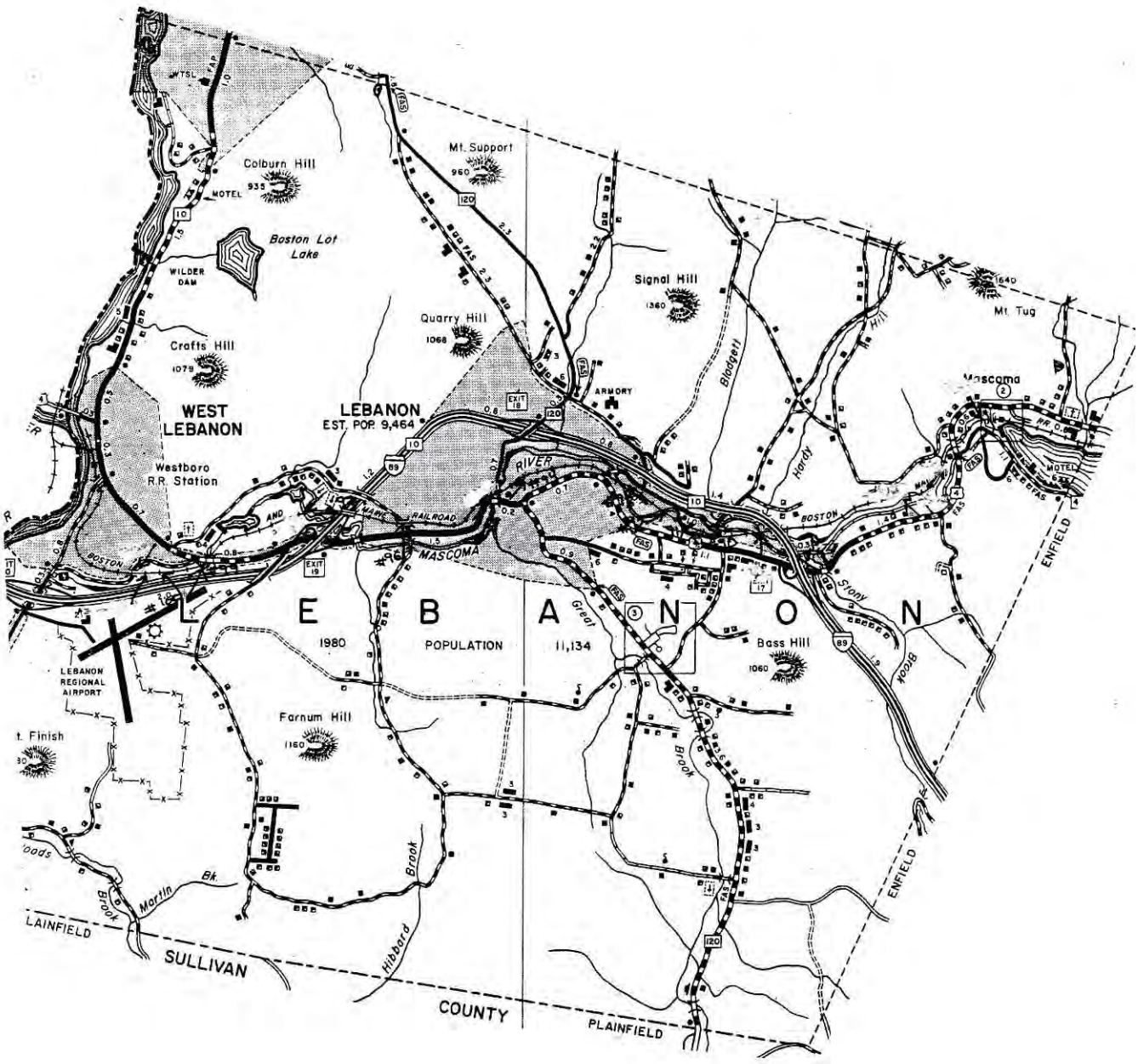
Location Map 8 – Orange
Northern Railroad highlighted in yellow



Location Map 9 – Canaan
Northern Railroad highlighted in yellow



Location Map 10 – Enfield
Northern Railroad highlighted in yellow



Location Map 11 – Lebanon
Northern Railroad highlighted in yellow

17. Methods and Purpose

This area form looks at the entire 69.6 mile corridor of the Northern Railroad as it traverses eleven New Hampshire communities from Concord, west to the Connecticut River in West Lebanon. The 55.6 miles between Depot Street in Boscawen and Spencer Street in Lebanon have been developed into a rail trail, the longest in New Hampshire. The remaining mileage still retains ties and rails. The final 2.2 mile segment of the rail trail from Depot Street in Boscawen to the Concord City Line is planned for construction in Spring 2014.

This survey form is intended to update an earlier area form completed for the corridor in 1995. The line was subsequently determined to be eligible for the National Register of Historic Places in 1999. The purpose of the new survey is to evaluate the line's current levels of integrity and evaluate its National Register significance.

Field investigation (by bike or on foot) was completed of the entire line. The survey was guided by the valuation sheets of the railroad right-of-way completed by the Boston & Maine Railroad (obtained from the New Hampshire Department of Transportation). These 1914 valuation sheets (with later updates of varying dates depending on the sheet) show all track, bridges, culverts, directional devices such as signals and whistle posts, mile markers, tell tales, turntables, water and storage tanks and buildings within the railroad right-of-way. All extant buildings, bridges, directional devices, markers, structures and large culverts (over three feet) shown on the 1914 valuation sheets have been noted and photographed, if physically accessible. Any railroad-related building and/or feature has been noted and photographed, regardless of ownership. The bridges that carry roadways over the rail bed have also been noted and photographed. The survey documents all double stone culverts, stone arch culverts and underpasses. A small, representative number of pipe culverts have also been photographed for inventory purposes. New construction that has occurred on the line since the 1995 survey, including bridges and grade separations, has also been photographed. The area form includes a spread sheet comparing the results of the 1995 inventory to those found in 2013. Locations of the photographs taken during field survey are plotted on reduced copies of the 1914 valuation sheets.

The survey effort includes the results of research at the New Hampshire State Library, the New Hampshire Historical Society, the Walker Transportation Collection at the Beverly Historical Society and the Boston & Maine Railroad Archives at the University of Massachusetts in Lowell, Massachusetts. Published local and railroad histories, railroad reports contained in the NH Railroad Commissioners Annual Reports, and the Boston & Maine Railroad Bridge List prepared in 1953 provide additional information for the Historical Background section. Local historians/collectors, including Art Pease of Lebanon, Ed Hiller of Andover, and Frank J. Barrett, Jr. of Fairlee, Vermont were also generous with their knowledge and/or materials in their collections.

18. Geographical Context

The Northern Railroad extends north from downtown Concord to the west of the meandering Merrimack River. The topography from Concord to the Boscawen/Franklin town line is quite level, and the route passes by several farms, to the south of Sewall's Falls and crossing the Contoocook River in Penacook. In Boscawen the railroad passes by the Merrimack County Farm/House of Corrections and closely parallels U.S. Route 3 which runs to the west. Crossing into Franklin, the trail passes by the former NH Orphans Home with the rail line veering away from Route 3 as it approaches downtown Franklin. Beyond the downtown the grade continues to increase slightly toward East Andover, following the path of Chance Pond Brook to the west of Webster Lake and then the course of Sucker Brook to the south side of Highland Lake in Andover. North of Franklin, the rail corridor runs parallel to NH Route 11 for about ten miles. In Andover, it runs in an east-west direction with the Blackwater River, crossing the river four times in Andover. From West Andover the railroad extends northward, following Rt. 4 and Frazier Brook for a short distance. North of Danbury the rail line extends to the northwest between valleys and follows the Smith River through Grafton, passing to the east of Kilton Pond, Isinglass Mountain and Tewksbury Pond. In all, it crosses the Smith River seven times in Danbury and Grafton. The rail passes through a corner of Orange where it reaches its highest elevation before processing northwest toward Canaan, following the course of the Indian River westward to Enfield and crossing that river four times. In Enfield the rail passes along the north side of Mascoma Lake, following the Mascoma River westward through downtown Lebanon and continuing westward, within range of Rt. 4 before extending northward to West Lebanon. Between Enfield and Lebanon the Mascoma River is crossed twelve times. From West Lebanon, the railroad crosses the Connecticut River to its terminus in White River Junction, Vermont.

19. Historical Background

The Northern Railroad is historically one of New Hampshire's earliest and longest railroads and also one of the state's more important railroads in terms of the amount of freight carried and linear area served. It ran 69.6 miles between Concord, New Hampshire (mile marker 73.33) and White River Junction, Vermont (142.9). The Northern was the fifth railroad to operate in the state. The earliest, the Nashua & Lowell Railroad was chartered in 1835 and began operations in 1838 and was followed by the Nashua & Concord Railroad which was also chartered in 1835 but did not begin running until 1842. When the Northern Railroad was completed, there were about 450 miles of railroad in New Hampshire, about five percent of the entire railroad mileage in the country at that time. According to historian Dr. James Squires, "of the several Granite State lines that had been chartered and constructed during the 1840's, none was better built than the Northern, few had superior advantages from the passenger and freight standpoint, and only one or two others were as financially stable and profitable".[1]

In 1843 a convention was held in Lebanon to discuss the possibility of building a new railroad to connect the existing tracks at Concord with the rail lines which were converging at White River Junction in Vermont. In 1844 the New Hampshire Legislature approved a charter for the Northern Railroad to be built between Concord and the Connecticut River. There were twenty-one incorporators and fifteen thousand shares of stock were authorized. The new corporation was given the right to acquire land by eminent domain. Surveys for the railroad were begun in 1844. The first meeting of the incorporators was held in July 1845.

Several possible routes were studied for the railroad. A southern route would have passed through the Contoocook and Warner River valleys to Lake Sunapee, then extended up to Mascoma Lake and down the Mascoma River to Lebanon. A northern route would have taken the railroad up the Merrimack and Pemigewasset River valleys to Plymouth, then up the Baker and Oliverian River valley to Haverhill and Woodsville. The route chosen was the middle route, following the Merrimack River as far as Franklin, which was then the most important on the line owing to its water power. This route was also reportedly chosen because of the gentle grades between Boston and Franklin and because the first president of the company, George W. Nesmith, was a Franklin resident.[2] The route west of Franklin was however encumbered by steeper grades and physical and political impediments. In response to opposition from the Shakers, the railroad deliberately skirted the Shaker community on the south side of Mascoma Lake in Enfield. The Shakers, who also owned stocks in the railroad, are said to have donated land on the opposite shore and a sum of money toward the purchase of a locomotive that was named "The Shaker".[3]

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[1] James Squires, "The Northern Railroad of New Hampshire: 1844-1848," *B & M Bulletin*, 1996, 13-14.

[2] Henry McFarland, "Concord as a Railroad Center," contained in James O. Lyford, *History of Concord , New Hampshire, from the original grant in seventeen hundred and twenty-five to the opening of the twentieth century* (Concord: Rumford Press, 1903), vol. 2, 888.

[3] Roger Carroll, *Lebanon, 1761-1994: the evolution of a resilient New Hampshire city* (West Kennebunk, Maine: Phoenix Publishing), 71.

The survey of the railroad was completed in 1845 by T.J. Carter of Wilmington, Massachusetts, Engineer, and George Stark of Manchester, Assistant Engineer (see Figure 1A-1C). Both men went on to have long and successful careers with a variety of railroads. Timothy J. Carter (1817-1881) attended Phillips Andover Academy and later studied civil engineering. He was consulting engineer on the construction of the Amoskeag Manufacturing Company in 1838. In 1850 he moved west and was involved in planning

railroads in the Chicago area, the Wabash line from Toledo to St. Louis, and a short line in Texas. In 1863 President Lincoln appointed him as government director for the Union Pacific Railroad.[4] General George Stark (1823-1892) was born in Manchester and was a great grandson of Revolutionary War hero John Stark. In 1836 at the age of fourteen, he was employed surveying the Nashua & Lowell Railroad. He later studied engineering and in 1841 was assistant engineer locating the line from Nashua to Concord. After working on the Northern Railroad survey, he was engaged on surveys for the Vermont Central and Old Colony Railroads. He later served as chief engineer of the Nashua & Wilton and Stony Brook lines, the Boston, Concord & Montreal, the Hudson River Railroad, and the Nashua & Lowell among others.[5]

The Northern Railroad, approximately seventy miles long, passed through eleven communities beginning in Concord and ending in Lebanon. At Concord the track is 288 feet above sea level; the maximum elevation occurs in Orange which is 778 feet above Concord. At its steepest, the grade does not exceed 52 feet in a mile. Between Boston and Franklin the grade was less than sixteen feet to the mile. Yet there were still considerable challenges along the line. In Concord, these included cutting through a promontory at Farnum eddy. The first steam excavator ever used in Concord was used during the winter of 1845 to 1846. In other locations, including Goodwin Point in Concord and in Franklin, it was necessary to make a new channel for the Merrimack River. "Boston" John Clark was hired to plow out narrow channels between the bends of the river by the use of oxen to let the water through to create new, broad, deep paths. The soil that was removed was used to build the roadbed of the railroad.[6] Rivers and streams were routinely rerouted in numerous other places on the Northern line.[7] The twenty-two miles from Orange Heights to West Lebanon was the most difficult and costly section to build. Cutting through the Summit Ledge in Orange/Grafton, in particular, was the largest obstacle. Two teams of workers, one at each end of the cut, drilled through the hard stone by hand, with a blacksmith on site to keep tools sharp. Common blasting powder aided the effort. Crews also encountered a large bed of peat in the ledge which had to be laboriously dug out and the area gradually drained. Eventually, the remaining peat was burned.

[4] Larz F. Neilson, "Local man was railroad builder", *Wilmington Town Crier*, December 30, 2013.
[5] H.W. Herrick, "Gen. George Stark" in *Sketches of Successful New Hampshire Men (*Manchester: John B. Clarke, 1882), 9-12.
[6] Alice M. Shepard, *The History of Franklin* (Franklin: Sant Bani Press, 1996), 261.
[7] Carroll: 72.

Relatively little is known about the identities of the men who built the railroad and the structures along its route. Recent Irish immigrants provided some of the hard labor for the construction. Henry McFarland provides a description of some of those working on the railroad in Concord: "Laborers, not long away from the green isle, wearing Tam O'Shanter caps and corduroy suits, with a few dollars to spend, were often on the streets [of Concord], somewhat in contrast with equipages carrying the families of contractors" .[8] In Andover, in order to cut through Hogback Hill "a group of Irishmen with a one-horse dump cart were employed to haul dirt down to the hollow by Henry Keniston's where the old road turned in".[9] It is estimated that over 5,000 carts of gravel were used. In 1848 the Railroad reported that a group of Irish workers were pushing some stone cars, laden with iron when the flooring of one of the bridges over the Mascoma River in Lebanon gave way and the men and cars fell into the river, seriously injuring three or four of the men.[10] At least some of the immigrants apparently stayed in local communities after the construction was completed. The U.S. Census of 1850 lists fifty-three Irish-born residents, most of whom were laborers, in Lebanon alone.[11] A letter written in Lebanon on November 23, 1845 provides evidence that workers were brought in from afar to work building on the railroad. The letter states that there are at that time sixteen miles of grading to be done on the railroad. The recipient of the letter, a George Borden, is given instructions on how to travel from Troy to Lebanon by stage at a cost of $3.50 to get to the job site. [12] Cursory research of Census records suggests that George Borden was a blacksmith living in New York State.[13] Many, including farmers, came looking for temporary or seasonal work. The identities of the men who built the depots and freight houses along the line are unknown.

Those building the railroad also included talented stone masons. Joseph Brown, a Franklin stone mason and contractor, reportedly put in the stone abutments for many of the bridges along the Northern Railroad.[14] The granite stones used to construct the turntable in Franklin were cut from a quarry on Searle's Hill and then hauled by a team of oxen driven by "Boston John" Clark (1790-1874). Clark and Joseph Brown reportedly set the granite blocks and then built the turntable in 1850.

By December 28, 1846 eighteen miles from Concord to Franklin was completed and opened for public use. As of May 1847 construction of the road from Franklin to the Connecticut River was in rapid progress. All of the masonry except the Connecticut River bridge, a few culverts and the topping of a few wing walls of bridge abutments was complete.[15] The rails reached Andover in July 1847, Grafton in early September and Lebanon in November. The first regular train from Concord to Lebanon ran on November 17, 1847. Daniel Webster, one of the great orators of his day, spoke at the opening ceremonies at Lebanon. He noted that the Northern Railroad connected "the home of my adoption [Boston] with the home of my nativity [Franklin] and my Alma Mater [Dartmouth College in Hanover]".[16] More than 1,200 accompanied the inaugural train to Lebanon. These included many

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[8] A Tam O'Shanter hat is a round, flat hat of Scottish origin usually made of wool with a pompom at its center. McFarland, 889-890.
[9] Shepard, 262.
[10] 3rd Annual Report, 11.
[11] Carroll, 70.
[12] Letter in Collection of Arthur Pease, Lebanon.
[13] Ancestry.com.
[14] Shepard, 263.
[15] 2nd Annual Report, 1847, 8.
[16] Robert M. Lindsell, *The Rail Lines of Northern New England* (Pepperell, Mass.: Branch Line Press, 2000), 249.

stockholders and dignitaries from Boston. In early 1848 the rails were extended to West Lebanon and the bridge across the Connecticut River to White River Junction was completed.

In 1848 the Northern Railroad also began leasing the Franklin & Bristol Railroad which had incorporated in 1846 and was constructed from Franklin to Bristol between 1847 and 1848. In 1849 the Franklin & Bristol Railroad consolidated with the Northern Railroad.[17] The importance of the Northern in the context of other New Hampshire railroads is demonstrated by the fact that its founding superintendent and later president, Onslow Stearns, was considered by many to be the preeminent New Hampshire railroad man of his day. During his tenure with the Northern, Stearns also held a variety of significant political offices including state senator, president of the senate and governor of the state. [18] As early as 1861 the Northern had a controlling interest in a number of New Hampshire railroads including the Sullivan Railroad, the Central New Hampshire Railroad, the Concord & Claremont Railroad and the Contoocook Valley Railroad, and managed them as one enterprise within itself.[19] As described by a recent historian, "The Northern was well engineered, solidly constructed, adequately capitalized, carefully managed, profitable from the start, and prudently expansionist in its policies."[20] The Northern was one of the longer and most important transportation arteries in New Hampshire.

The original bridge which carried the Northern Railroad across the Connecticut River was designed by prominent railroad engineer Henry R. Campbell who lived for a time on Bank Street in Lebanon in a house designed for him by architect Ammi B. Young.[21] Henry Campbell had a long career for various railroads and is perhaps best known for patenting the innovative 4-4-0 locomotive in 1836.[22] Campbell reportedly superintended the construction of various bridges on the line.[23]

In addition to the stations in the individual towns, the Northern Railroad buildings included repair shops in Concord to service the rolling stock, an engine house in Concord that was 126 feet in diameter and a stone roundhouse in West Lebanon that was 130 feet in diameter. Each was able to accommodate sixteen locomotives and had a turntable 40 feet in diameter. (The Concord round house and repair shops were located just south of Bridge Street and were demolished in 1897; the stone roundhouse in West Lebanon was replaced in 1890 by a brick one.) An additional engine house at Franklin had a capacity of five engines and a turntable and allowed for the supply and change of motive power for the western route with higher grades. Similar accommodations near the Summit in Canaan/Orange enabled the railroad to keep engines to send in either direction in case of deep snows.[24]

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[17] Ibid, 251. The Franklin & Bristol line which extended thirteen miles north of Franklin is not included in this area form but was considered a branch of the Northern. The line operated until 1925 when passenger trains were replaced by busses and a single round trip mixed train. Operation ceased altogether after the 1936 floods.

[18] Richard Schuster, "Notes and Documents: Railroad Collections at the New Hampshire Historical Society", *Historical New Hampshire*, 245.

[19] Ibid.

[20] Ibid.

[21] Carroll: 72. Lisa Mausolf, National Register Nomination for the Stone Arch Bridge, Lebanon, 1985.

[22] The "4-4-0" refers to the arrangement of the wheels on the locomotive and was also known as the American type. Almost every major railroad in North America in the first half of the 19th century owned and operated locomotives of this type. The wheel arrangement was well suited to the grades and curvatures of the railroad of this period. By 1900 larger locomotives were needed and the importance of the 4-4-0 was eclipsed by other designs. See John H. White, Jr., *A History of the American Locomotive, Its Development: 1830-1880* (New York: Johns Hopkins Press, 1968)

[23] Mausolf 1985.

[24] *Third Annual Report of the Directors of the Northern Railroad to the Stockholders, 1848* (Concord: Press of Asa McFarland, 1848), 4.

The *Fifth Annual Report of the Railroad*, published in May 1850 includes a detailed description (with dimensions) of all of the buildings that then existed on the Northern Railroad. Station houses were located at West Concord, East Andover, Andover, Potter Place, and West Andover; each was divided into passenger and freight rooms. Passenger Stations combining passenger room and ticket office with a tenement for the family were found in Penacook, Boscawen, Danbury, Canaan and Enfield. Franklin and Lebanon had the most extensive facilities including the largest passenger stations with baggage and ticket office and apartments. The smallest station was located at Webster Place and measured just 12' x 16'. Section houses were found at Penacook, Gerrish, Franklin, East Andover, Danbury, Canaan, Enfield, and East Lebanon. Many of the stations also had wood rooms, wood sheds, and water houses. Freight houses had been built at Penacook, Boscawen, Franklin, West Andover, Danbury, Canaan, Enfield, Lebanon and West Lebanon.[25] Several of the stations also had tenements. At Fisherville (Penacook), Danbury, Canaan, and Enfield there was a tenement "for the family" containing dining and sitting rooms, kitchen, closets, wood room and privy, with four chambers and closets on the floor above.[26] West Lebanon had more extensive housing in the form of four tenement blocks. One block containing four tenements measured 24' x 84' with two ells measuring 24' x 30. Each of the other three blocks contained two tenements each. One of these blocks measured 32' x 30' with a 24' x 30' ell while the other two were 28' x 30 with a 22' x 30' ell.[27] In addition to the buildings along the track, the Railroad was also often called upon by local residents or selectmen to build bridges to allow local roads to pass over or under the tracks rather than at grade. In 1859 $1,575 was spent on "bridges over road, and new roads to avoid passing at grade".[28] The bridge over the Connecticut River was replaced in 1870 or 1871. Other structures and bridges were replaced or repaired as the need arose.[29]

In 1863 Division #13 of the Brotherhood of Locomotive Engineers was chartered at Lebanon and the Northern became the first New England railroad to have a union. The division later moved to Concord and was resolved in 1876.[30] The Northern built most of its locomotives in its own Concord Shops. It also built a few locomotives for other railroads during slack periods.[31]

Over the years, the Northern Railroad was a profitable freight route, transporting diverse cargo including industrial products, farm produce, timber and minerals. Although the railroad passed by countless farms and agricultural fields, many communities along the route also had flourishing textile and machinery mills. Penacook industries included textile mills and in the mid 20th century a tannery. In Franklin there were paper and woolen mills both of which were later converted to hosiery mills. The Baltic/American Woolen Mills in Enfield were located a short distance from the train tracks. In addition to shipping out its cloths, the railroad also brought in coal to run its steam plant. The Carter Churchill Overall factory, American Excelsior and Everett Knitting were all located in Lebanon. In Andover there was a harness-making shop. Potter Place was the rail access for the Scytheville factories. By the

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[25] *Report of the Committee of Investigation of the Northern Railroad to the Stockholders, May, 1850(* Concord: Press of Asa McFarland), 28-30.
[26] Ibid, 23.
[27] Ibid, 31.
[28] *Fourteenth Annual Report of the Directors of the Northern Railroad to the Stockholders, May, 1859,* (Boston: 1859), 11. An additional $919 was spent for the same purpose the next year.
[29] Harry A. Frye, "The Northern Road: A Brief History of the Northern R.R. of N.H.", *The New England States Limited*, March 1982, 11.
[30] Ibid, 12.
[31] Ibid, 12.

mid 19th century the shops were turning out 10,000 dozen scythes per year and the facility also required large amounts of iron and coal.[32] Danbury's industries included a tannery and extensive lumber operations. Later the town also exported garnet. Grafton had large deposits of mica and other minerals.

The Shaker Colony in Enfield was also an important railroad patron due to its diverse industries and businesses. H.P. Hood and Sons of Boston had a creamery adjacent to the tracks in Enfield (photo 344), built on land owned by the Railroad. Milk trains were a common sight. The extensive farming community near Mascoma Lake utilized the East Lebanon (Mascoma) station to ship wool, produce and dairy products. An ice house on the north side of Mascoma Lake at one time furnished all the ice for the railroad and was sent to Boston.[33] The ice was cut from the lake. Another ice house near Halcyon station in East Andover also shipped loaded cars of ice. At one time pulpwood was shipped by rail from Enfield and Canaan to the Brown Company paper mill in Berlin.[34] The Northern was also a critical component in transporting summer residents and tourists to destinations such as East Andover, Potter Place, New Canada Road in Danbury and Pleasant Lake in New London. The amount of freight handled at each station determined the relative size of its siding. At West Lebanon there were also livestock pens.

The Boston and Lowell leased the Northern from 1884 until 1887 when the New Hampshire Supreme Court invalidated the lease. An Appraisal of the Northern Railroad was completed in 1890 and offers detailed information concerning all buildings and bridges on the line at that time. There were 99 bridges on the corridor including underpasses and sixteen overpasses. The inventory also includes notations concerning the maintenance of the bridges. Many of the bridges - which included about 25 covered bridges, over sixty stringers, five decks and seven pile bridges - were repaired or rebuilt between 1886 and 1889 with either Northern Pine or spruce.[35] By 1889 traffic on the line was at its peak, with twenty four trains a day running on the single track. Of the twenty-four trains, fourteen were through freights.[36]

In 1890 the Boston and Maine Railroad acquired a ninety nine year lease of the Northern Railroad. The wood-burning locomotives were replaced with more efficient coal burning engines. The 57 pound rails were also replaced with heavier steel rails to accommodate larger, more powerful locomotives capable of hauling longer, heavier freight trains.[37] A new building for baggage and express was constructed at West Andover in 1889, just prior to the B & M lease.[38] The B & M made a number of improvements to stations along the line which became known as the Main Line. In 1895 a new freight house was built at West Canaan and a water tank and stand point was installed at East Lebanon. A new station was built at Franklin in 1897 (figures 15 & 16). In 1899 a new passenger station, freight house and yard house were constructed at Westboro (figure 57).[39] A new station was built in Enfield in 1906 (figure 42), a short distance from the older station (figure 41). In 1909 a new station was constructed at Andover (figure 20). The old Northern Shops in Concord (figure 3) were demolished in 1897 when the B & M rebuilt the Concord facility.[40]

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[32] A scythe is a farming tool with a curved blade and long handle used for cutting grass, grain, etc.
[33] Carroll, 71.
[34] Merton J. Stearns, "The Main Line North: 1945-1950", *B & M Bulletin,* Vol. XX, no. 4, 1996, 22.
[35] Appraisal of Northern Railroad, 1890, 3 vols. New Hampshire Historical Society, Concord.
[36] Kenneth R. Cushing, *Isinglass, Timber, and Wool: A History of the Town of Grafton, NH 1761-1992* (Lebanon, NH: Hanover Press, 1992), 127.
[37] Ibid, 131.
[38] RR Commissioners Report, 1889
[39] Ibid.
[40] Frye 1982, 16.

The worst wreck to ever occur on the Northern Railroad occurred on September 15, 1907 in West Canaan when an error by a Concord telegraph operator sent a northbound freight train head-on into an express passenger train from Quebec, killing twenty-six and injuring forty. In 1908 a head-on collision in Haverhill (not on the Northern Railroad) between two trains caused by a mistake in train orders, led to the renaming of any stations in New Hampshire which used compound words as the names of stations. A number of stations on the Northern were renamed as a result. Andover Plains became Alpine; East Lebanon was changed to Mascoma; East Andover was renamed Halcyon; Grafton Centre became Cardigan; North Boscawen was changed to Gerrish; South Danbury was renamed Converse; West Andover was to be known as Gale and West Canaan was changed to Pattee. In 1910, West Lebanon was changed to Westboro. As a result of the Canaan accident automatic block signaling was also installed between Concord and Westboro in 1910.[41] The simple automatic block signal system, which utilized Union Switch and Signal Style "B" semaphore signals, offered trains some protection from collision but still required the use of elaborate timetable and train order rules.[42]

In response to a mandate from the Federal Government through the Interstate Commerce Commission, in 1913-14 the B & M embarked on an ambitious project to survey and plot all of the property owned, leased or controlled by company. Structural engineers and architects measured and described every bridge, building, and structure on the entire line, producing a set of valuation plans that are an invaluable resource for the study of all of the B & M lines, including the Northern.

In the late 19th and early 20th centuries the railroad was faced with almost continual repairing and replacing of wooden bridges, especially short span wood stringers. During the early 20th century innovations in rolled steel I-beams became more economical and available and older wooden string bridges could be easily retrofitted using existing abutments.[43] During the same period, covered wooden bridges also gave way to more modern and durable plate girder bridges. In one example in Penacook, the covered wooden bridge over the Contoocook at 80.06 was disassembled in Sept. 1919 with a new Thru Riveted Truss bridge in place by June 1920.[44] The next bridge up the line (80.23) was similarly replaced with a deck plate girder at the same time.

With the rise of the automobile in the early 20th century, railroad passenger revenues dropped significantly. With the hope of stemming the losses, in the late 1920s the B & M made various improvements in operating efficiency as well as physical improvements to the line including replacement of track, ties and ballast. The upgrades allowed an average 38 percent increase in train speed. The improvements to the Northern Railroad line to this period included the construction of several large plate girder bridges including the bridge over the Mascoma River in Lebanon at MP 137.03 (1924); the bridge over the Mascoma in Canaan at MP 128.63 (1926); and the bridge over the Blackwater River in Andover at MP 103.93 (1927).[45]

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[41] H.Bentley Crouch, "The Canaan Affairs", *B & M Bulletin*, Vol. V, No. 1, Fall 1975, 23.
[42] Brian Dame, "The Shortest-Lived Installation of its Type on the B & M – Notes on the Northern CTC", *B & M Bulletin,* Vol. XX, no. 4, 1996, 28.
[43] Richard Casella, New Hampshire Historic Bridge Documentation for Enfield Bridge 077/145 (NH State No. 542), 2005, 15.
[44] The B & M Historical Society in Lowell has a series of photos documenting the construction of the new bridge.
[45] Casella, 11.

On November 3 and 4, 1927 torrential rains fell over much of New England, causing severe floods and considerable damage to infrastructure. The flood put 946 miles of B & M track out of service. Over 3,000 men were employed to repair the line and rebuild bridges. Following the flood the B & M began a four-year effort of replacing bridges. On the Northern Railroad this resulted in the reconstruction of over thirty-five bridges during this period, including the Connecticut River bridge, sixteen other plate girder bridges, nine wood trestles, three steel and concrete trestles, four wood or I-beam stringer bridges, and a thru-truss bridge.[46] A new Twin Span Turntable was assembled at the Westboro yard on February 26, 1929.[47]

In 1929 the New Hampshire State Highway Department, in cooperation with the B & M Railroad, adopted a plan to eliminate dangerous grade crossings.[48] Railroad crossings were eliminated by either relocating highways or constructing overhead passes. In 1933 federal funds to eliminate grade crossings became available under the National Industrial Recovery Act. In 1940-1941 the State's Grade Crossing Elimination Program eliminated five dangerous crossings in Grafton, Orange, Canaan and Enfield.[49] This project resulted in the construction of a concrete tunnel in Grafton (118.46), a concrete encased overhead I Beam bridge in Canaan (124.69) and a frame trestle overhead bridge in Canaan (125.46). [Note all three of these have been subsequently replaced by NHDOT since 2000]. In a few cases, the State simply installed flashing signals at grade crossings. For example, these were installed in Canaan at Burke's Crossing in 1937.

In the late 1930s, bridge replacements on the line were undertaken strictly on an as-needed basis. Between 1935 and 1940 four bridges were replaced on the Northern Railroad. The turntable at Franklin was removed in 1937, leaving only the pit.[50]

During the second quarter of the 20th century the Boston & Maine replaced all but one of the overhead bridges that carried vehicular traffic over the train tracks of the old Northern line. It is likely that this was a priority in part due to the growth in popularity of the automobile and the additional weight and wear placed on overhead bridges by automobile traffic.[51]

During the same period the State Highway Department was busy constructing/replacing a number of bridges to carry larger roads and highways over the railroad. These included a new Thru Plate Girder Bridge that was constructed in Danbury over the railroad in 1938 and a reinforced concrete tee beam bridge in Orange over the tracks in 1942.[52] In West Lebanon a three-span continuous deck plate girder was built over the Mascoma River and the B & M Railroad in 1944.[53]

Other changes along the railroad tracks were caused by changes in rolling stock. After World War II, the B & M modernized its rolling stock by changing its engines from steam to diesel. Along the Northern and other lines, the shift to diesel eliminated the need for water towers and coal sheds. In

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[46] Ibid.
[47] McKay and Hengen, 4.
[48] Annual Report of the State Highway Department, 1930, 7.
[49] Annual Report of the State Highway Department, 1941, 11.
[50] Frye, 16.
[51] Kenneth Story for the Preservation Company, New Hampshire Historic Bridge Documentation for the Welsh Mill Bridge, Canaan (NH State No. 505), 2001, 5.
[52] Annual Report of the State Highway Department 1938, 74; 1942, 73.
[53] Annual Report of the State Highway Department 1944, 10.

addition surviving roundhouses and turntables were altered to accommodate the diesel engine's greater length. The fact that the line still transported considerable freight is reflected in the sizes of the sidings at the various stations in the late 1940s. The siding at Potter Place held 50 cars; Franklin's siding had a capacity of 85 cars; Halycon's held 95; Gale could hold 88; Grafton's capacity was 117 cars and Canaan had one siding holding 85 cars with two more holding 18 each.[54]

Over the years, railroad grade crossings continued to be of concern. In 1957 two railroad grade crossings on NH Route 11 at Potter Place and NH Rt. 4 at West Andover were eliminated by 3.51 miles of new roadway and four bridges in Andover.[55]

A new traffic control system was installed on the line in the late 1950s. No longer was it necessary to stop to throw switches. These functions were now handled by an operator or dispatcher at a remote control station many miles away. By reducing the time required to get opposing trains out of the way, track capacity was also increased. The Centralized Traffic Control (CTC) was placed in service beginning in May 1958 and occurred in three phases – from Concord to Halcyon, Halcyon to Cardigan and Cardigan to Westboro. A hotbox detector was later installed at Danbury to monitor axle, wheel and brake temperatures. Telephones were located in stations, freight houses and in green-and-white striped phone boxes along the right-of-way. [56]

Former passenger stations began disappearing. In 1950 the former Cardigan depot (figure 31) was moved to Danbury (figure 28) to replace an aging station that was torn down. The Grafton depot (figures 29-30) was torn down in 1953, leaving Grafton a flag stop. The Enfield station (figure 42, photo 345, photo log pg. 59) was sold to the Lakeside Grange and to a local fuel oil dealer who converted it to a garage with overhead doors. It now houses the ambulance squad. The Town of Enfield bought the former Hood Creamery (photo 344, photo log pg. 59) in 1961. The Westboro Station (photos 429-430, photo log pg. 70, figure 52-53) was sold to an American Legion Post which moved it away from the tracks and onto the street. The station at Pattee (figure 39) was sold to a local feed store but gradually deteriorated and fell down by itself. The Canaan station was sold to a conductor who turned it into a Laundromat; a second story apartment was later added (photo 297, photo log pg. 52). The Franklin station served as a used furniture store for a time but later suffered a fire.[57] In 1965 the former Lebanon depot was razed to make way for an A & P grocery store. A small station was built to replace it which was also later moved away. A few years after the 1964 downtown fire in Lebanon in 1964 the streets were reconfigured near the station and the overpass bridge was altered to its present appearance (photo 397, photo log pg. 66).

In 1961 two passenger trains a day stopped at Franklin and Lebanon as well as at Potter Place, Canaan, and Enfield on demand. The last scheduled passenger train between Concord and White River Junction ran on January 3, 1965, leaving only two freight trains a day using the tracks. On April 13, 1975 the American Freedom Train traveled through as part of the nation's bicentennial celebration. In the late 1970s the line was operating on a service-as-needed basis and the Westboro station was abandoned. In May 1982 after a train derailment in Brattleboro, Vermont, freight trains were temporarily detoured onto

[54] Donald B. Valentine, Jr. "Riding the Northern", *The New England States Limited*, Vol. IV, No. 4, September 1982, pp 14-15.
[55] *New Hampshire Highways*, June 1957, p. 10. The Rt. 11 bridge (104.54) was subsequently rebuilt c.2010.
[56] A green-and-white striped phone box, recently restored, is still visible today near the Potter Place Depot.
[57] Stearns, 26.

the tracks of the old Northern Railroad between West Lebanon and Concord. This marked the last time a train traveled the entire route.

In the early 1980s Guilford Transportation absorbed the former B & M lines including the Northern. In the mid 1980s The New England Southern received permission to run freight north on the Northern to Penacook; the remainder of the line remained inactive. In 1991 Guilford Transportation filed papers to abandon the 59 miles of the line between Boscawen and Lebanon; this process was completed in 1992. In February 1992 Guilford started lifting rails and by March the rail had been lifted south of Webster Place almost to the Boscawen town line.[58]

On July 6, 1995 the State of New Hampshire took fee simple title to 59.35 miles of abandoned rail corridof on the Northern. Several years later the State acquired the last three miles to White River Junction, including the Westboro rail yard. The turntable was removed from the turntable pit in the mid 1990s.

In 1999 the entire railroad corridor was determined eligible for the National Register of Historic Places. In 2003 the Westboro Rail Yard was determined to be eligible on its own for the New Hampshire State and National Registers for its historical and architectural significance. Despite its poor condition, it is significant as the most complete illustration of a large working railyard in the state, historically serving multiple lines and functions.[59]

After thirteen years of work, 23 miles from downtown Lebanon to the county line in Grafton were completed for year-round use in 2009 by the Grafton County Friends of the Northern Rail Trail. Volunteers in Merrimack County began developing their section about 2000. In 2010 a surfacing project connected the two efforts and created the longest rail trail in New Hampshire. In 2013 the Merrimack County trail was extended from Gerrish to Depot Street in Boscawen.

Since the State of New Hampshire took ownership of the line there have been a number of projects that have impacted the historic rail corridor. Four previously separated crossings were reconstructed to at-grade crossings. In one case in Franklin, this resulted in the removal of a wood stringer bridge (93.88, photo 98, photo log pg. 21) over Chance Pond Road in 2005. In addition DOT has also initiated a number of projects which have maintained grade-separated crossings. At Maple Street in Andover (98.16, photos 133-134, photo log pg. 25) and Valley Street in Andover (97.26, photos 125-126, photo log pg. 24), wooden trestles over the rail corridor were rebuilt. Other projects involved the upgrading and replacing of overhead bridges that were deemed to be unsafe for modern automobile and truck traffic. As a result, overhead bridges at Lawrence Road in Andover (102.60, photo 155, photo log pg. 30), Gristmill Road in Canaan (125.46, photo 302, photo log pg. 53), and Shaker Hill Road in Enfield (131.75, photo 346, photo log pg. 59) were removed and replaced. In Orange (123.29, photo 286, photo log pg. 51) and in Canaan (124.69, photo 293, photo log pg. 52) overhead bridges were replaced by modern metal tunnels. In Andover, the overpass at Plains Road (99.87) was removed c.1995, resulting in an at-grade crossing. An underpass was rebuilt in Grafton (118.46, photo 264, photo log pg. 46). At Westboro, the depot has been moved a second time and is currently resting on temporary supports (photo 430, photo log pg. 70). The Laware/Barracks Block was demolished in 2012.

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[58] Correspondence, March 24, 1992, Walker Transportation Collection, Beverly, Mass.

[59] See NH Division of Historical Resources Determination of Eligibility (DOE), 2003. The DOE distinguishes the Westboro Railyard from the railyards in Conway and North Walpole which were felt to be very well-preserved examples of smaller yards.

20. Applicable NHDHR Historic Context(s)

Railroads in New Hampshire

21. Architectural Description and Comparative Evaluation

Description of Resources by Type:

Stations, Freight Houses

As stated in the 1995 Northern Railroad form, the depot was the most conspicuous element of the railroad system, serving as the access point for freight, passengers and mail. The railroad required an efficient system for loading and unloading goods of a variety of sizes and perishability as well as passengers, all following a set, published time table. In many smaller New Hampshire towns, such as a number of those served by the Northern Railroad, the combination depot fulfilled the functions of passenger shelter, train control and freight in a single building.

One of the latest available inventories of buildings on the Northern Railroad, the 1953 List of structures prepared by the Boston & Maine, lists stations at Concord, Penacook, Boscawen, Gerrish (formerly North Boscawen), Franklin, Halcyon (formerly East Andover), Andover, Potter Place, Gale (formerly West Andover), Converse (formerly South Danbury), Danbury, Grafton, Cardigan (formerly Grafton Center), Canaan, Pattee (formerly West Canaan), Enfield, Mascoma (formerly East Lebanon), Lebanon and Westboro (formerly West Lebanon).

Historic photographs show that many of the original, larger depots on the Northern Railroad were 1 ½-story buildings capped by steeply-pitched gable roofs with widely overhanging eaves that provided exterior shelter and were supported by metal braces on the two-bay gable ends. The early buildings appear to have been sheathed in vertical board and batten siding. The long elevations facing the track and the road were punctuated by numerous regular window openings that could be embellished with peaked lintels or even pointed arches, suggesting a Greek-Gothic Revival influence. This general design was used for a number of stations including Danbury (figure 27), Grafton (figures 29-30), Canaan (figures 36-37) and Lebanon (figures 46-47). None of these buildings survive today. The former stations at Franklin (figure 14) and Boscawen (figure 11) were built according to a similar design but had broad pediment ends with overhanging eaves on the track and road elevations. These two stations are also no longer extant.

The earliest surviving station on the Northern Railroad is the Gerrish station in Boscawen (figure 12; photos 56-57, photo log pg. 14). The Gerrish station is a simple, vernacular example of a wood-frame, three-room station. The single-story structure is set on a granite foundation and is sheathed in wood clapboards with plain corner and fascia boards and window and door frames. The building displays a projecting track-side bay and a freight door bay on the west, road-side elevation. As was typical of its period, it was simply built with little or no architectural detail.

The best preserved and most unusual depot on the Northern Railroad, the Potter Place Railroad Station in Andover, dates to 1874 (figures 21-22; photo 166, photo log pg. 32). It was built on the site of the former freight depot and replaced an earlier passenger station that was removed. The well-preserved hip-roofed, wood frame building exhibits Stick Style ornamentation including jigsawn bargeboards, chamfered roof braces and applied stickwork. The building was listed on the National Register in 1989 and is owned by the Andover Historical Society. The designer of the building is not known; it was constructed by master carpenter John B. Cheney of Lebanon.[60]

The Enfield and West Lebanon Depots are both simple, hip-roofed structures dating to the late 19th to early 20th century and reflect the standardized building plans that were typically used. The Enfield building (figure 42; photo 345, photo log pg. 59) replaces an earlier depot which was located on Main Street (figure 41). The later station was constructed about 1906, closer to the then thriving Baltic Woolen Mills. It retains its trackside bay but three modern overhead garage doors on the road side were later additions, installed to accommodate its former use as a town highway shed. It currently is used by the ambulance squad. In the 1950s the Westboro Depot (figures 52-53; photos 429-430, photo log pg. 70) was moved from its original track-side location and was turned perpendicular. It was later moved to yet another location in the yard and is currently without a foundation and set on temporary supports. The building retains clapboarded siding with vertical board wainscoting, a projecting bay window, hip roof with wide overhanging eaves and 2/2 double-hung windows.

The former Penacook station (figures 6-7; photo 40, photo log pg. 7) has seen more extensive alterations. The former Canaan Station (figure 38; photo 297, photo log pg. 38) is virtually unrecognizable. It was constructed in 1924 to replace an earlier depot (figures 36-37) destroyed by fire. The second story is a later addition built after the building was converted to a Laundromat.

There are three other surviving Northern Railroad passenger stations which have been moved from their original locations and are no longer located near the railroad right-of way. These include the former Boscawen Station (figure 11) moved to Rt. 4 and extensively altered. It now serves as a private residence. The former Grafton Center (Cardigan) depot (figures 31-32) was moved to Danbury where it served as a replacement station before it was moved to its present location on Raymond Road in Boscawen where it now is a residence. The former Halycon (East Andover) station (figures 18 & 19) was moved to its present location at 106 Plains Road in the 1950s. It also is being used as a residence.[61]

The Grafton depot (figures 29-30) was torn down in 1953, leaving Grafton a flag stop. The station at Pattee (West Canaan) (figure 39) was sold to a local feed store but gradually deteriorated and fell down by itself. The Franklin station (figures 15-16) served as a used furniture store for a time but later suffered a fire.[62] In 1965 the former Lebanon depot was razed to make way for an A & P grocery store. A small station was built to replace it which was also later moved away. A major downtown fire in Lebanon in 1964 later resulted in new streets and alterations to the overpass bridge near the station.

Webster Place (figure 13) and Webster Lake (figure 17) in Franklin were flag stops with limited service. There was a small station at each of these stops. It is not known when they were removed.

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[60] David Ruell, National Register Nomination for Potter Place Railroad Station, Andover, 1989.
[61] http://www.lightlink.com/sglap3/newhampshire/
[62] Stearns, 26.

Freight Houses

At the time of the 1914 valuation of the Northern there were six separate freight houses, located at Boscawen, Potter Place, Canaan, Enfield, Lebanon and West Lebanon. The 1892 Hurd atlas also shows freight houses at Franklin and Grafton. The freight house at Potter Place is a single-story, wood frame building capped by a gable roof and set on a granite foundations. It has loading doors and platforms on the west and track-side elevations (photo 165, photo log pg. 32). The Enfield freight house (photo 347, photo log pg. 59) was built between 1893 and 1912 on the location of the former station on Main Street, after a new passenger station was built further east in 1906. The single-story, gable-roofed building has overhanging eaves supported by simple curved braces. It is now used as a Laundromat and has seen some alterations including the removal of the platforms that formerly fronted the lateral elevations. There were loading doors on both elevations; the original design of vertical beadboard double doors with upper transom lights are still discernible on the trackside but has been altered more significantly on the street side.

The freight house at Canaan (figure 38; photo 298, photo log pg. 38) is a single-story Colonial Revival structure which is more elaborate than any of the others. It was constructed in 1924 to replace a freight house destroyed by fire that year in a blaze that also consumed the depot. Originally the depot and freight house were quite similar in design. The clapboarded building has pediment ends with a simple frieze and lunette window. There is a platform facing the track and a series of diagonal board loading doors and 6/6 windows. The building has been vacant and deteriorating for many years.

The Lebanon freight house (photo 396, photo log pg. 66) was a simple single-story building with a broad gable roof. It was extensively altered c.2000 and rehabilitated for housing. Sheathed in vinyl siding and re-fenestrated, it is no longer recognizable as a railroad structure.

In West Lebanon there is a connected series of three single-story, wood-frame freight houses of differing heights. The south section burned in 1977 and was replaced. The building is set on a concrete foundation. Fenestration includes a mix of metal casements, wood 6/6 windows and a large overhead door. The trackside platform has been removed.[63]

Shanties and Section Houses

Eight shanties and three section houses are shown on the 1914 valuation of the Northern Railroad. The 1995 survey of the line indicated that there were then two deteriorating shanties extant, in Grafton and Enfield. Fieldwork in 2013 was not able to confirm if these still exist. Two small, wood frame buildings were noted in Lebanon (photo 390, photo log pg. 65) and Franklin (photos 85 & 86, photo log pg. 19). Their purposes are not known.

The 2002 survey notes that the Westboro Railyard included a small building which functioned as the Yard Master's office with a lean-to section house sheltering a handcart. At that time the building was severely deteriorating with a leaking room and windows and door gone. [64] It remains in extremely poor condition today.

[63] JoyceMcKay & Liz Hengen, Area Form for Westboro Rail Yard District, Lebanon, 2002,
[64] Ibid.

Railroad Facilities

Repair and service facilities for the Northern Railroad including car shops, engine houses and turntables were located in Concord, Franklin and West Lebanon. Roundhouses were constructed to shelter and service steam locomotives. The early railroad shops were located on Storrs Street, just south of Bridge Street. These were torn down in 1897 after the Boston & Maine Railroad took over operation of the Northern and constructed new shops to the south off Langdon Street.

A five stall engine house and turntable were built in the late 1840s in Franklin. The engine house was taken down in the 1890s as equipment changed. The turntable was removed and filled in 1937 although the turntable pit has recently (2013) been uncovered (photo 81, photo log pg. 19).

The West Lebanon rail yard was initially equipped with a 130' completely circular stone roundhouse with a stone cupola and stone machine shop. During the B & M's operation, the stone roundhouse was removed and replaced by a new, brick building in 1890. About 1929 the B & M erected a third roundhouse which was later expanded and then partially removed as needs changed. At its peak in the early 20th century the yard also included a machine shop, sand house, heating plant, freight houses, section house, bunk house, tenements, garage, fan room, shanty and store house.

A number of buildings survive at the Westboro Yard (photos 426-430, photo log pg. 70) although in severely deteriorated condition due to neglect and fires. The Westboro Yard was surveyed in detail in 2002 and determined eligible for the National Register as one of New Hampshire's few remaining rail yards.[65] By then the yard had lost some of its buildings including the machine shop, most of its heating plant and the turntable (which was removed in the mid 1990s although the turntable base is still in place). A frame tenement which stood at 29 Railroad Avenue was removed sometime between 1996 and 1999. As of 2002, the extant resources included the 1929 roundhouse, turntable pit, brick bunkhouse (built in 1936 on or near the site of three early tenements at the south end of the yard), a collapsed garage, a turn-of-the century sandhouse which delivered sand for the engines to impede moisture, a deteriorated section house/yard master's office, small portions of the heating plant, a turn-of-the century freight house (with c.1930 and c.1970 additions), the depot (which had not yet been moved, and two tenement blocks. One of the tenements, the Laware/Barracks Block, was demolished about 2012.[66]

[65] Ibid. No attempt was made to re-survey all of the resources in the Westboro Yard as part of the current inventory effort.
[66] See Preservation Company, New Hampshire Historic Property Documentation for Barracks Block, 26-30 Railroad Avenue, Lebanon (NH State No. 668), 2010. On file at the NH Division of Historical Resources.

Bridges

Over its 69+ mile course, the Northern Railroad passes over both minor brooks and larger rivers. The largest include the Merrimack and Contoocook Rivers in Concord, Blackwater River in Andover, Smith River in Danbury and Grafton, the Indian River in Canaan, the Mascoma River in Canaan, Enfield and Lebanon and the Connecticut River in West Lebanon. There are over eighty bridges on the entire line.

Wooden Bridges

Due to financial constraints and the ready availability of timber, wooden railroad bridges were historically a prominent feature on New Hampshire's rail lines. Well into the 1940s the Boston & Maine Railroad (which took over control of the Northern Railroad in 1890) continued to utilize wooden bridges. In 1895, 1,085 of the 1,561 bridges on the entire Boston & Maine system were wooden bridges although the proportion of wooden bridges decreased in the years that followed.[67] The disadvantages of the wooden bridge were that they deteriorated quickly if left untreated, were combustible, and required extensive maintenance.

In 1884, of the 108 bridges and trestles on the Northern Railroad, only one was made of iron.[68] Originally the line had many covered wooden railroad bridges, none of which survive today. In 1890 there were twenty-five covered bridges on the Northern.[69] On a six-mile stretch of the Northern Railroad near Lebanon alone, there were fourteen covered wooden railroad bridges carrying the tracks over the Mascoma River.[70] Two covered bridges over the Mascoma were lost to fire in 1851 and 1852.[71] The 124' wooden Chandler Bridge in Lebanon, a Childs Truss design, was destroyed in 1890.[72] Additional covered bridges included structures in Concord, Penacook, Andover, Canaan, and Enfield. All of the covered bridges were replaced by plate girder bridges in the early 20th century.

The plain wood stringer bridge was used along the Northern for small spans. The 1890 Inventory of Bridges on the line lists 26 stringer bridges with an additional 20 stringers serving underpasses. The single span stringer bridges ranged in length from 12 feet to 41 feet; most were 24 feet long or shorter. There were also three two-span stringers (47', 58' and 60').[73]

There were also 15 bridges which are described as stringer overpasses carrying town roads over the railroad tracks. The overpass bridges were typically multi-span stringers and included three span (57' to 82' long), four span (78' long) and five span (90' long) examples.[74]

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[67] J. Parker Snow, "Wooden Bridge Construction on the Boston and Maine Railroad," *Journal of the Association of Engineering Societies,* 1895, 31.
[68] R. Stuart Wallace & Lisa Mausolf, New Hampshire Railroads: Historic Context Statement 2001, 24.
[69] Appraisal of the Northern Railroad, 1890. [NH Historical Society]
[70] Richard Sanders Allen, *Covered Bridges of the Northeast*, 1959, 99
[71] Frye, 9.
[72] Glenn A. Knoblock, *Images of America: New Hampshire Covered Bridges* (Charleston, SC: Arcadia Publishing, 2002), 44.
[73] Appraisal of the Northern Railroad, 1890.
[74] Appraisal of the Northern Railroad, 1890.

In 1954 there were just seven wood stringer bridges remaining along the Northern: one in Boscawen, one in Franklin, three in Grafton and two in Enfield. The overhead stringer bridge in Boscawen (82.64; 1936) was removed prior to the 1995 survey. The overhead wood stringer bridge over the roadway in Enfield (131.75; 1931) was removed in 2002 and the wood stringer bridge in Franklin (93.88; 1936) over Allen Road/Chance Pond Road was removed in 2005.

Surviving examples of wood stringer bridges include the three bridges in Grafton. The bridge at MP115.20 (photos 247-248) is a 12' 10" span set on cut granite abutments and constructed in 1926. Near Tewksbury Pond there are two wood stringers – at 121.02 (photos 278-279, photo log pg. 49) there is a 13' 10" span dating to 1936 while 121.06 (photo 280, photo log pg. 49) is a 12' 6" span which dates to 1946. Both are set on granite abutments. Near the Enfield-Lebanon line a 20' wood stringer bridge (133.73, photo 360, photo log pg. 61) once served a sidetrack of the railroad. It is missing its decking and has poured concrete abutments. Another bridge in Enfield carrying the railroad over Main Street (132.47, photo 351-352, photo log pg. 60) is listed as a wood stringer bridge in 1914 valuation records. In 1938 steel stringers were installed to replace earlier wood stringers.[75]

The Boston & Maine Railroad also utilized timber trestles in the first half of the twentieth century. Capable of longer spans than the wooden stringer, they were also popular because of the availability of materials at or near the site. The timber trestles that survive have typically been renewed several times since their original construction. In general, timber trestles were sometimes replaced with solid fill or other more permanent structures, including pile trestles or plate girder bridges.

The frame trestle in Danbury that carries the railroad over Roy Ford Road and a small brook (108.84, photos 204-205, photo log pg. 36) is 43' long and 21' high and dates to 1941. It has two central reinforced timber bents set on concrete and granite block bases. The abutments at each end of the bridge are mortared granite blocks that predate the present span.

Frame trestles were also used to carry vehicular roads over the railroad tracks. The construction of such overhead bridges was the responsibility of the railroad, as was their maintenance.[76] The 1890 Northern Railroad appraisal includes 15 bridges which are described as multi-span stringer overpasses carrying town roads over the railroad tracks. The overpass bridges extant in 1890 included three three-span (57' to 82' long), two four-span (78' long) and one five-span (90' long) examples.[77] In some cases the bridges were original to the construction of the line; in others they were later additions. A bridge carrying Gristmill Hill Road over the railroad in Canaan was in place in 1847.[78] At Lawrence Street in Andover, it is not clear whether the original road crossing was a bridge or was at grade although it is certain that a bridge carried Lawrence Street over the railroad by 1878.[79] It appears that the multi-span stringers were later rebuilt as frame trestles.

[75] Casella, 1.
[76] Preservation Company 2000.
[77] Appraisal of the Northern Railroad, 1890.
[78] Story (Welsh Mill Bridge, 2002), 4.
[79] Story (Andover Town Bridge, 2001), 4.

With a length of 84 feet, the Valley Road Overpass in East Andover (97.26, photos 125-126, photo log p. 24) is the longest of the surviving overhead frame trestles. It is built of five spans supported by masonry abutments and four timber bents between the spans. The smallest extant bridge of this type is the Payne Road Bridge in East Lebanon (134.47, photo 365, photo log p. 62). It is just 47' long and was rebuilt in 2004. Originally it consisted of a single span between two masonry abutments with no support bents. At some point the northern abutment was partially removed and a single timber bent was inserted to support the span.[80]

The Maple Street Bridge in Andover (98.16, photos 133-134, photo log p. 25) is 60' is a three-span trestle. It was rebuilt by the NHDOT in 2002. Other overhead trestles have been removed in recent years. These include the 60' Welsh Mill Bridge (125.46, 1941) which carried Gristmill Hill Road over the tracks in Canaan and the 62' Andover Town Bridge (102.60, 1930) which carried Lawrence Street over the tracks. A frame trestle at 99.37 in Andover was removed c.1995.

Pile Trestle Bridges were built where the ground was soft or covered with water and the piles had to be driven into the ground to reach lower strata capable of bearing such loads. The pile trestle could be built with a deck system that was either open or ballasted. In a ballasted system, there is a solid deck consisting of wood or some other material. Ballast, such as crushed rock or gravel, was then laid on top of the solid bed, underneath the railroad ties.

The 1890 Appraisal of the Northern indicates that there were then seven pile bridges on the line. The 1954 B & M Structure List includes seven pile trestle bridges, all of which originally had ballasted decks. All were rebuilt in Danbury and Canaan in 1929 or 1930, to replace bridges destroyed or damaged in the November 1927 floods. The shortest spans were about 68 feet long (112.40 – photos 225-226, photo log pg. 40; 116.37 – photos 256-257, photo log pg. 44; 124.80 – photos 294-295, photo log pg. 52) while the longest (83 feet) is in Danbury (114.11, photo 243, photo log pg. 42). All seven are extant today.

Metal Truss Bridges

The Northern Railroad retains two through truss bridges, both illustrating the upgrade of the line in the early 20th century by the Boston & Maine Railroad. The 146 foot long Thru Riveted Warren Truss Bridge in Boscawen (80.06, photos 41-42, 44, photo log pg. 7) was constructed in 1919-1920, replacing an earlier Town lattice covered bridge that was removed. [Note: the 1953 B & M Structure list erroneously lists the date as 1930]. Photographs at the Boston & Maine Historical Society in Lowell (figures 8 & 9) document the removal of the older bridge and the construction of its replacement. In Andover, the 100' Thru Riveted Warren Truss over the Blackwater River was constructed in 1909 (102.30, photos 153-154, photo log pg. 29).

[80] Story (Welsh Mill Bridge, 2002), 3.

Plate Girder Bridges[81]

The most common bridge type on the Northern Railroad is the plate girder bridge which again corresponds to the improvement of the line by the Boston & Maine Railroad in the early 20th century. Throughout the U.S. girder bridges were favored for railroad structures because they offered solid, stable crossings capable of withstanding fast-moving, heavy traffic. Their disadvantage was that they required more extensive amounts of material compared to truss designs but for small spans the cost difference was not that significant. The decision of whether to use deck or through girder designs was based on how close the tracks would be placed and the clearance under the structure (through spans required less clearance than deck spans).[82] The girder bridges are generally seated on cut, quarry-faced granite abutments and in many cases earlier abutments were reused. These bridges are most often found crossing waterways, particularly at the north (west) end of the line over the Mascoma River where they replaced earlier covered bridges.

Twenty through plate girders are located along the line. These include one bridge in Boscawen (80.23, figure 10, photos 45-46, photo log pg. 7); two in Franklin (91.48, photos 78-80, photo log pg. 19 and 92.44, photos 88-89, photo log pg. 20); four in Andover (95.69, photos 109-110, photo log pg. 23; 101.73, photos 148-150, photo log pg. 29; 103.30, photos 158 & 160, photo log pg. 30; 103.93, photos 161-162, photo log pg. 31); four in Canaan (127.95, photos 313-314, photo log pg. 55; 128.36, photos 317-319, photo log pg. 56; 128.63, photos 320-321, photo log pg. 56; 130.12, photos 331-334, photo log pg. 58); one in Enfield (131.20, photos 337-339, photo log pg. 59) and six in Lebanon (134.50, photos 366-367, photo log pg. 62; 135.01, photos 372-374, photo log pg. 63; 136.40, photo 378, photo log pg. 64; 136.84, photos 380-382, photo log pg. 64; 137.03, photos 384-385, photo log pg. 65; and 140.83, photo 417, photo log pg. 68). Additional thru plate girders carry various roads over the trail including the Rt. 4 bridge in Danbury (109.83, photo 209, photo log pg. 37). Construction dates range from 1912 to 1930. Railroad records identify two bridges as half-through plate girders: a 70' bridge over the Smith River in Danbury (113.84, photos 239-240, photo log pg. 41) and a 160' bridge constructed in 1966 in Lebanon carrying the railroad over I-89 (139.77, photos 406-407, photo log pg. 67).

There are currently thirteen deck plate girders along the line, not including the 500' span over the Connecticut River constructed in 1929. There is also a deck plate girder over the tracks in Lebanon (140.84, photo 417, photo log pg. 68). The remaining deck plate girders on the line range in length from 20 feet in Boscawen (81.95, photos 49-50, photo log pg. 9) to 112 feet in Lebanon (138.59, photos 398-399, photo log pg. 66). According to the 1953 B & M Structure list, the earliest deck plate girder bridge on the line is in Lebanon at 141.17 (photo 421, photo log pg. 69) and was constructed in 1910. Six deck plate girders in Canaan, Enfield and Lebanon date to 1928-9. An additional small (17') deck plate girder bridge at Pillsbury Street in Enfield (131.55) was removed prior to 1995.

[81] Plate Girder Bridges include Deck Plate Girders and Through Plate Girders. In a deck plate girder the bridge deck rests on top of two or more plate girders. In the through plate girder bridge, the bridge deck is supported between two plate girders, often on top of the bottom flange. The through truss bridge has a 'U'-shape in cross section.

[82] Wallace & Mausolf, 111.

I-Beam Stringers

In the 20th century some wood stringers were replaced by I-Beams. Today, the Northern line includes at least five I- Beam Stringer Bridges. The smallest is the 9'6" Steel Beam Bridge at Horseshoe Pond in Concord (74.35, photo 10, photo log pg. 2). It was built in 1940, adjacent to a historic stone arch. The 14' I -Beam Stringer at Depot Road in Franklin (91.98, photos 82-86, photo log pg. 19) was built in 1933 and is notable for retaining its bridge plate indicating that it was erected by the Boston Bridge Works (photo 83, photo log pg. 19). Other I-Beam stringers include the 22' bridge constructed in Danbury at 112.39 (photos 223-224, photo log pg. 40) in 1929; the 39' span in Canaan at 129.48 (photos 329-330, photo log pg. 57) dating to 1929; and the 17' span in Enfield at 132.47 (photos 351-352, photo log pg. 60) constructed in 1938. Both the Danbury and Enfield bridges replaced wood stringer bridges. In Danbury the bridge has concrete bevel wing abutments. The Franklin and Enfield bridges have stone abutments believed to date to the original construction of the railroad.

Concrete Slab Bridges

Concrete slab bridges were also installed in place of wood stringers. There are approximately sixteen extant examples of concrete slab bridges on the Northern line. Almost all of the bridges were constructed between 1928 and 1932, reflecting the fact that the B & M had recently opened a concrete plant at Concord to manufacture precast bridge slabs.[83] In some cases the bridges utilize earlier cut block granite abutments (see 75.96, photos 20-21, photo log pg. 3). All of the concrete slab bridges are short spans, typically twenty feet or less in length. There are four concrete slab bridges in Concord (75.87, photos 16-18, photo log pg. 3; 75.96, photos 20-21, photo log pg. 3; 76.15, photo 24, photo log pg. 3; 78.54, photo 36, photo log pg. 6); one in Franklin (94.76, photos 100-101, photo log pg. 22); seven in Andover over Sucker Brook (95.50, photo 107-108, photo log pg. 23; 95.88, photos 112-113, photo log pg. 23; 96.42, photos 117-118, photo log pg. 24; 96.90, photos 120-121, photo log pg. 24; 97.07, photos 123-124, photo log pg. 24; 97.32, photos 127-128, photo log pg. 25; 100.95, photos 145-146, photo log pg. 28); one in Danbury (108.34; photos 199-200, photo log pg. 36); one in Grafton (121.83, photo 281, photo log pg. 49); one in Enfield (133.73, photo 360, photo log pg. 61) and one in Lebanon (139.28, photo 404, photo log pg. 67). One of the largest bridges is the 27' span in Andover at 97.07 which includes an off-center pier (photos 123-124, photo log pg. 24). It was originally a combined farm underpass and brook bridge and was rebuilt in 1929.[84] A more typical, 20' concrete bridge is located in Concord at 75.87 (photos 16-18, photo log pg. 3).

[83] Ibid, 114.
[84] Information from Edwin Hiller, Andover Historical Society, 2014.

There are also several notable concrete arches. The 17' concrete arch over Stirrup Iron Brook in Boscawen (87.18, photo 60, photo log pg. 14) was constructed in 1927. A 16' concrete arch bridge at Mill Brook in Franklin (92.47, photos 88 & 90, photo log pg. 20) dates to 1929. In Danbury a concrete arch with corrugated iron multi plate was constructed over Gungewam Brook in 1951 to replace an earlier stone arch (109.89, photos 210-211, photo log pg. 37).

The 1941 concrete I-Beam bridge which formerly stood in Canaan (124.69, fig. 29) has been removed and replaced by a tunnel.

Stone Arches

Seven stone arches, including both bridges and culverts, remain along the Northern Railroad. They are located over Horseshoe Pond in Concord (74.35, photo 10, photo log pg. 2); Coles Brook in Boscawen (83.25, photo 51, photo log pg. 10); Glines Brook in Boscawen (85.91, no photo possible); Shaw Brook in Franklin (90.17, photo 75, photo log pg. 17)[85]; Chance Pond Brook in Franklin (93.74, photos 96-97, photo log pg. 21); Gungewam Brook in Danbury (109.65, photo 208, photo log pg. 37); and over Glen Road in Lebanon (141.35, photo 424, photo log pg. 69). There were originally two other stone arches in Danbury over Gungewam Brook (109.15 and 109.89). The first was replaced in 1945 by an 8' metal pipe culvert and the second by a corrugated iron/concrete arch in 1951. Of the surviving bridges, the first four listed have a clear span of about 10 feet while the Chance Pond Brook and Gungewam Brook bridges are slightly larger, at 13 feet. The largest of all is the Lebanon bridge with a width of 18 feet.

The bridges are all constructed of irregularly sized granite blocks, many displaying chisel marks where they were extracted from bedrock. Although the individual identifying marks of Scottish stonemasons have been found on bridge abutments on the Concord Railroad, constructed between Nashua and Concord in 1842, no comparable marks have been found on the Northern Railroad bridges.[86] There are no date stones. The designer of the bridges is not known but may have been H.R. Campbell, chief engineer of the Northern Railroad who superintended construction of numerous bridges in the area about 1848 including the bridge over the Connecticut River.[87] Joseph Brown, a Franklin stone mason and contractor, reportedly put in the stone abutments for many of the bridges along the Northern Railroad.[88]

Although spans may have been replaced or updated, many of the bridges on the Northern Railroad retain their original cut, quarry-faced granite abutments.

[85] It should be noted that the stepped channel walls visible in photo 75 are concrete and were not part of the original bridge but are part of the culvert extending under the adjacent highway.
[86] Elizabeth Hostutler, Area form for Northern Railroad, 1994-5, 4.
[87] Mausolf 1985; Annual Report.
[88] Shepard, 263.

Culverts

Stone Culverts

According to the 1953 B & M Structure list, the Northern Railroad then had over one hundred individual stone box culverts. The stone culverts were constructed with granite block walls and granite slab decks and range in size from 1' wide to 4' wide. During field work, no deliberate attempt was made to find the smaller stone box culverts (less than 3' wide) although in some cases markers provided an easy way to locate them. In some extreme cases (such as in Franklin) the culverts were located as much as 40 feet below the railroad, making them virtually inaccessible. Other culverts were buried or obscured by heavy vegetation.

Fairly well preserved stone box culverts include the following: Boscawen (84.31, photo 52, photo log pg. 11); Franklin (92.87, photo 93, photo log pg. 20); Andover (98.62, photo 136, photo log pg. 26; 105.10, photo 174, photo log pg. 33); Danbury (107.38, photo 190, photo log pg. 35 ; 112.50, photo 227, photo log pg. 40; 112.55, photo 228, photo log pg. 40; 113.50, photo 236, photo log pg. 41); Grafton (115.50, photo 249, photo log pg. 43; 116.26, photo 254, photo log pg. 44; 118.59, photo 266, photo log pg. 46; 120.46, photo 274, photo log pg. 48; 122.15, photo 282, photo log pg. 50); and Canaan (124.13, photo 290, photo log pg. 52).

The line also includes several good examples of double stone box culverts. These include the culvert in Wilmot at 107.04 (photo 184, photo log pg. 35) and two in Grafton at 119.61 (photo 269, photo log pg. 47) and 119.87 (photo 271, photo log pg. 47). Other double stone culverts that previously existed at Concord (75.87) and Wilmot (106.70) appear to have been removed or altered.

Other culvert types include concrete slab culverts with granite block walls (78.52, photo 34, photo log pg. 6). According to the 1953 B & M Structures list, this culvert was modified in 1929. As stated previously, it was during this period that the B & M opened a concrete plant at Concord to manufacture precast slabs.[89]

[89] Wallace & Mausolf, 114.

Cast Iron Pipe Culverts

There are reportedly many cast iron pipe culverts although many of the smaller drainage structures are difficult to located and may have been filled in, removed, or buried. The cast iron pipe culverts are generally smaller than 3' in diameter and are surrounded by stonework. Representative examples include pipes recorded in Andover (104.62, photo 172, photo log pg. 32 and 105.33, photo 175, photo log pg. 33) and Danbury (113.53, photo 238, photo log pg. 41).

The 1953 B & M List suggests that a number of these were installed about 1900.

Concrete Culverts

The Northern line also has several distinctive large concrete culverts. There is a reinforced concrete double box (2 x 10') in Concord at 76.50 (photo 25, photo log pg. 4). A smaller culvert, just four feet wide with stepped walls is visible in Concord at 77.86 (photo 31, photo log pg. 5). Other concrete culverts include a 7' pipe in Grafton (120.27, photo 273, photo log pg. 48) constructed in 1938.

Concrete was also used on smaller culverts (124.41, photo 292, photo log pg. 52).

Rail Top Culverts

The existence of two rail top culverts was verified in the field. The 6'6" x 9' culvert at Danbury (107.46, photo 191, photo log pg. 35) was reportedly built in 1907 although the use of concrete suggests a later date or remodeling. The 9' rail top culvert in Enfield (130.89, photo 336, photo log pg. 58) reportedly dates to 1918. The thru plate girder bridge in Canaan at 130.12 also incorporates a pass through to the side (photo 332, photo log pg. 58).

Signs and Indicators

Mile Markers

The Boston & Maine Railroad installed granite mileposts along their railroad lines about 1901. The dressed granite posts are about a foot square and stand 4 to 5 feet above ground with an additional 3 to 4 feet below ground. Originally the markers were positioned to give distances from Concord, the southern terminus of the Northern line. Around 1920, the Boston & Maine repositioned the posts and repainted them to indicate distances from Boston.[90] On the Northern Railroad, one side of the post is painted with a "B" with a number below indicating the mileage to Boston. On the opposite side is painted "WRJ" and the mileage to White River Junction.

After the railroad line fell out of active use, many of the mileposts were removed by private parties. As of 2012, only 39 of the original 69 mileposts on the Northern Railroad line remained in place. Almost all of the mileposts in Grafton County (Grafton, Canaan, Enfield, and Lebanon) have disappeared. Five original posts survive in Lebanon, Canaan and Grafton. In Merrimack County, 34 of the original 41 remain. Danbury, Wilmot, and Andover retained all of their markers. Franklin lost one and Boscawen lost five.[91] In recent years, the Friends of the Northern Rail Trail have embarked on a restoration project, utilizing the historical B & M specifications to repaint the mileposts.

Feature Markers

Concrete markers were used by the railroad to identify the locations of bridges and culverts. Each of the square posts had two sets of indented numbers at the top corresponding to the mileage to Boston – miles at the top with hundredths of miles below. On the markers for culverts the numbers are aligned horizontally (photo 61); on the bridge markers the numbers extend vertically (photo 15, photo log pg. 3). Over forty structure markers were noted during the field survey. Other markers note the limits of the yard or specific sections (Section 201, photo 12, photo log pg. 2; Section 202, photo 68, photo log pg. 16).

Whistle Posts

Whistle posts were installed by the railroad at approaches to grade crossings to order the locomotive engineer to sound his whistle as a warning. The concrete posts were usually positioned 0.25 mile before the crossings and on the right side of the track so as to be visible to the engineer. At a speed of 30 miles per hour, a train would take thirty seconds to travel that distance.[92]

[90] Edwin R. Hiller, Restoration of Historic Granite Mileposts on the Northern Railroad Line, 2012.
[91] Ibid.
[92] Edwin R. Hiller, Whistle Posts, n.d.

According to Edwin Hiller of the Friends of the Northern Rail Trail there were originally forty-four whistle posts on the Northern; approximately eighteen survive today. The posts are constructed of concrete, usually with an indented "W" at the top. There are also a number of plain concrete posts that may have originally had signs attached. The Friends of Northern Railroad has repainted sixteen whistle posts along the line including at Bullock's Crossing, Prescott Hill Road, Sargent Hill Road (2), Danbury Center, Jack Wells Road, Channel Road, Sam Hill Road (2), Dyer's Crossing, Carr Street (2), Kimble Street (2) and Holy Cross Road (2).[93] The restored whistle posts have been painted white with black "W"s. Unrestored whistle posts include a post near Second Street in Concord (77.65, photo 30, photo log pg. 5) and a broken post in Lebanon (139.15, photo 403, photo log pg. 67). In addition to whistle posts, there is one related warning sign at Andover (98.80). It reads "One long whistle" (photo 137, photo log pg. 26).

Tell-Tales

Tell-tales were sited to serve as warnings that a train was approaching a low-clearance obstacle such as a bridge or tunnel. A standard tell-tale was a metal post supporting a horizontal rail which had ropes on 3 inch centers for a width of eight feet over the track. The bottoms of the ropes were 6" lower than the height of the obstruction. The valuation plans show at least twenty-five tell-tales along the Northern Railroad corridor. Fieldwork indicated that there are at least eleven tell-tales surviving today. See photo 134 for a representative example.

Also noted along the line were a crossing sign in Concord (photo 9), a number of switches, and a signal box in Danbury (photo 220).

Railroad Grade and Track

The Northern Railroad was a single track line with a limited number of spur lines to accommodate businesses. There were once nine passing tracks on the main line from Concord to Westboro – Penacook, Franklin, Halcyon, Potter Place, Gale, Converse, Grafton, Mascoma, and Westboro.[94] Today, there is still some track in place between Concord and Depot Street in Boscawen and in Lebanon from Slayton Hill Road to Westboro although both sections are heavily overgrown with vegetation. Other areas have only small segments of track surviving, typically at former station locations or leading to former businesses or industries. It is estimated that there is approximately eleven miles of rail (or 15% of the original 69 mile corridor) remaining in place today. Piles of ties and some rail are frequent sights along the sections that have been turned into a trail. Along the railbed there are also numerous concrete pads with electrical wires that appear to have been the locations of former signals.

[93] Ibid.

[94] Brian Dame, "Notes on the Northern CTC", *B & M Bulletin*, Vol. XX, No. 4, 32. Dame did not include Potter Place but according to Edwin Hiller of the Andover Historical Society, there was also a passing track there.

The railbed was constructed mainly at grade with little visible ballast. The slight grade of the railroad is a major character-defining feature. In many areas it follows the grade of adjacent highways (Rt. 3 in Boscawen, Rt. 3 and Rt. 11 in Franklin and Rt. 11 and 4 in Andover). In Wilmot, Danbury, Grafton, Orange and Canaan, the railbed is typically just a short distance from Rt. 4. Near Webster Lake in Franklin an even grade was cut through the sloping topography and cuts were made through rock at the Summit in Orange/Grafton. In general the grade remains as it was when the railroad was constructed. There are several places where bridges have been removed, changing the grade and lessening the line's integrity of feeling, association and workmanship. Examples include at Chance Pond Road in Franklin and in Andover.

Historically the railroad right-of-way was 49.5 feet on each side of the track.[95] Today, right-of-way widths vary along the line but are most commonly 66', 82.5' and 99'.[96] The right-of-way is typically irregular in developed areas or at the former locations of depots. In some cases the railroad leased land to businesses for their storehouses or other buildings. In rural areas, stone walls or fencing demarcate the boundary of the right-of-way and were designed to prevent access by livestock. Utility poles and lines often run along the right-of-way.

Retaining Walls

Along the right-of way there are a number of remaining retaining walls built of granite blocks, short timber, or concrete. Of special note are the examples of early granite walls constructed by the railroad with quarried granite blocks, some over three tons in weight with all gaps carefully filled with smaller stones and fillets. The retaining wall at MP97.23 in Andover (photo 125, photo log pg. 24) is particularly impressive, extending some 600 feet along the southern side of the railroad right-of-way, with a height of five feet in some areas. Other granite retaining walls are found near the Potter Place Station in Andover (photo 168, photo log pg. 32), near the former South Danbury station (photo 198, photo log pg. 36), near Orange Summit (photo 284, photo log pg. 50) and in Lebanon (photo 411, photo log pg. 68).

Examples of later retaining walls constructed of ties are found near the former Gale Station (photo 171, photo log pg. 32), near the former Pattee station in Canaan (photo 326, photo log pg. 57) and in Lebanon (photo 383, photo log pg. 64). Examples of retaining walls constructed of concrete members include two examples in Franklin (photo 70, photo log pg. 17) and Lebanon (photo 369, photo log pg. 62).

[95] Edwin Hiller, Andover Historical Society, 2014.
[96] Hostutler, 1994-5.

Freight Sidings

Historically, the major freight stations had sidings of varying sizes including spur tracks and sidings for the loading of various freights. The Appraisal of the Northern Railroad conducted between 1887 and 1890 provides the sizes of all the side tracks which existed at the various stations at that time. Stations with more than 5,000 feet of side track in 1890 included Concord, Penacook (6,402 ft.), Franklin (7,427), Canaan (8,906), Lebanon (6,264) and West Lebanon (11,371). Stations with 3,000 to 5,000 feet of side track included East Andover, Andover, Potter Place, West Andover, Grafton, West Canaan, and East Lebanon.[97]

The Potter Place station had a spur track with a capacity of 50 cars; Franklin's siding had a capacity of 85 cars; Halycon's held 95; Gale could hold 88; Grafton's capacity was 117 cars and Canaan had one siding holding 85 cars with two more holding 18 each.[98] In Danbury there was a timber loading siding.

Today, few spur tracks and sidings only survive in the sections where the rail has not been removed – Concord, Penacook, and Lebanon – although areas with wider right-of-ways suggest areas where sidings once existed.

[97] Appraisals, Northern Railroad, 1887-1890 [NH Historical Society].
[98] Donald B. Valentine, Jr. "Riding the Northern", *The New England States Limited*, Vol. IV, No. 4, September 1982, pp 14-15.

NORTHERN RR STATIONS BY TOWN

Town	Miles from Boston	Station Names[99]
Concord	73.32	Concord
	79.91	Penacook
Boscawen	82.65	Boscawen
	86.57	Gerrish (originally North Boscawen)
Franklin	89.57	Webster Place (flag stop)
	91.99	Franklin
	93.87	Webster Lake (flag stop)
Andover	98.20	Halcyon (originally East Andover)
	102.54	Andover
	104.32	Potter Place
	105.51	Gale (originally West Andover)
Danbury	108.24	Converse (originally South Danbury)
	111.67	Danbury
Grafton	116.85	Grafton
	118.65	Cardigan (originally Grafton Center)
Canaan	124.87	Canaan
	129.24	Pattee (originally West Canaan)
Enfield	131.66	Enfield
Lebanon	134.25	Mascoma (originally East Lebanon)
	138.32	Lebanon
	142.55	Westboro (originally West Lebanon)

Source: B & M Railroad Stations, 1923. Reproduction reprinted by Edwin Robertson, 1980

[99] The Boston & Maine Railroad renamed a number of stations in 1908 to eliminate multiple stations with similar names.

Summary of Northern Railroad Related Resources

The following table summarizes the accessible Northern Railroad-related resources beginning in Concord and proceeding westward to Lebanon. Fieldwork was conducted between May and December 2013, guided by the valuation sheets of the railroad right-of-way completed by the Boston & Maine Railroad in 1914 and the List of Structures prepared by the Boston & Maine in 1953. Mile marker numbers refer to miles from Boston.

The east and west ends of the railroad corridor, which are not currently part of the trail system, were investigated on foot. Every attempt was made to walk the entire railbed but there were small sections in these areas which proved impassible due to vegetation. Similarly, the survey sought to document all culverts with a width of three feet or greater as well as a representative number of smaller culverts. Where the smaller culverts were listed in the railroad records or could be easily identified, often assisted by the survival of concrete markers, they were included in the table and photographed if possible. A number of smaller culverts were buried and inaccessible for the purposes of the survey. Unfortunately, some of the larger culverts could not be safely accessed due to their distance below the railbed on steep slopes. Sometimes their presence could be verified by the sighting of a lintel from above or from a nearby vantage point. The locations of the photographs are noted on the accompanying photo log pages which are reprints (reductions) of the Valuation Plans prepared by the Boston & Maine Railroad in 1914. Copies of the full-size plans are on file at the NHDOT.

The table also compares the results of the 1995 Hostutler inventory to the results found in 2013. The 2013 results are somewhat more comprehensive for a variety of reasons. The lack of a rail trail in 1995 meant that the surveyor could only reach resources from limited adjacent access points and a number of sections were not accessible at all. In addition, the 2013 survey has placed more of an emphasis on capturing as many culverts as possible, as opposed to representative culverts. Also noted in the 2013 survey are the numerous markers and tell tales along the line that were not noted in the previous survey.

INVENTORY OF NORTHERN RAILROAD RESOURCES (BASED ON 1914 VALUATION SHEETS, 1953 B & M LIST OF STRUCTURES AND FIELD VERIFICATION)

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
CONCORD										
Depot				73.33	no	no			2	
Tell Tale				73.34		yes	3	1		C
Bridge Street Overpass	195’	1970, 1997	Bridge Street	73.63		yes	5	1		NC
Mile Marker				74.00		yes	7	1		C
Rt. 393 Overpass			Rt. 393	74.12		yes	8	1		NC
Stone Arch Bridge	9’ 6”		Horse Shoe Pond	74.35	yes	yes	10-11	2		C
Steel Beam Bridge	18’ 10”	1940	Horse Shoe Pond	74.35	yes	yes	10-11	2		C
Section Marker 201/202			Yard Limit	74.52		yes	12	2		C
Mile Marker				75.00		yes	13	2		C
Stone Box Culvert	3.5’ x 5.5’			75.55		yes	14	3		C
Marker				75.87		yes	15	3		C
Concrete Slab Bridge	20’	1930		75.87		yes	16-18	3		C
Marker				75.96		yes	19	3		C
Concrete Slab Underpass	11’	1929 w/earlier		75.96	not found	yes	20-21	3		C
Mile Marker				76.00		yes	22	3		C
Marker				76.15		yes	23	3		C
Concrete Slab Underpass	12’	1933 w/earlier		76.15	not found	yes	24	3		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Reinforced Conc. Double Box	2 x 10’	1930		76.50	not found	yes	25	4		C
Mile Marker				77.00		yes	26	4		C
Stone Box Culvert	3’ 6”			77.39		yes (alt.)	28	5		NC
Shanty				77.40	no	no				
Cast Iron Pipe Culvert	1’			77.61		yes	29	5		C
Whistle Post				77.65 +/-		yes	30	5		C
Reinforced Conc. Slab Culvert	4’	1931		77.86	yes	yes	31	5		C
Mile Marker				78.00		yes	32	5		C
Concrete Slab Culvert	4’	1929		78.52	yes	yes	34	6		C
Marker				78.54		yes	36	6		C
Concrete Slab Bridge	14’	1930	?	78.54	yes	yes	35	6		C
Mile Marker				79.00		yes	37	6		C
Penacook Station				79.92	alt.	alt.	40	7	6,7	NC?
Mile Marker				80.00	no	no				
Coal Pocket				80.02	no	no				
BOSCAWEN										
Thru. Riv. Truss Bridge	146’ 6”	1920	Merrimack/ Contoocook Rivers	80.06	yes	yes	41-42,44	7	8,9	C
Hannah Dustin Monument		1874		80.15+-		yes	43	7		C
Thru Plate Girder Bridge	98’ 5”	1920	Merrimack/ Contoocook Rivers	80.23	yes	yes	45-46	7	10	C
Stratton Co. grain & flour mills				80.25+-	yes	alt.				not RR

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Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Whistle Posts			Commercial St.	80.29		no				
Rt. 4 Overpass	244’	1958/ 1992		80.xx		yes	47	8		not RR
Mile Marker				81.00		no				
Deck Plate Girder Bridge	20’	1911	Jones Pond/ Gerrish Farm	81.95	yes	yes	49-50	9		C
Mile Marker				82.00		no				
Overhead Wood Stringer Bridge	19’ 1”	1936	Depot Street	82.64		no				
Boscawen Station/Freight House			Depot Street	82.67	no	no			11	
Stone Box Culvert	4’			82.92		yes?	not possible			C
Mile Marker				83.00		no				
Stone Arch Bridge	10’		Coles Brook	83.25	yes	yes	51	10		C
Mile Marker				84.00		no				
Stone Box Culv.	3’			84.31		yes	52	11		C
Stone Box Culv.	3’ 6”			84.44		yes	not possible			C
Stone Box Culv.	3’			84.63		yes	not possible			C
Stone Box Culv.	4’			84.73		yes	not possible			C
Stone Box Culv.	2’			84.84						
Stone Box Culv.	2’			84.94						
Mile Marker				85.00		yes	53	12		C
Cast Iron Pipe Culv.	1’			85.61		yes	54	13		C
Marker				85.91		yes	55	13		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Arch Bridge	10’		Glines Brook	85.91	yes	yes	not possible			C
Mile Marker				86.00		no				
Stone Box Culv.	3’			86.22		no				
Stone Box Culv.	4’			86.28		not found				
Stone Box Culv.	2’			86.39						
Stone Box Culv.	2’			86.48						
Gerrish Depot			Rt. 4	86.55+-	yes	yes	56-57	14	12	C
Stone Box Culv.	4.5’			86.68		not found				
Whistle Posts				86.73		no				
Mile Marker				87.00		yes				C
Marker				87.18		yes	59	14		C
Conc. Arch Bridge	17’	1927	Stirrup Iron Brook	87.18	yes	yes	60	14		C
Stone Box Culv.	2.5’			87.37		alt.	not possible			NC
Marker				87.52		yes	61	15		C
Stone Box Culv.	2.5’			87.52		yes	62	15		C
Marker				87.66		yes	63	15		C
Stone Box Culv.	3’			87.66		yes	not possible			C
Stone Box Culv.	2’			87.80		not found				
Stone Box Culv.	2’			87.88		not found				
Town Line Marker						yes	64	15		not RR
FRANKLIN										
Stone Box Culv.	3’			88.00		not found				
Marker				88.12		yes	65	15		C
Stone Box Culv.	3’			88.12		not found				

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Cast Iron Pipe Culv.	2’			88.58		yes	66	16		C
Mile Marker/Section Marker 202/204				89.00		yes	68	16		C
Marker				89.01		yes	67	16		C
Concrete Pipe Culvert	4’	1928		89.01		yes	not possible			C
Stone Box Culv.	2’ 6”			89.12		not found				
Whistle Post			Holy Cross Road	89.36						
Stone Box Culv.	3’			89.40		not found				
Webster Place Station				89.57		no			13	
Whistle Post			Holy Cross Road	89.86		yes	70	17		C
Marker				89.98		yes	71-72	17		C
Deck Plate Girder Bridge	27’	1926-47	Punch Brook	89.98	yes	yes	71-72	17		C
Mile Marker				90.00		yes	73	17		C
Marker				90.17			74	17		C
Stone Arch Bridge	10’		Shaw Brook	90.17	yes	yes	75	17		C
Stone Box Culv.	5’			90.31		not found				
Mile Marker				91.00		yes	76	18		C
OH Highway bridge	55’	1955		91.14		yes	77	18		not RR
Thru Plate Girder Br.	60’	1928	over Rt. 3	91.48	yes	yes	78-80	19		C
Turntable Pit				91.71	no	yes	81	19		C
I-Beam Stringer Br.	14’ 4”	1933	Depot Street	91.98	yes	yes	82-86	19		C
Shed				91.99	yes	yes	82-86	19		C
Franklin Depot				91.99	no	no			15, 16	
Mile Marker				92.00		yes	87	19		C

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Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Thru Plate Girder	49’ 1”	1928	Mill Road	92.44	yes	yes	88-9, 91-2	20		C
Marker				92.47		yes	91	20		C
Reinf. Conc. Arch	16’	1929	Mill Brook	92.47	yes	yes	88,90	20		C
Whistle Post			Kimble Street	92.49						
Stone Box Culv.	3’ x 20’			92.87		yes	93	20		C
Whistle Post			Kimble Street	92.99						
Mile Marker				93.00		yes	94	20		C
Whistle Post			Carr Street	93.05		yes	95	20		C
Whistle Post			Carr Street	93.55						
Stone Arch Culv.	13’			93.74	yes	yes	96-97	21		C
Webster Lake Station				93.87		no			17	
Wood Stringer Bridge	18’		Chance Pond Road	93.88	yes	no(removed)	98	21		
Mile Marker				94.00		yes	99	21		C
Stone Box Culv.	4’ x 45’			94.31		not found				
Stone Box Culv.	4’ x 55’			94.60		not found				
Concrete Slab Bridge	10’		Farm underpass	94.76	not found	yes	100-101	22		C
Deck Plate Girder Bridge	35’ 3”	1915	Marston Hill Road	94.92	yes	yes	102-104	22		C
Mile Marker				95.00		yes	105	22		C
Stone Box Culv.	4’ x 40’			95.04		not found				
ANDOVER										
Stone Box Culv.	3’ x 15’	1931		95.35		yes	106	23		C
Marker				95.50		yes	108	23		C
Concrete Slab Bridge	16’	1929	Sucker Brook	95.50	yes	yes	107-108	23		C
Thru Plate Girder Bridge	32’ 8”	1930	Sucker Brook	95.69	yes	yes	109-110	23		C

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Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Overhead Steel Trestle	178’	1929	Rt. 11	95.79		yes	111	23		not RR
Concrete Slab Bridge	20’	1930	Sucker Brook	95.88	yes	yes	112-113	23		C
Whistle Post			Dyer’s Crossing Rd.	95.95		yes	114	23		C
Mile Marker				96.00		yes	115	23		C
Marker				96.10		yes	116	23		C
Stone Box Culv.	4’ x 10’			96.10		no (alt.)	116	23		NC
Concrete Slab Bridge	16’	1929	Sucker Brook	96.42	yes	yes	117-118	24		C
Whistle Post			Sam Hill Rd.	96.50						
Marker				96.66		yes	119	24		C
Concrete Slab Bridge	20’	1930	Sucker Brook	96.90	yes	yes	120-121	24		C
Mile Marker				97.00		yes	122	24		C
Whistle Post			Sam Hill Rd.	97.00		yes	122	24		C
Concrete Slab Bridge	26’	1929	Sucker Brook	97.07	yes	yes	123-124	24		C
Overhead Frame Trestle	84’ 5”	1930/ 2002	Valley Rd.	97.26		yes rebuilt	125-126	24		C
Concrete Slab	16’	1929	Sucker Brook	97.32	yes	yes	127-128	25		C
Stone Box Culv.	3’ x 9’			97.53		not found				
Mile Marker				98.00		yes	129	25		C
Marker				98.04		yes	131-132	25		C
Pile Trestle Bridge	20’	1936	Sucker Brook	98.04	yes	yes	130-132	25		C
Tell Tale				98.xx		yes				C
Whistle Posts			Dodge Lane	98.10		no				
Overhead Frame Trestle	59’	1941/ 2005	Maple Street	98.16	yes	yes, rebuilt 2005	133-134	25		C
Tell Tale				98.xx		yes	134	25		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
E.Andover/ Halycon Station				98.20	no	no			18,19	
Stone Box Culv.	3' x			98.48		no (metal)				
Whistle Post			Channel Road	98.62		yes	135	26		C
Stone Box Culv.	4' x 10'			98.62		yes	136	26		C
Mile Marker				99.00		yes	138	26		C
Stone Box Culv.	3' x 15'			99.05		yes	not possible			C
Stone Box Culv.	4' 6" x 10'			99.27		alt.				NC
Overhead Frame Trestle	125'	1926	Rt. 11	99.37	yes	no removed c.1995				
Tell Tale						yes	139	27		C
Stone Box Culv.	4' x 7'			99.64		yes	140	27		C
Stone Box Culv.	2'9" x 12'			99.84		no (alt)	141	27		
Concrete Slab Highway Overpass	16'	1929	Plains Road	99.87	yes	no removed c.1995				
Mile Marker				100.00		yes	142	27		C
Stone Box Culv.	4' x 10'			100.07		not found				
Stone Box Culv.	4'4" x 10'			100.37		yes, alt.	143-144	28		NC
Concrete Slab Bridge	20'	1929	Mountain Brook	100.95	yes	yes	145-146	28		C
Mile Marker				101.00		yes	147	28		C
Stone Box Culv.	3' x 15'			101.37		not found				
Stone Box Culv.	2' 5" x 10'			101.69		yes, buried	not possible			C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	2’			101.71						
Thru Plate Girder Bridge	100’ 4”	1929	Blackwater River	101.73	yes	yes	148-150	29		C
OH Highway Bridge		1929	Rt. 4	101.80		yes	151	29		not RR
Mile Marker				102.00		yes	152	29		C
Stone Box Culv.	4’ x 15’			102.18						C
Thru Riv. Truss Bridge	100’	1909	Blackwater River	102.30	yes	yes	153-154	29		C
Andover Station				102.56	no	no			20	
Overhead Frame Trestle	62’ 7”	1930/ 2001	Lawrence Street	102.60	yes	no (repl. w/tunnel)	155	30		NC
Tell Tale						yes	156	30		C
Stone Box Culv.	3’ x 12’			102.76		not found				
Stone Box Culv.	3’ 7” x 12’			102.82		not found				
Stone Box Culv.	3’ x 11’			102.97		not found				
Mile Marker				103.00		yes	157	30		C
Thru Plate Girder Bridge	88’	1914	Blackwater River	103.30	yes	yes	158, 160	30		C
Thru Plate Girder Bridge	80’	1927	Blackwater River	103.93	yes	yes	161-163	31		C
Mile Marker				104.00		yes	164	32		C
Stone Box Culv.	3’ x 14’			104.23		not found				
Stone Box Culv.	3’ x 8’			104.28		not found				
Potter Place Freight Station				104.25	yes	yes	165	32		C
Potter Place Depot				104.34	yes	yes	166	32	21,22	C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	2'6" x 10'			104.37						
Stone Box Culv.	4' x 2'			104.43		yes	no			
Section House				104.45+-	no	no				
Tell Tale				104.		yes	169	32		C
Overhead Hwy. Bridge		c.2010	Rt. 11	104.54	yes	yes rebuilt	169-170	32		not RR
Tell Tale				104.xx		yes	171	32		C
Marker				104.62		yes	171	32		C
Cast Iron Culvert	10"			104.62		yes	172	32		C
Stone Box Culv.	3'6" x 15'			104.92		not found				
Mile Marker				105.00		yes	173	33		C
Stone Box Culv.	3' x 12'			105.10		yes	174	33		C
Cast Iron Pipe Culv.	10"			105.33		yes	175	33		C
Cast Iron Pipe Culv.	10"			105.47		yes	176	33		C
Whistle Posts			Gale Road			no				
W. Andover/Gale Station				105.53		no	177	33	23,24	
Stone Box Culv.	2'6" x 8'			105.55		not found				
Stone Box Culv.	15' x 15'?			105.71		not found				
Stone Box Culv.	4' x 4'			105.86		not found				
Mile Marker				106.00		yes	178	34		C
WILMOT										
Whistle Posts			Eagle Pond Rd.	106.21		no				
Stone Box Culv.	4' x 6'			106.56		alt.	180	34		

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	4' x 6'			106.70		alt.	181-182	34		
Stone Box Culv.	4'			106.88		not found				
Mile Marker				107.00		yes	183	35		C
Dbl. Stone Box	4' x 10'			107.04	yes	yes	184	35		C
Marker				107.15		yes	186	35		C
Stone Box Culv.	3' x 12'			107.15		not found				
Whistle Post			Jack Wells Rd.	107.26		yes	187	35		C
Marker				107.30		yes	188	35		C
Cast Iron Pipe Culv.	18"			107.30		yes	189	35		C
DANBURY										
Marker				107.38		yes				C
Stone Box Culv.	4' x 6'			107.38		yes	190	35		C
Rail Top Culv.	6'6" x 9'	1907	Brown Brook	107.46	not found	yes	191	35		C
Marker				107.87		yes	192	35		C
Cast Iron Pipe Culv.	16"			107.87		yes	193	35		C
Marker				107.99		yes	195	36		C
Cast Iron Pipe Culv.	1'			107.99		yes	196	36		C
Mile Marker				108.00		yes	197	36		C
Stone Box Culv.	3'6" x 3'			108.11		yes	not possible			C
S.Danbury/ Converse Station				108.26		no			25,26	
Conc. Slab Underpass	18'	1929	Walker Brook Road	108.34	yes	yes	199-200	36		C
Marker				108.50		yes	201	36		C
Cast Iron Pipe Culv.	10"			108.50		yes				
Marker				108.55		yes				

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Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Cast Iron Pipe Culv.	10”			108.55		yes				
Cast Iron Pipe Culv.	12”			108.68		yes	202	36		
Marker				108.84		yes	203	36		
Frame Trestle	43’ 2”	1941	Roy Ford Road	108.84	yes	yes	204-205	36		C
Mile Marker				109.00		yes	206	37		C
Metal Pipe Culvert (replaces Stone Arch)	8’	1945	Gungewam Brook	109.15	yes	yes?				C
Concrete Pipe Culv.	5’	1929		109.33		not found				
Marker				109.65		yes	207	37		C
Stone Arch Bridge	13’ 6”		Gungewam Brook	109.65	yes	yes	208	37		C
Overhead Thru Plate Girder Bridge	94’	1938/ 1986	Rt. 4	109.83		yes rebuilt	209	37		not RR
Corr. Iron/Conc. Arch Multi Plate (replaces Stone Arch)	12’	1951	Gungewam Brook	109.89		yes	210-211	37		C
Shanty				109.93+-	no					
Mile Marker				110.00		yes	212	38		C
Stone Box Culv.	4’ x 4’			110.24		yes (alt.)	213	38		NC
Stone Box Culv.	3’ x 4’			110.45		yes (alt.)?	not possible			NC
Stone Box Culv.	2’ x 5’			110.53		yes (alt.)?	not possible			NC
Dbl. Cast Iron Pipe Culv.	2 x 3’			110.77		yes?	214	38		C
Mile Marker				111.00		yes	215	39		C
Overhead Steel Trestle Bridge/IBC	173’	1930/ 1964	Rt. 4	111.18		yes rebuilt	216	39		not RR
Tell Tale				111.xx		yes	217	39		C

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Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	3’ x 5’			111.54		not found				
Marker (for culvert)				111.62		yes	218	39		C
Danbury Station				111.69	no	no			27	
Switch Box				111.xx		yes	220	39		C
Concrete Box Culv.	3’ x 10’			111.84		not found				
Whistle Post				111.90		yes	222	40		C
Mile Marker				112.00		yes	221	40		C
Cast Iron Pipe Culv.	2’ 6” x 7’	1907		112.04		not found				
Whistle Post			High Street	112.30		no				
I Beam Stringer Bridge	22’	1929	Smith River	112.39	yes	yes	222-224	40		C
Marker				112.40		yes				C
Pile Trestle Ball. Deck Bridge	68’ 4”	1929	Smith River	112.40	yes	yes	225-226	40		C
Marker				112.50		yes				C
Stone Box Culv.	3’ x 5’			112.50		yes	227	40		C
Marker				112.55		yes	228	40		C
Stone Box Culv.	4’ x 6’			112.55		yes	229	40		C
Mile Marker				113.00		yes	230	41		C
Marker (for C.I. Pipe culv.)				113.16		yes	231	41		C
Cast Iron Pipe Culv.	30”	1906		113.16		yes	232	41		C
Cast Iron Pipe Culv.	2’6” x 4’			113.28		yes	233	41		C
Stone Box Culv.	2’6” x 4’			113.37		yes	234	41		C
Marker				113.50		yes	235	41		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	3'6" x 8'			113.50		yes	236	41		C
Marker				113.53		yes	237	41		C
Cast Iron Pipe Culv.	3' x 8'	1904		113.53		yes	238	41		C
Cast Iron Pipe Culv.	3' x 8'	1903		113.62		not found				
Whistle Posts			Ford Mill Rd.	113.81		no				
Half Thru Plate Girder Bridge	70'	1914	Smith River	113.84	yes	yes	239-240	41		C
Mile Marker				114.00		yes	241	42		C
Marker				114.11		yes	242	42		C
Pile Trestle Ball. Deck	83' 6"	1930	Smith River	114.11	yes	yes	243	42		C
Reinf. Conc. Pipe Culvert	4' x 6'4"	1953		114.43		yes	not possible			C
Reinf. Conc. Pipe Culvert	4' x 6'	1953		114.52		yes?	not possible			C
Pile Trestle Ball. Deck	77'7"	1930		114.67	yes	yes	244-245	42		C
Mile Marker				115.00		yes	246	43		C
GRAFTON										
Wood Stringer Bridge	12'10"	1926	Smith River	115.20	yes	yes	247-248	43		C
Stone Box Culv.	4' x 4'			115.50		yes	249	43		C
Marker				115.82		yes	250	43		C
Cast Iron Pipe Culv.	3' x 6'	1900		115.82		yes	251	43		C
Whistle Post			Sargent Hill Rd.	115.87		yes	252	43		C
Mile Marker				116.00		no				
Marker for C.I. Pipe				116.07		yes	253	44		C
Marker				116.26		yes	254	44		C
Stone Box Culv.	3' x 4'			116.26		yes	255	44		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Whistle Post			Sargent Hill Rd.	116.37		yes				C
Pile Trestle Ball. Deck	68’ 5”	1929	Smith River	116.37	yes	yes	256-257	44		C
Stone Box Culv.	2’ x 2’			116.85		not found				
Grafton Station				116.88		no			29,30	
Shanty				116.99	yes	not found				
Section House				116.99	no					
Mile Marker				117.00		no				
Reinf. Conc. Pipe Culv.	5’			117.12		not found				
Reinf. Conc. Pipe Culv.	4’			117.39		yes	260	45		C
Whistle Post			Prescott Hill Rd.	117.80		yes	258	45		C
Cast Iron Pipe Culv.	3’	1904		117.99		yes	263	45		C
Mile Marker				118.00		no				
Stone Box Culv.	4’ x 4’			118.09		no?				
Concrete Tunnel		1941/ c.2000	Rt. 4	118.46	yes	no (rebuilt tunnel)	264	46		NC
Tell Tale				118.50		yes	264	46		C
Marker				118.59		yes	265	46		C
Stone Box Culv.	3’ x 3’			118.59		yes	266	46		C
Grafton Ctr./Cardigan Depot				118.65	no				31,32	
Stone Box Culv.	2.5’ x 2.5’			118.89		yes	268	46		C
Mile Marker				119.00		no				
Stone Box Culv.	3’ x 3’			119.29		not found				

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Dbl. Stone Box Culv.	3' x 3'			119.61		yes	269	47		C
Whistle Post			Bullock's Crossing Rd.	119.82		yes				C
Marker				119.87		yes	270	47		C
Dbl. Stone Box Culv.	3' x 3'			119.87		yes	271	47		C
Stone Box Culv.	3.5' x 3'			119.94		yes	not possible			C
Mile Marker				120.00		no				
Stone Box Culv.	2' x 2'			120.05		yes?	not possible			C
Concrete Pipe Culv.	7'			120.27		yes	273	48		C
Stone Box Culv.	3' x 2'			120.46		yes	274	48		C
Stone Box Culv.	3' x 3'			120.88		no rebuilt	277	48		NC
Thru Plate Girder Bridge	45'	1931	over highway	120.88	yes	replaced	276	48		NC
Mile Marker				121.00		no				
Wooden Stringer Bridge	13' 10"	1936	brook so. of Tewksbury Pond	121.02	yes	yes	278-279	49		C
Wooden Stringer Bridge	12' 6"	1946	brook so. of Tewksbury Pond	121.06	yes	yes	280	49		C
Stone Box Culv.	3' x 3'			121.24		not found				
Dbl. Stone Box Culv.	4' x 4'			121.70		not found				
Concrete Slab Bridge	16'	1929	Height of Land/Smith Road	121.83	yes	yes	281	49		C
Stone Box Culv.	3' x 10'			121.85		not found				
Mile Marker				122.00		no				
Summit Siding				122.08		no				

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	4' x 12'			122.10		not found				
Stone Box Culv.	2' x 7'			122.15		yes	282	50		C
ORANGE										
Shanty				122.20+-	no					
Stone Box Culv.	3' x 4'			122.76		not found				
Stone Box Culv.	4' x 4'			122.92		yes	285	50		C
Mile Marker				123.00		no				
Stone Box Culv.	4' x 6'			123.23		not found				
Rein. Conc. T Beam Overhead Bridge	21' 8"	1943		123.29	yes	no, now metal tunnel	286	51		NC
Stone Box Culv.	2'6" x 6'			123.38		not found				
Dbl. Conc. Box Culv. Or Two Pipes	48"		Smith Brook	123.76		yes, alt.	287	51		NC
Stone Box Culv.	2' x 4'			123.98		yes	288	51		C
Mile Marker				124.00		no				
CANAAN										
Stone Box Culv.	3' x 4'			124.13		yes	290	52		C
Marker				124.41		yes				C
Stone Box Culv.				124.41		yes, alt.	291-292	52		NC
Overhead Conc. I-Beam Bridge	20'	1941/ c.2000	Rt. 4	124.69	yes	no (repl. by tunnel)	293	52	35	NC
Pile Trestle Bridge	75'	1929	Indian River	124.80	yes	yes	294-295	52		C
Concrete Foundations for water tank						yes	296	52		C
Stone Box Culv.	3' x 6'			124.87		not found				
Canaan Station				124.89		alt.	297	52	38	NC

AREA FORM **AREA NAME: NORTHERN RAILROAD**

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Freight House				124.95	yes	yes	298	52	38	C
Mile Marker				125.00		yes	299	53		C
Marker				125.15		yes	300	53		C
Ball. Deck Pile Trestle	80’	1929	Indian River	125.15	yes	yes	301	53		C
Overhead Frame Trestle	60’	1941/ 2002	Gristmill Hill Rd.	125.46	yes	no (repl by tunnel)	302	53		NC
Tell Tale						yes	303	53		C
Cast Iron Pipe Culv.	2’ x 6’	1899		125.55		yes	not possible			C
Marker				125.69		yes	304	53		C
Cast Iron Pipe Culv.	2’ x 3’6”	1899		125.69		yes, alt.	305	53		C
Marker				125.84		yes	306	53		C
Deck Plate Girder Bridge	75’	1928	Indian River	125.84	yes	yes	307	53		C
Mile Marker				126.00		no				
Stone Box Culv.	1’ x 2’			126.14		yes	308	54		C
Stone Box Culv.	2’ x 3’			126.34		yes	309	54		C
Mile Marker				126.00		no				
Whistle Posts			Potato Road	126.79		no				
Mile Marker				127.00		no				
Marker				127.36		yes	310	55		C
Ballasted Deck Pile Trestle	71’	1929	Indian River	127.36	yes	yes	311-312	55		C
Thru Plate Girder Bridge	74’	1929	Mascoma River	127.95	yes	yes	313-314	55,56		C
Mile Marker				128.00		no				
Concrete Box	3’x 3’			128.11		not found				

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Thru Plate Girder Bridge	65’	1929	Mascoma River	128.36	yes	yes	317-319	56		C
Thru Plate Girder Bridge	79’	1926	Mascoma River	128.63	yes	yes	320-321	56		C
Deck Plate Girder Bridge	54’	1928	Mascoma River	128.86	yes	yes	322-323	56		C
Mile Marker				129.00		no				
Whistle Posts			South Rd.	129.17		no				
West Canaan/Pattee Mail Crane, Flag Stop				129.26	no	no		57	39	
Whistle Posts			Blackwater Rd.	129.41		no				
Cast Iron Pipe Culvert	3’ x 3’	1903		129.42		yes	328	57		C
I Beam Stringer Bridge	40’	1929	Big Creek	129.48	yes	yes	329-330	57		C
Stone Box Culv.	3’6” x 4’			129.74		yes, alt.	not possible			NC
Stone Box Culv.	4’ x 4’			129.82		not found				
Mile Marker				130.00		no				
Thru Plate Girder Bridge	101’	1929	Mascoma River	130.12	yes	yes	331-334	58		C
ENFIELD										
Whistle Posts			Blackwater Rd.	130.20		no				
Marker				130.49		yes	335	58		C
Stone Box Culv.	2’ x 3’			130.49		yes	not possible			C
Stone Box Culv.	3’ x 10’			130.54		not found				
Stone Box Culv.	2’6” x 3’			130.58		yes?	not possible			C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	2' x 10'			130.65		not found				
Rail Top Culvert	9'	1918	Lovejoy Brook	130.89	yes	yes	336	58		C
Whistle Posts			McConnell Rd.			no				
Mile Marker				131.00		no				
Thru Plate Girder Bridge	98'	1921	Mascoma River	131.20	yes	yes	337-339	59		C
Deck Plate Girder Bridge	17'	1917	Pillsbury St.	131.55	no	no	342-343	59		
Stone Box Culv.	3'			131.56		not found				
Enfield Station				131.68	yes	yes	345	59	42	C
Overhead Wood Stringer Bridge	16'9"	1931	South Street	131.75	yes	no (repl. w/culvert 2003)	346	59		NC
Freight House				131.90+-	yes	yes	347	59		C
Deck Plate Girder Bridge	73'	1928	Mascoma River	131.98		yes	349-350	60		C
Mile Marker				132.00		no				
IBeam Stringer Bridge	20'	1938	Main Street	132.47	yes	yes	351-352	60		C
Stone Box Culv.	2' x 4'			132.51		yes	353	60		C
Cast Iron Pipe Culv.	1'			132.86		yes	355	60		C
Mile Marker				133.00		no				
Con. Pipe Culv.	4'	1927		133.62		not found				
Marker				133.73		yes	357	61		C
Conc. Slab Bridge (main line)	25'	1932	Colburn Brook	133.73	yes	yes	358-359	61		C
Wood Stringer Br. (side track)	20'	1927	Colburn Book	133.73	yes	yes	360	61		C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
LEBANON										
Stone Box Culv.	2' x 4'			133.80		not found				
Marker				133.87		yes	361	61		C
Cast Iron Pipe Culv.	2' x 5'			133.87		yes	362	61		C
Mile Marker				134.00		no				
Stone Box Culv.	3' x 6'			134.12		not found				
Mascoma Station				134.26	no	no			44	
Tell Tale				134.xx		yes	364	62		C
Overhead Frame Trestle	47'	1946/ 2004	Payne Road	134.47	yes	yes	365	62		C
Thru Plate Girder Bridge	86'	1912	Mascoma River	134.50	yes	yes	366-367	62		C
Concrete Pipe Culv.	2'			134.81		yes	370	62		C
Overhead Deck Plate Girder	449'	1931/ 1957	Rt. 4	134.83	yes	yes	371	62		not RR
Mile Marker				135.00		no				
Thru Plate Girder Bridge	84'	1912	Mascoma River	135.01	yes	yes	372-374	63		C
Deck Plate Girder Bridge	67'	1912	Mascoma River	135.24	yes	yes	375	63		C
Deck Plate Girder Bridge	90'	1929	Mascoma River	135.34	yes	yes	376	63		C
Stone Box Culv.	2' x 15'			135.80		yes	no photo possible			C
Mile Marker				136.00		no				
Stone Box Culv.	2' x 12'			136.05		not found				
Overhead I Beam and Concrete Bridge	144'	1966/ 1987	I-89 Northbound	136.32		yes	377	64		not RR
Overhead I Beam and Concrete Bridge	147'	1966/ 1987	I-89 South bound	136.34		yes	377	64		not RR

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Thru Plate Girder Bridge	75’	1916	Mascoma River	136.40	yes	yes	378	64		C
Whistle Posts			Riverside Dr.	136.53		no				
Thru Plate Girder Bridge	102’	1928	Mascoma River	136.84	yes	yes	380-382	64		C
Shanty				136.88	no					
Mile Marker				137.00		no				
Thru Plate Girder Bridge	74’	1924	Mascoma River	137.03	yes	yes	384-5	65		C
Marker				137.03		yes	386	65		C
Deck Plate Girder Bridge	67’	1917	Mascoma River	137.16	yes	yes	386-387	65		C
Thru Plate Girder Bridge	89’	1914	Mascoma River	137.62	yes	yes	391-392	65		C
Whistle Posts			Bank St. Ext.			no				
Mile Marker				138.00		no				
Stone Box Culv.	3’ x 10’			138.15		not found				
Freight House				138.25	yes	alt.	396	66	46,47	NC
Lebanon Station				138.32	no	no		66	46,47	
Overhead Frame Trestle	30’	1942/ 1969	Hanover Street	138.52		no (abutment only)	397	66		NC
Deck Plate Girder Bridge	112’	1929	Mascoma River	138.59	yes	yes	398-399	66	48	C
Stone Box Culv.	2’ x 2’			138.92		yes				C
Mile Marker				139.00		yes	402	67		C
Siding Capacity Post (75 cars)				139.15		yes	403	67		C
Concrete Slab Bridge	20’	1931	Slayton Hill Rd.	139.28	yes	yes	404	67	50	C

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Stone Box Culv.	2' x 20'			139.31		not found				
Stone Box Culv.	4' x 30'			139.70		not found				
Half Thru Plate Girder	160'	1966	I-89	139.77	yes	yes	406-407	67		C
Mile Marker				140.00		no				
Deck Plate Girder Bridge	97'	1912	Mascoma River	140.04	yes	yes	408-409	68		C
Siding Capacity Post (40 cars)				140.20		yes	410	68		C
Cast Iron Pipe Culv.	3' x 5'	1900		140.73		yes	414	68		C
Tell Tale				140.75		yes	415	68		C
Overhead Framed Trestle	93'	1949	Private Road	140.76		yes	416	68		C
Thru Plate Girder Bridge	96'	1914	Mascoma River	140.83	yes	yes	417	68		C
Overhead Deck Plate Girder Bridge	375'	1945/ 2008	Rt. 4	140.84		yes	417	68		not RR
Shanty				140.85	no	no				
Mile Marker				141.00		yes	420	69		C
Section Marker (211/290)				141.00		yes	420	69		C
Marker				141.17		yes	421	69		C
Deck Plate Girder Bridge	94'	1910	Mascoma River	141.17	yes	yes	421	69		C
Deck Plate Girder Bridge	81'	1929	Mascoma River	141.29	yes	yes	422	69		C
Stone Arch Bridge	75'		Glen Road	141.35	yes	yes	423-424	69	51	C
Mile Marker				142.00		yes				C
Overhead I Beam and Concrete	133'	1949	Main Street/ Rt. 12A	142.45		yes	425	70		C
Stone Box Culv.	4' x 8'			142.48		not found				

Resource	Size	Date	Location	Mile Marker	1995 Extant*	2013 Extant	Photo #	Photo Log Page	Figure #	C/ NC
Westboro Station				142.57	moved/ alt.	moved/ alt.	429-430	70	52,53	C?
Railyard (including the following):						some		70	53-61	C
Machine shop, sand house					ruins			70	61	
Heating plant					yes					
Freight house					alt.				53	
Section house					poor					
Bunk house					poor	poor	426	70		
Roundhouse, turntable pit					poor	poor	427	70	54,56	
Garage, fan room, office, shanty					no					
Hyd/hose, storehouse					no					
Deck Plate Girder Bridge	500’	1929/	Connecticut River	142.74	yes	yes		70	57	C

* Note: 1995 Survey did not attempt to capture culverts, markers and other lesser features.

Other table notes: The 2013 survey attempted to locate all culverts greater than 3’ wide. Entries for smaller culverts are included in the table, based on the Val. Plans, 1954 List of Structures. In some cases their location in the field was readily apparent and is so marked in the table.

Contributing resources include buildings, bridges, culverts, markers, tell tales, etc. erected or installed by Northern/Boston & Maine Railroad.

Not RR = bridges passing over the railroad but not erected by the railroad.

TOTAL Contributing resources = approx. 295

Noncontributing resources = approx. 26

22. Statement of Significance

The Northern Railroad is eligible for the National Register of Historic Places under Criterion A, Transportation, and Criterion C, Technology/Engineering, as a linear transportation district that illustrates one of the most significant historical contexts in the state: railroading from the mid 19th to the mid 20th century. Despite the many notable individuals involved with the planning and construction of the railroad, the resource is not recommended for eligibility under Criterion B.

The Northern Railroad is significant under Criterion A, transportation, for its significance to broad patterns of history. The Northern was the fifth railroad constructed in the state and the first to extend north and west of Concord, linking Boston and the New Hampshire's industrial centers with the Connecticut Valley and Canada. By 1851 railway connections were complete between Boston and Montreal with the Northern Railroad being the sole (first) connection through New Hampshire. The Northern Railroad was a profitable freight route, transporting diverse cargo including industrial products, farm produce, timber and minerals. It also provided critical transportation for local residents and summer residents and tourists. The Northern Railroad also reflects the rise and decline of the Boston & Maine Railroad in the late 19th and early 20th century. In 1890 the Boston and Maine Railroad acquired a ninety nine year lease of the Northern Railroad, as part of what would become the consolidation of virtually all of the state's railroad corporations. During its tenure, the B & M made considerable improvements to the line including several new stations and bridge replacements. In the 20th century the Northern Railroad remained under the control of the B & M and was known as its "Main Line North". Despite continual improvements by the B & M in the early 20th century, the Northern Railroad like New Hampshire's other railroads could not compete with the rise of the automobile. The last scheduled passenger train on the Northern ran in 1965, leaving only two freight trains a day using the tracks. Service was completely terminated in the late 1970s.

The Northern Railroad is also eligible under Criterion C as a district. The interconnected set of resources, joined together by a discernible right-of-way, are "significant and distinguishable entities whose components lack individual distinction". While the construction of the railroad was fairly straight forward and not technically sophisticated or innovative, it was a large-scale construction project by state standards for its period and employed representative technologies and designs characteristic of the time. Railroad features along the line such as bridges and culverts were subjected to continuous renewal through their period of use reflecting the technological and operational evolution of the railroad industry and the Boston and Maine Railroad in particular. The eighty or so bridges on the 69+ mile line include representative examples of stone arches, wood and I-Beam stringers, pile trestles, riveted trusses, deck plate girders, thru plate girders, and concrete slabs representing evolving corporate standards. In addition to the bridges on the line, the railroad was also responsible for the construction and maintenance of bridges carrying local roads over the tracks. The former railroad corridor also includes a number of well-preserved individual and double stone box culverts, concrete and cast iron culverts as well as granite mile posts, markers, whistle posts and tell tales. The pit for the turntable which once operated in Franklin would also be a contributing element. There are four stations which survive and contribute to the district – at Penacook, Gerrish, Potter Place, and Enfield. The heavily altered Canaan depot would not contribute to the district, nor would any of the other stations which have been moved out of the railroad right-of-way. Although it has been moved, the Westboro depot (currently on temporary supports) may be contributing depending on where it is relocated. If the building remains within the boundaries of the historic railyard, it should be considered contributing.

The district includes two properties which are already individually listed on the National Register – the Potter Place Railroad Station in Andover and the Stone Arch Bridge in Lebanon. The Westboro Rail Yard has been determined eligible in its own right.

23. Periods(s) of Significance

1844 (date of charter) to the late 1970s (end of service)

24. Statement of Integrity

Although the 69+ mile rail corridor has witnessed the removal of most of its rails and ties as well as the loss of some buildings and structures, the Northern Railroad retains sufficient integrity of location, design, setting, materials, workmanship, feeling and association to convey its significance.

In terms of integrity of location and design, the Northern Railroad remains a clearly identifiable and discernible right-of-way with no breaks or obstructions. The original alignment has not shifted and its path shows how the local communities along its corridor were linked by and affected by the railroad. The linear berm of the former railroad subgrade remains largely intact with only a few exceptions. The even grade created by the excavation of cuts and the creation of fills in the 1840s is still in evidence and is one of its most important character defining features. Although most of the mileage has been converted from rail corridor to recreational trail the continuous linear arrangement of the resources provides a strong visual reminder of the railroad's reason for being.

Today, the rail trail continues to pass primarily through rural areas, dotted by occasional houses and small village centers, much as it always has. There are narrow passes where the railroad had to drill or dynamite through ledge, river panoramas and views of vacant industrial buildings which once used the railroad as a lifeline. Granite mile markers are recurring elements along the side of the trail, marking the progression along the route to an established terminus. Whistle posts and tell tales are other visual reminders of the interface between the rail and the roads and overpasses which intersected it. The integrity of setting and feeling for the railroad is somewhat lessened by the reforestation which has taken place all over New Hampshire over the past century. Historic photographs suggest a vastness and openness along the rail corridor which is no longer evident today. The loss of most of the original station buildings over time is another factor which diminishes the integrity of setting slightly.

With the exception of the removal of rails and ties and recent grade separation projects completed by the NH Department of Transportation, the Northern Railroad retains a high level of integrity for materials and workmanship. The workmanship which created the cut granite blocks for arches, culverts and abutments is still abundantly in evidence today. The changing materials and level of workmanship on other structures such as bridge spans reflect an evolution on the part of the rail industry from wood to steel to concrete. Many of these changes were made in response to the need to accommodate heavier rolling stock, traveling at faster speeds. The increasing use of concrete for culverts and bridges in the late 1920s and early 1930s reflects the easier accessibility of the material due to the recent opening of the railroad's concrete plant in Concord. The introduction of small-scale components such as concrete or metal culverts or the reconstruction/repair of stone box culverts with concrete has been ongoing over the years and only slightly lessens the integrity of materials. Integrity of materials and workmanship has been diminished more seriously in several locations by recent projects that replaced historic features with incompatible modern structures. These include the replacement of an overhead wooden trestle at Lawrence Road in Andover with a metal pipe culvert (102.60, photo 155). Similar culverts have been installed in Canaan (125.46, photo 302 and 124.69, photo 293) and Orange (123.39, photo 286).

25. Boundary Justification

The boundary of the Northern Railroad district is intended to represent the Northern's significance as a corporate entity and a linear transportation corridor. It does not take in villages which developed in proximity to the stations such as at Potter Place in Andover, Danbury or Grafton although these may form smaller historic districts.

26. Boundary Description

The linear boundary of the Northern Railroad district extends from mile marker 73.33 in Concord to mile marker 142.74 at the Connecticut River in West Lebanon. The boundary reflects the historic right-of-way of the Railroad (commonly 66', 82.5' or 99') and includes all of the land previously owned by the railroad, including land used for tracks, bridges, culverts, walls, buildings and rail yards. It does not include larger parcels of vacant ancillary right-of-way.

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28. Surveyor's Evaluation

NR listed:	district	☐	NR eligible:		NR Criteria:	A	☒
	individuals		district	☒		B	☐
	within district	☒	not eligible	☐		C	☒
Integrity:	yes	☒				D	☐
	no	☐	more info needed	☐		E	☐

If this Area Form is for a Historic District: # of contributing resources: 295

# of noncontributing resources: 26

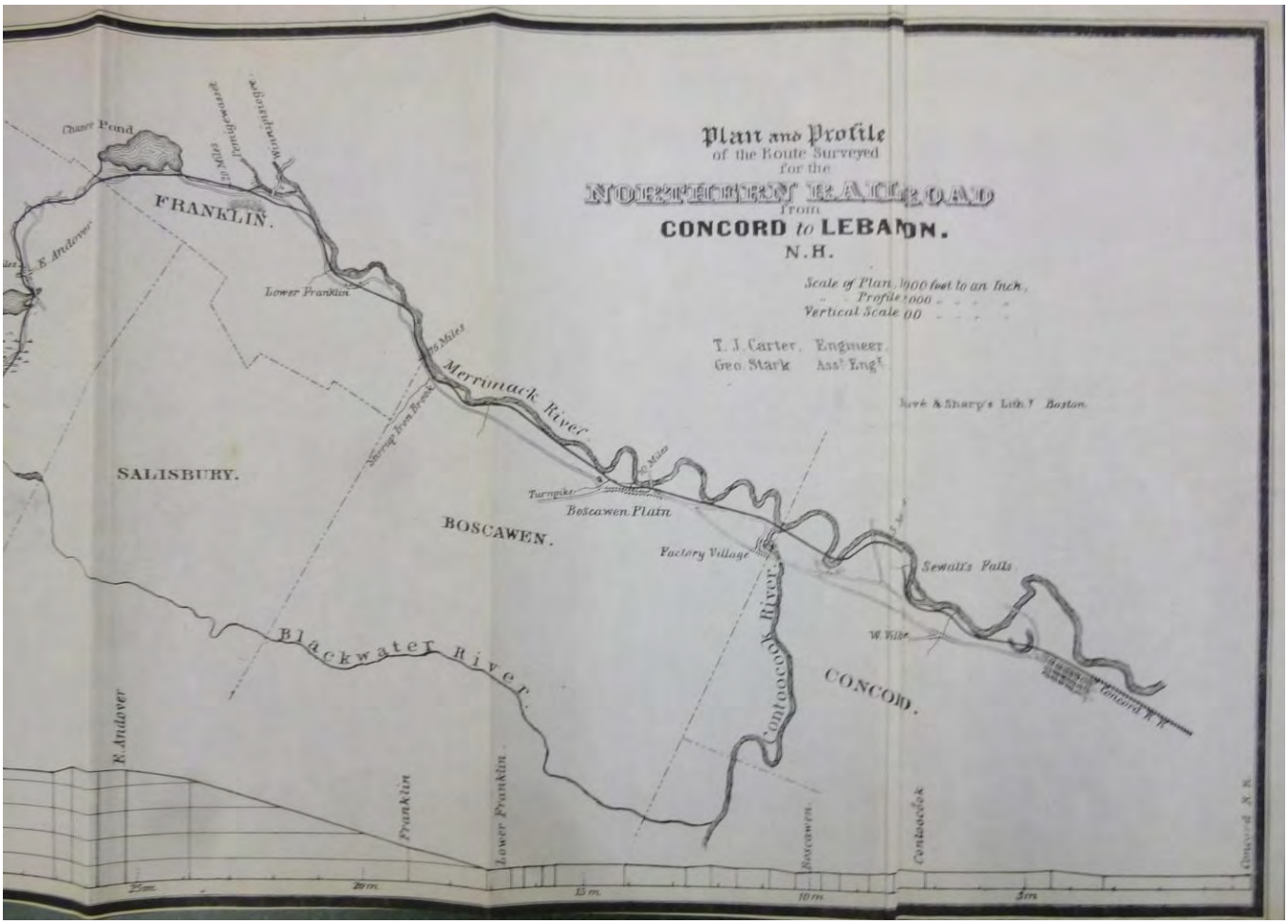


Figure 1A

Plan and Profile of the Route Surveyed for the Northern Railroad, 1844
(Concord to Franklin)

Source: *Report of the Engineer on the Route Surveyed, for the Northern Railroad, between Concord, Franklin and the Connecticut River at Lebanon, New-Hampshire, 1844.* Manchester: Wetmore & Wallace, 1844.

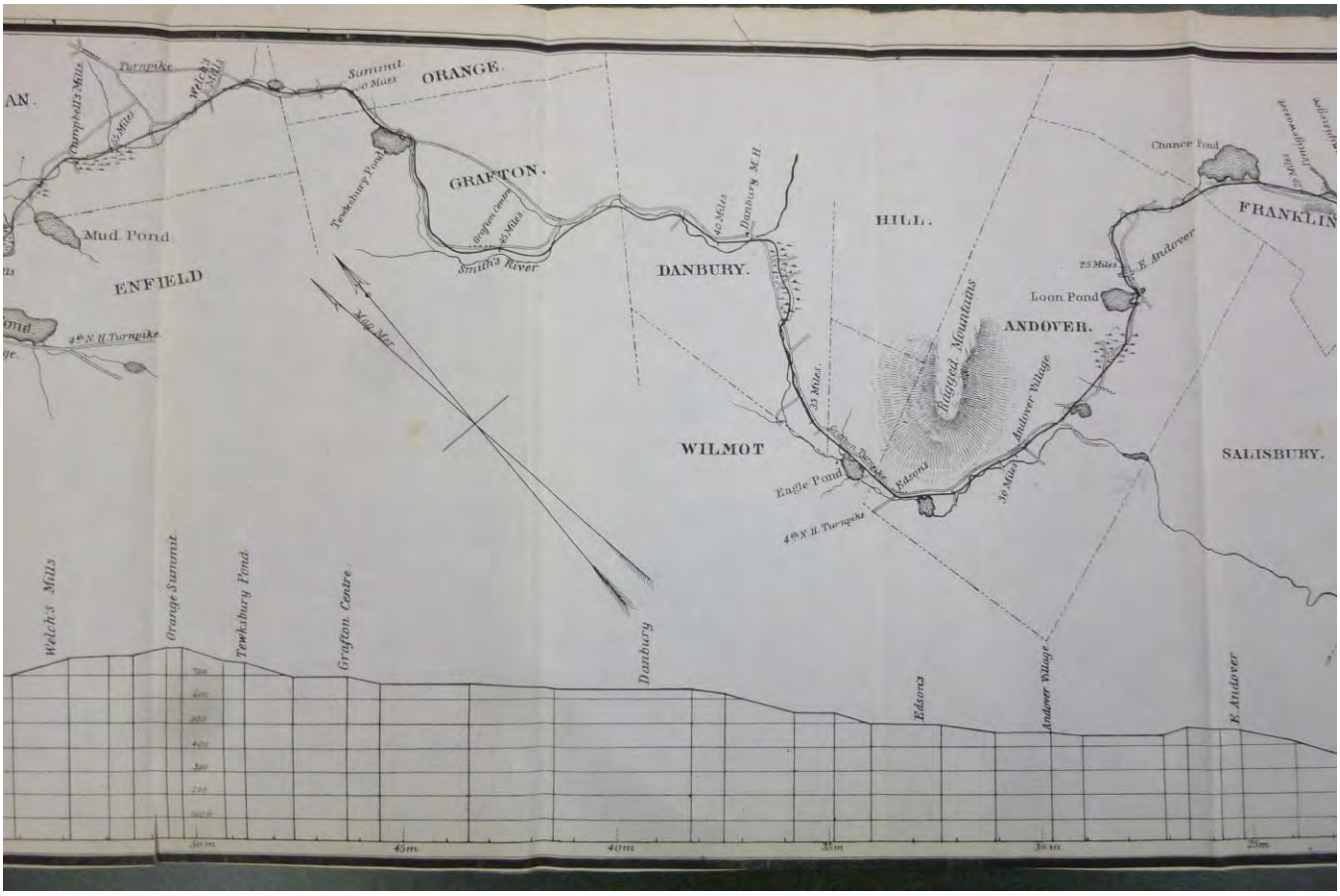


Figure 1B

Plan and Profile of the Route Surveyed for the Northern Railroad, 1844
(Franklin to Enfield)

Source: *Report of the Engineer on the Route Surveyed, for the Northern Railroad, between Concord, Franklin and the Connecticut River at Lebanon, New-Hampshire, 1844.* Manchester: Wetmore & Wallace, 1844.

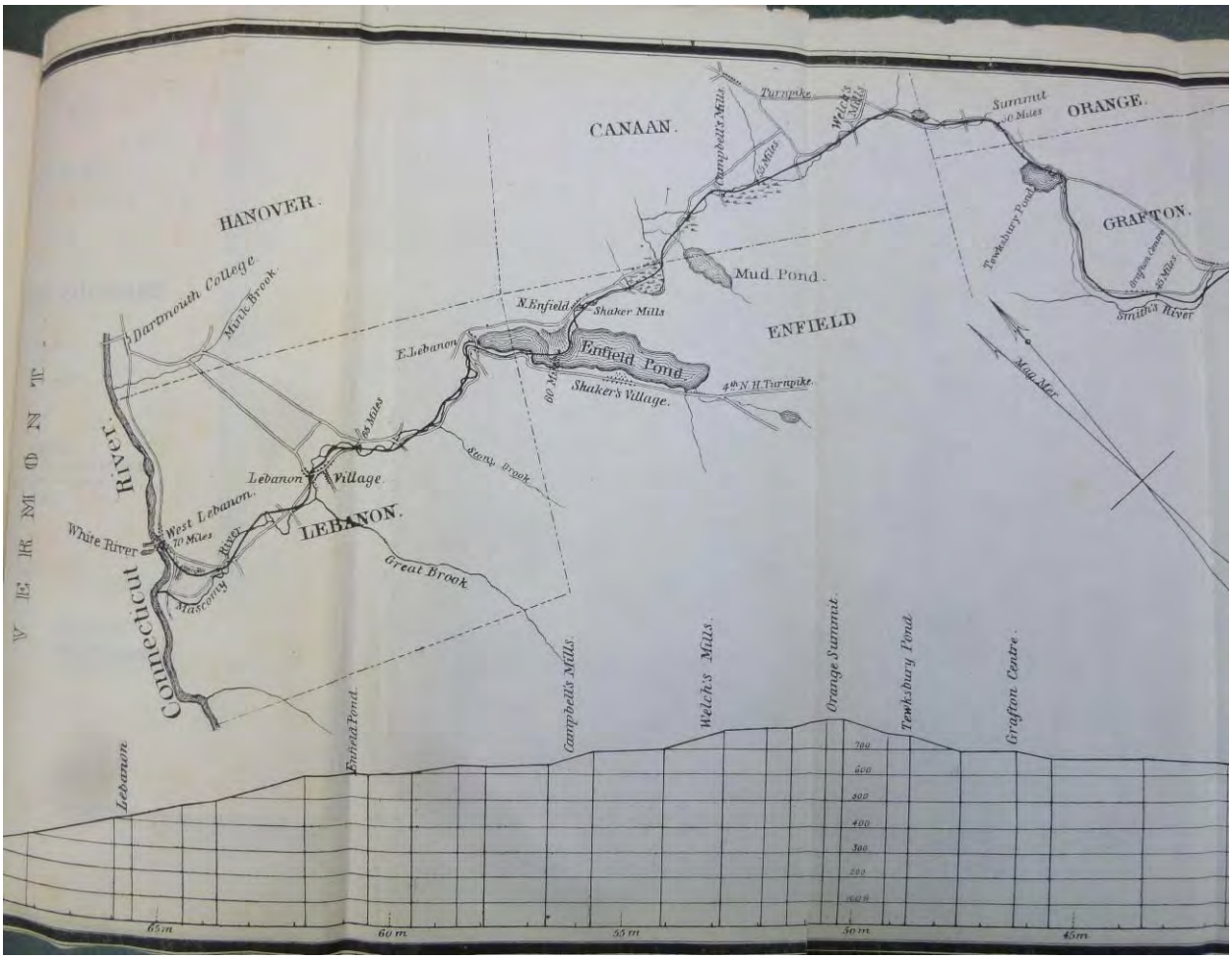


Figure 1C

Plan and Profile of the Route Surveyed for the Northern Railroad, 1844
(Grafton to White River Junction, VT)

Source: *Report of the Engineer on the Route Surveyed, for the Northern Railroad, between Concord, Franklin and the Connecticut River at Lebanon, New-Hampshire, 1844.* Manchester: Wetmore & Wallace, 1844.

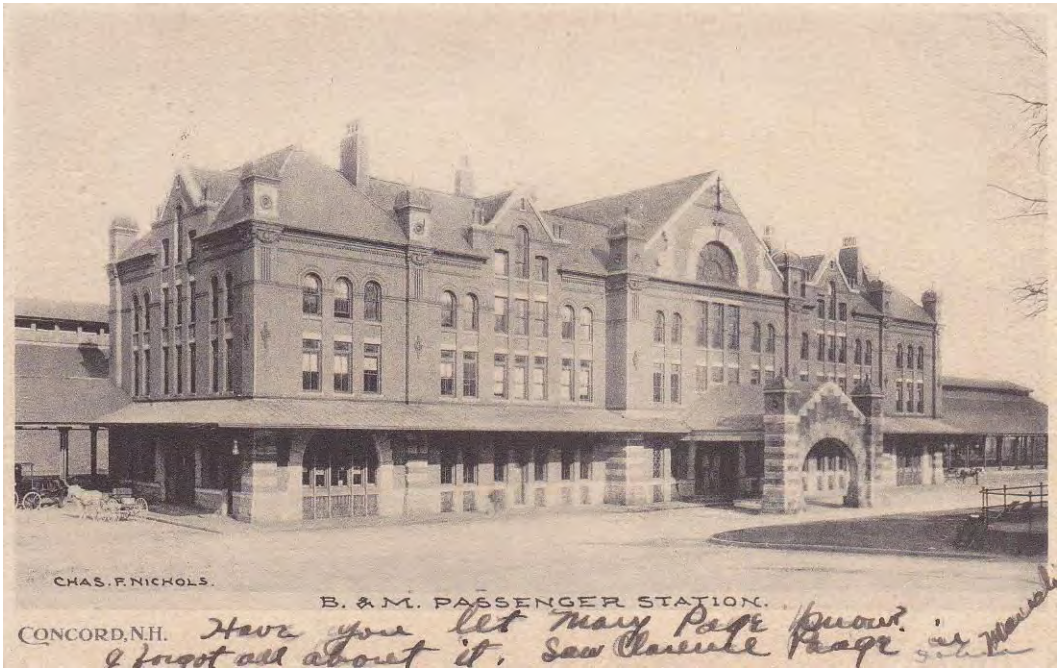


Figure 2

Pre 1906 Postcard view of Concord Station (MP 73.32)
(Built 1885, Demolished 1960)

Source: Collection of Lisa Mausolf

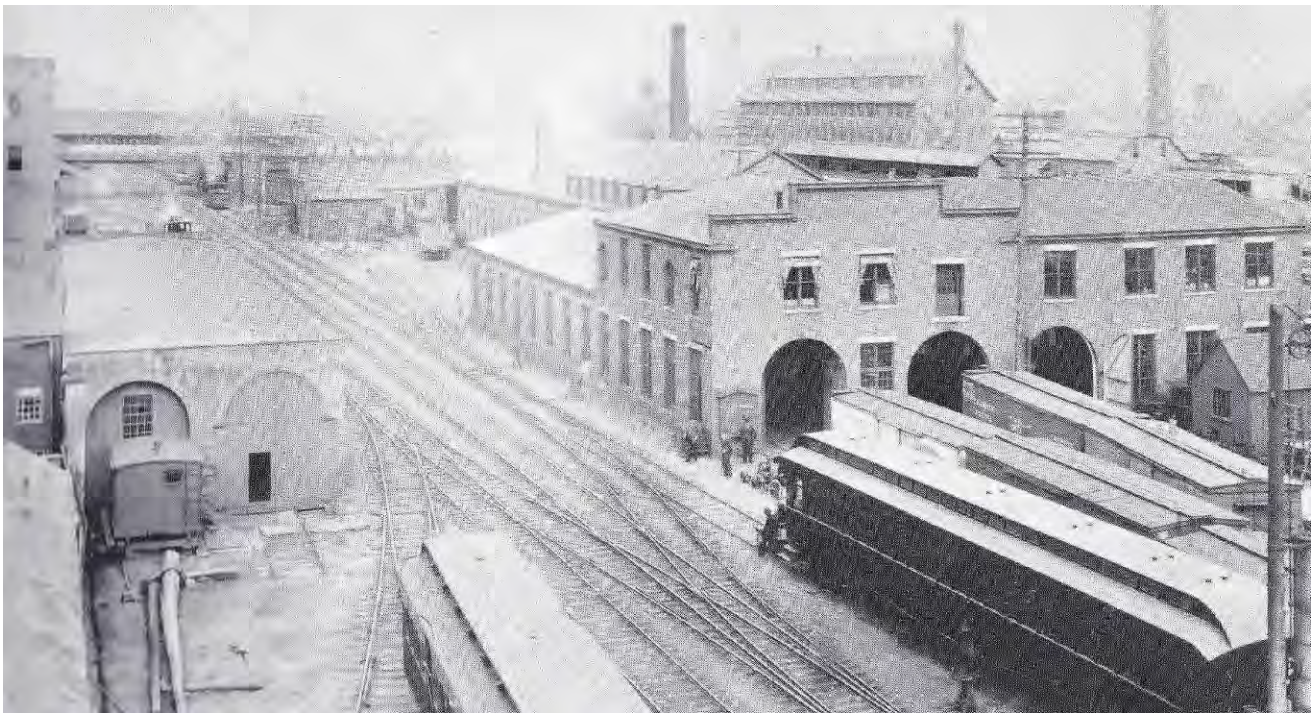


Figure 3

Undated photograph showing the shops of the Northern Railroad in Concord,
looking north toward Storrs Street and Bridge Street.
(Demolished 1897)

Source: Hengen & Samson, *Capital Views: A Photographic History of Concord, New Hampshire*, 1850-1930, p. 6.

Figure 4

Undated photograph showing north end of the station/yard at Concord showing Northern track at left and White Mountains Branch to Plymouth and Lincoln at right.

Source: *B & M Bulletin*, Vol. XX, no. 4, p. 28.

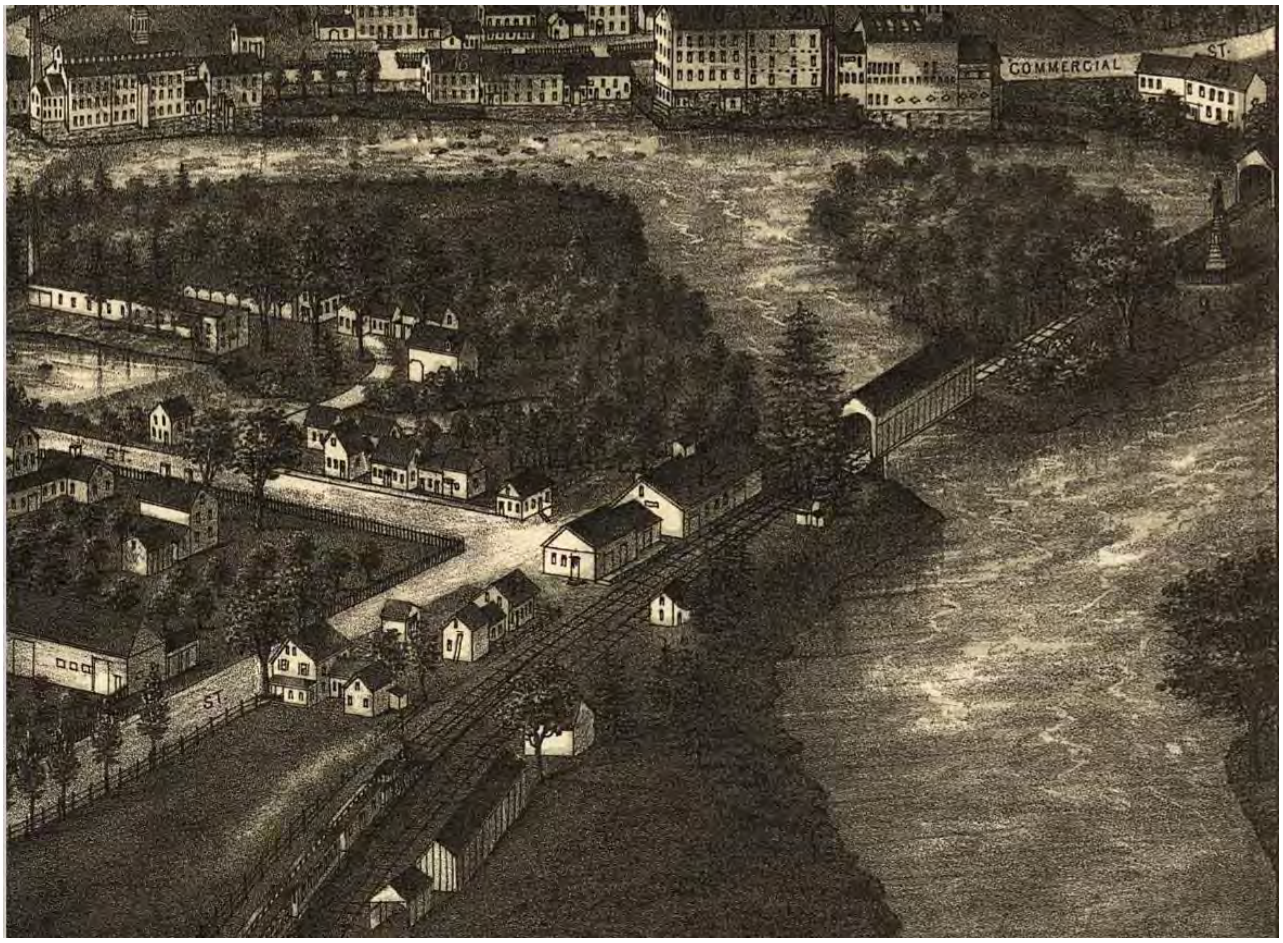


Figure 5

1887 View of Northern RR in Penacook
Note: Passenger and freight stations, two covered bridges and Hannah Dustin monument

Source: L.R. Burleigh, Penacook, N.H., Troy, NY: 1887.

Figure 6

Penacook Station (MP 79.91), looking northwest with Freight Station in distance at right
(Penacook Station is extant but altered – see photo 40)

Source: Donald B. Valentine, Jr. "Riding the Northern", *The New England States Limited*, September 1982: 13.

Figure 7

Penacook Station (MP 79.91), looking SW
(Station is partially extant but altered)

Source: Collection of Lisa Mausolf

Figures 8 & 9

Replacement of Boscawen Bridge (80.06), 1919-1920 (extant – see photos 41 & 42)

Source: Boston & Maine Historical Society Archives, Lowell

Figure 10

Penacook, Bridge (80.23), 1919-1920, American Bridge Company
(extant – see photos 45 & 46)

Source: Boston & Maine Historical Society Archives, Lowell

Figure 11

Boscawen Station (82.65)
(no longer extant)

Source: http://commons.wikimedia.org/wiki/File:Railroad_Station,_Boscawen,_NH.jpg

Figure 12

Undated view of Gerrish Station, North Boscawen (86.57)
(station is extant – see photo 56)

Source: http://www.lightlink.com/sglap3/newhampshire/gerrishbw.jpg

Figure 13

Webster Place Flag Stop, Franklin (89.57, no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

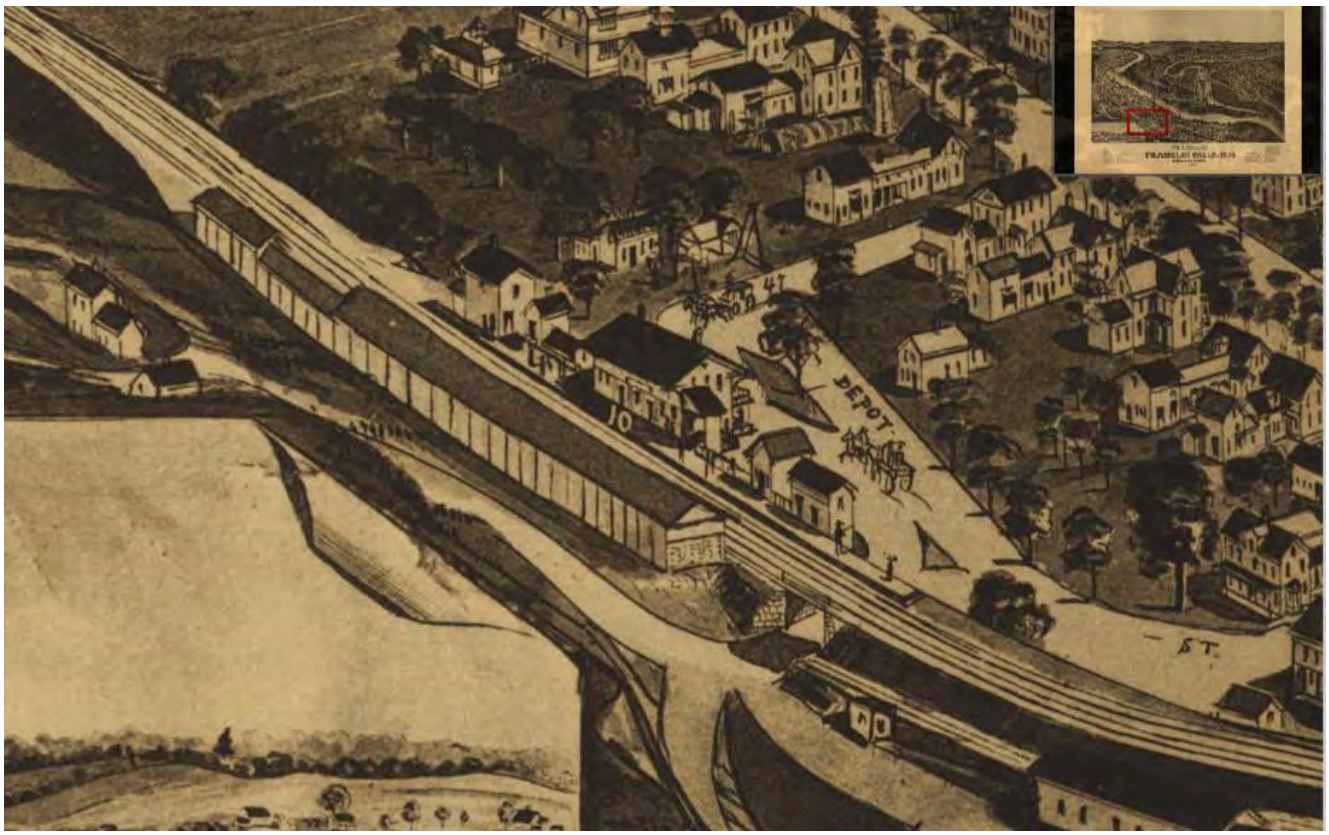


Figure 14

Franklin Station
(depot is labeled #10 – no longer extant; shed and underpass to right survive – see photos 84-86)

Source: Birds Eye View Map, 1884

Figures 15 & 16

Franklin Station, 91.99, built 1897 (no longer extant)

Source: http://www.ebay.com/itm/B-MRR-Station-Boston-Maine-Railroad-Franklin-New-Hampshire-Postcard-1908-NH-/231103141693 (top)
Collection of Lisa Mausolf (bottom)

Figure 17

Webster Lake Flag Stop, 93.87, Franklin (no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

Figures 18 & 19

Undated (top - post 1908; bottom – pre 1908) views of Halycon/East Andover Station, 98.20 (no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

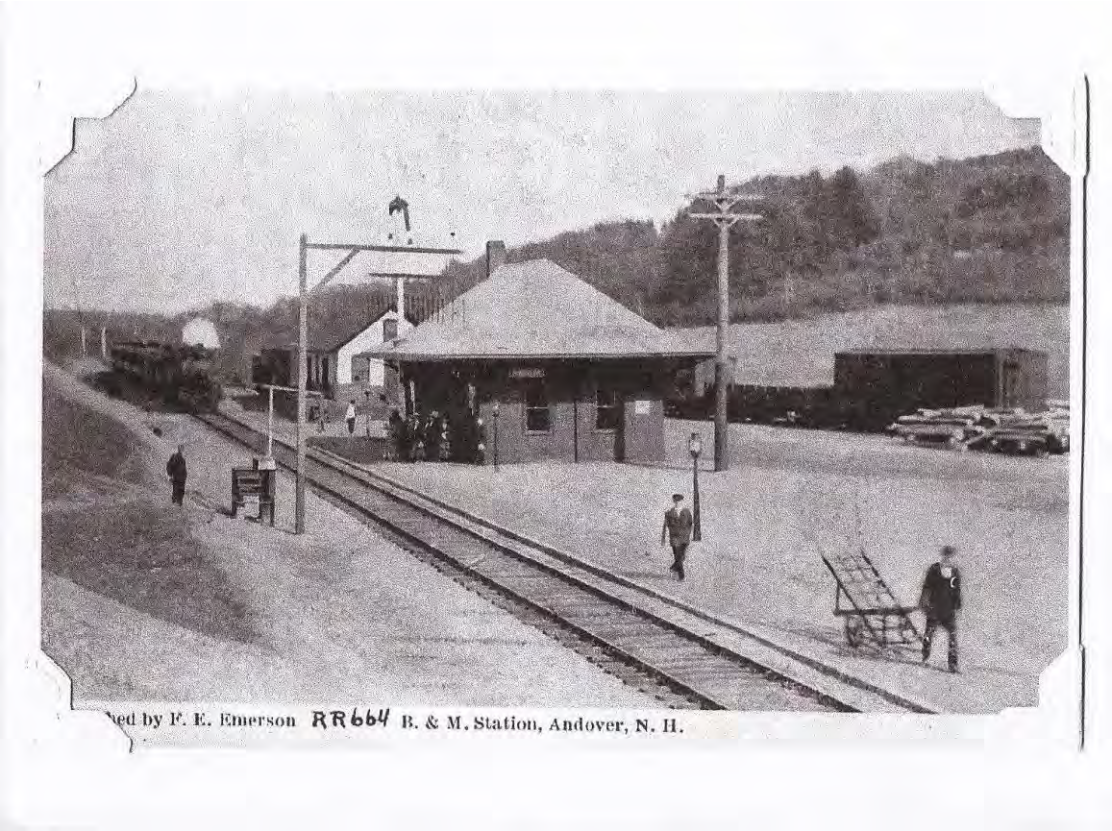


Figure 20

Undated postcard view of Andover Station, 102.54, built 1906 (no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

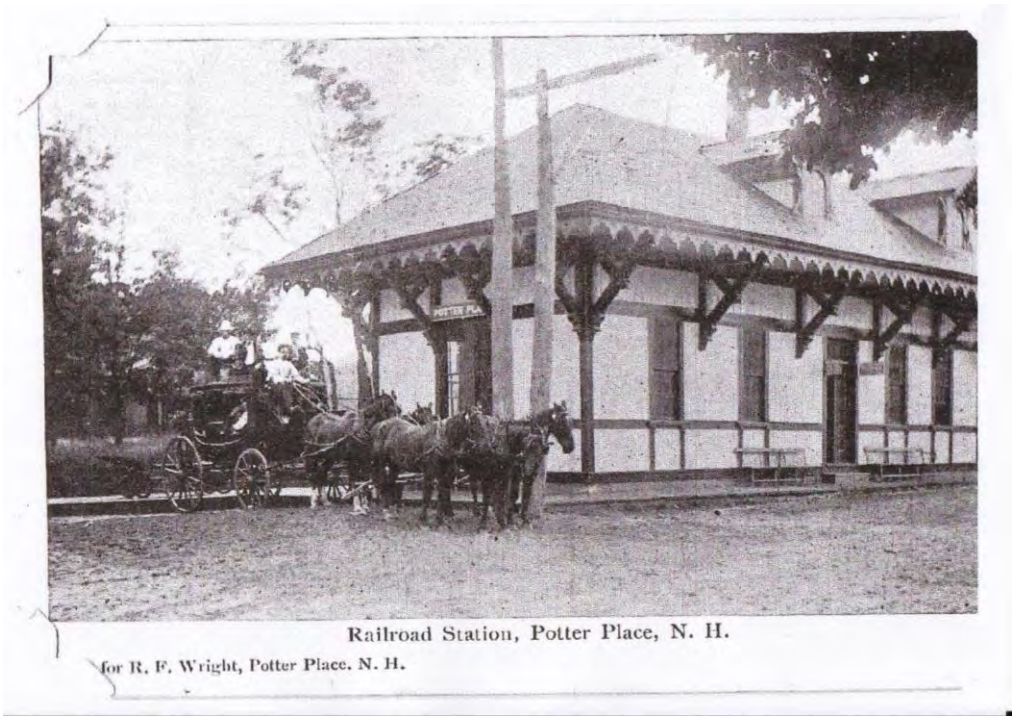


Figure 21
Undated postcard view of Potter Place Station, 104.32 (extant – see photo 166)

Figure 22
1915 view of Potter Place Station with water tank in distance (tank no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

Figure 23
Post 1908 view of West Andover/Gale Station, 105.51 (no longer extant)

Figure 24
Gale Station with Freight House in distance

Source: Walker Transportation Collection, Beverly, Mass.

Figure 25

South Danbury Station, 108.24, prior to 1908

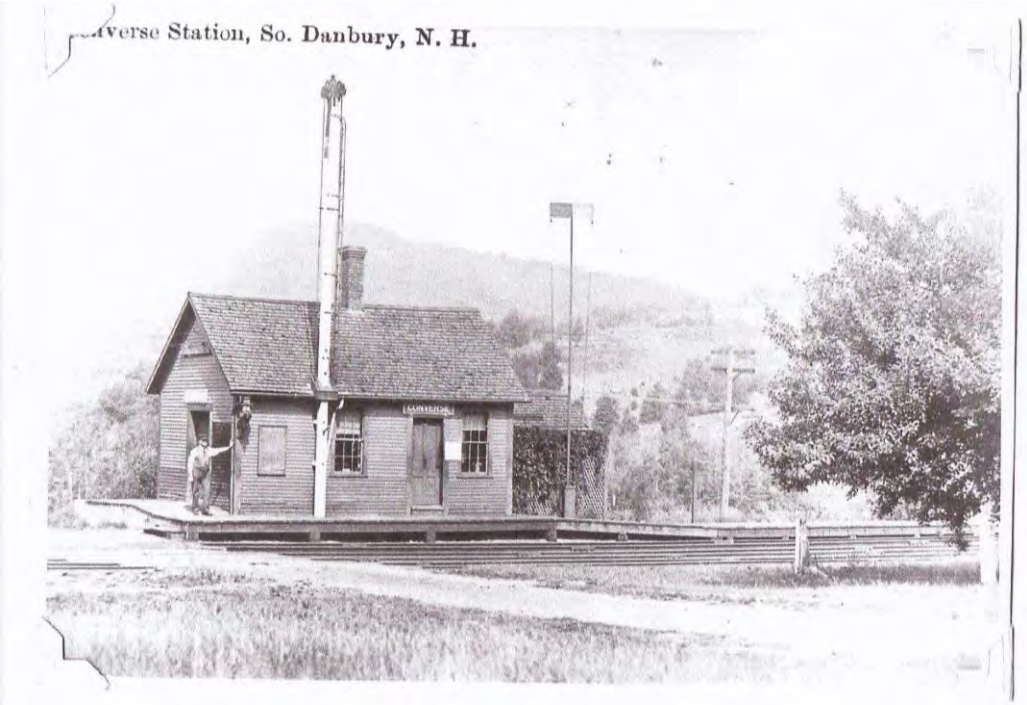


Figure 26
South Danbury Station after renamed Converse in 1908
(note removal of adjacent building)

Source: Walker Transportation Collection, Beverly, Mass.

Figure 27
First Danbury Station, 111.67 (no longer extant)

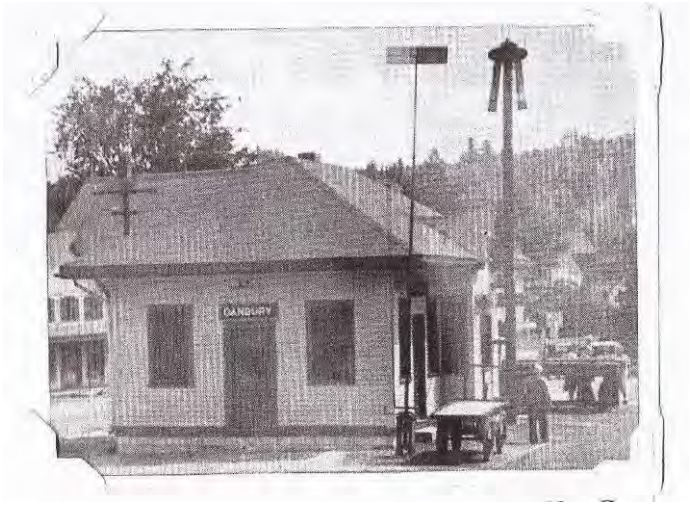


Figure 28
Second Danbury Station – constructed from former station at Cardigan which was moved to site in 1950s (no longer extant)

Source: Walker Transportation Collection, Beverly, Mass.

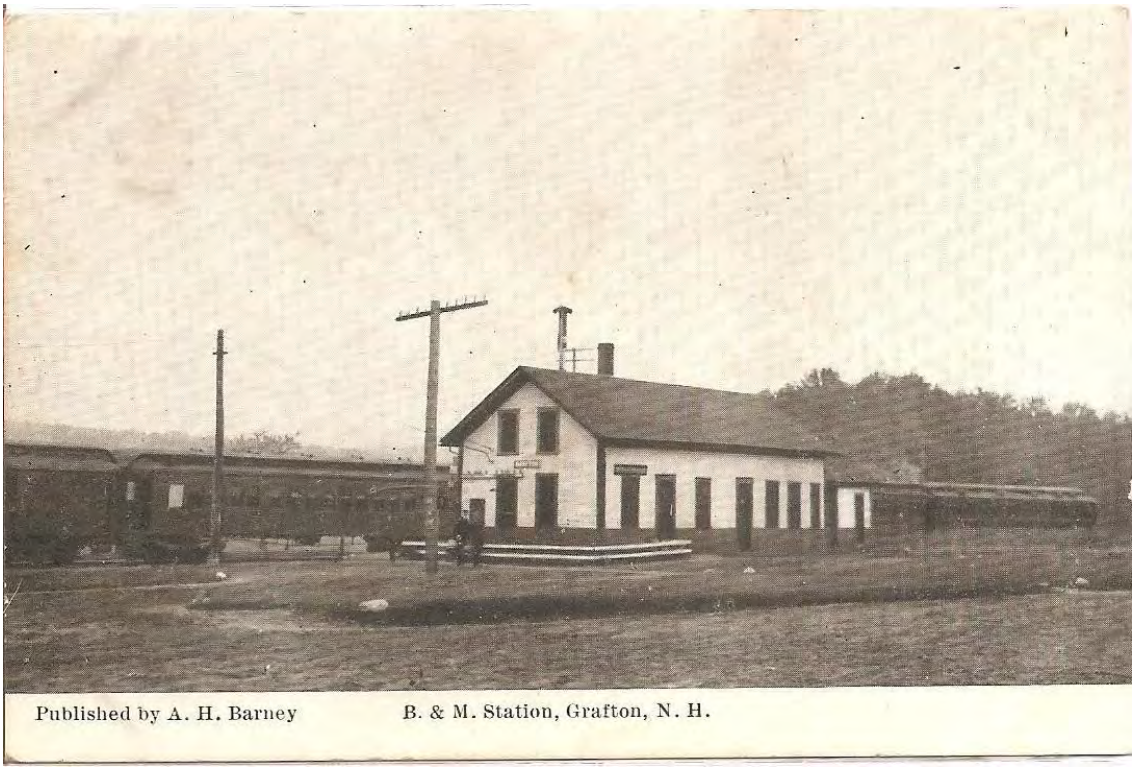


Figure 29

Undated postcard view of Grafton Station, 116.85, street side
(no longer extant)

Source: http://www.ebay.com/itm/GRAFTON-NH-Boston-Maine-Railroad-Station-train-/360604111877?pt=LH_DefaultDomain_0&hash=item53f5ae1405

Figure 30

Undated postcard view of Grafton Station, trackside (no longer extant)

Source: Grafton Historical Society

Figure 31

Cardigan (Grafton Center) Station, 118.65
(second station after original station destroyed by fire in 1906;
later moved to Danbury in 1950s, no longer extant)

Source: http://www.ebay.com/itm/GRAFTON-CENTER-NH-Boston-Maine-Railroad-Station-Town-House-/360604110817?pt=LH_DefaultDomain_0&hash=item53f5ae0fe1

Figure 32

Undated (c.1920) postcard of Grafton Center

Source: Grafton Historical Society

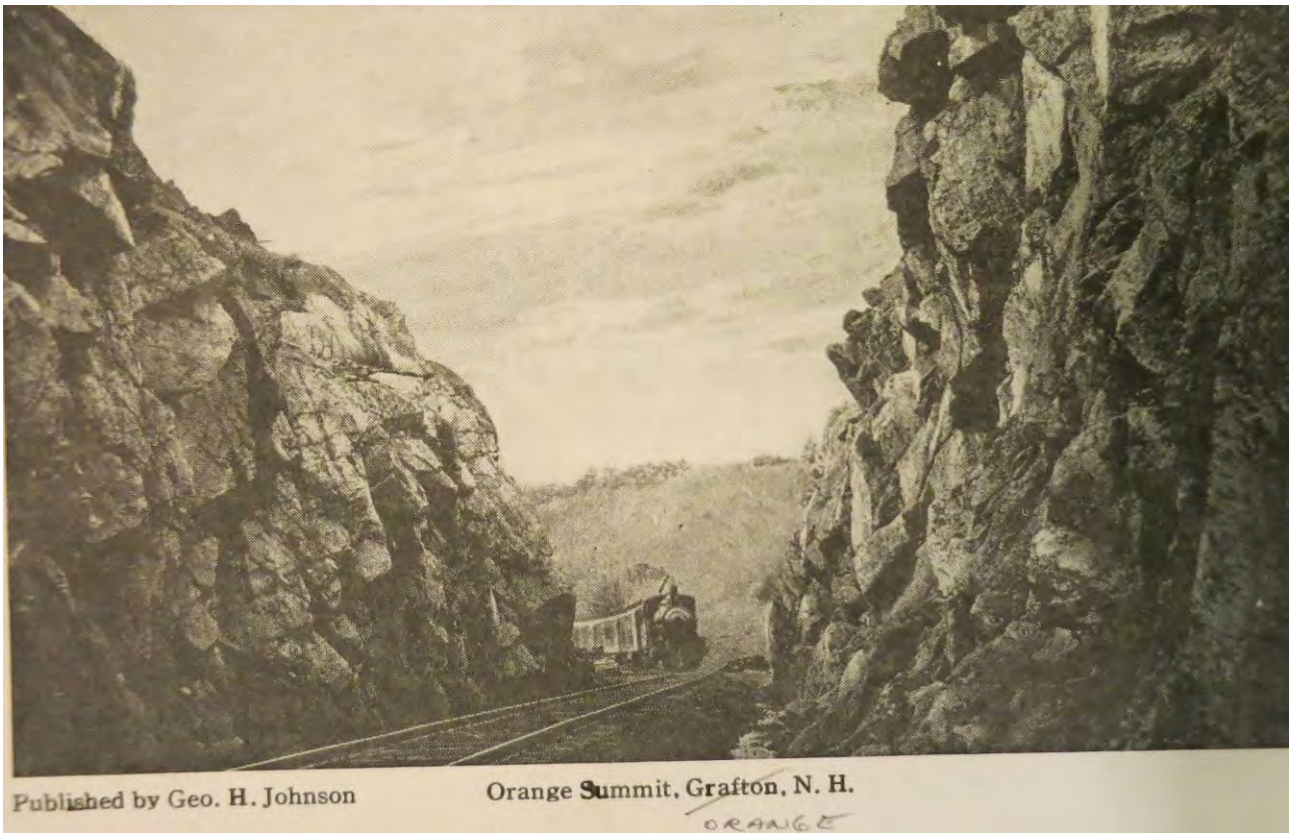


Figure 33

Undated postcard, Orange Summit (see photo 283)

Source: Boston & Maine Historical Society, Lowell

Figure 34

c.1850 Photograph of Northern Railroad somewhere in Canaan (?) showing covered bridge under construction and Pre Civil War Engine, William Amory

Source: New Hampshire Historical Society, Concord

Figure 35

Newly completed Concrete Enclosed I Beam Bridge in Canaan (124.69) in 1941
Note water tank in distance
(bridge and tank are no longer extant)

Source: Boston & Maine Historical Society Archives, Lowell

Figures 36 & 37

Canaan, 124.87 (original station destroyed by June 1923 fire – no longer extant)

Source: http://www.ebay.com/itm/Canaan-NH-Railroad-Depot-Train-Station-RPPC-Postcard-/270594001886; google.com

Figure 38

Canaan's Second Freight House and Depot, built 1923
(freight house is extant; depot altered with no integrity – see photos 297 & 298)

Source: Walker Transportation Collection, Beverly, Mass.

Figure 39

Undated view of West Canaan/Pattee Station, 129.24
(no longer extant)

Source: Bruce Heald, *Images of Rail: Boston & Maine in the 20th Century.*

Figure 40

Undated postcard view of Tracks across the river from the Baltic Mills, Enfield

Source:
http://commons.wikimedia.org/wiki/File:Upper_Baltic_Mills,_American_Woolen_Co.,_Enfield,_NH.jpg

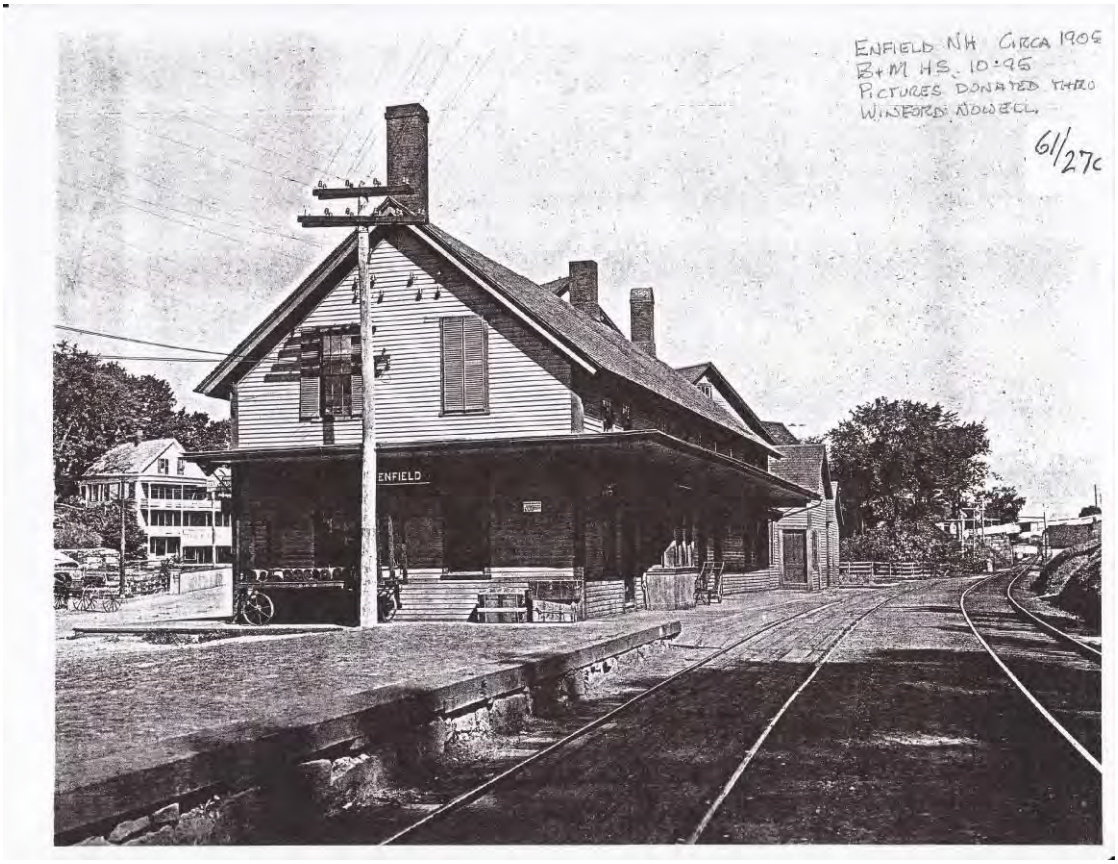


Figure 41

First Enfield Station, c.1900

Source: Walker Transportation Collection, Beverly, Mass.

Figure 42

Undated (c.1910) postcard of Second Enfield Station, 131.66, built 1906 (extant – see photo 345)

Source: http://www.delcampe.net/page/item/id,136931185,var,ENFIELD-NH-RR-Train-Station-c1910-BIRCH-BARK-BORDER,language,E.html#description

Figure 43

Undated photograph of Mascoma Station, East Lebanon, 134.25
(buildings at top adjacent to engine include water tank, ice house, freight station and depot)
(no longer extant)

Source: Collection of Art Pease, Lebanon

Figure 44

Mascoma Station, looking west with lake at left

Source: Walker Transportation Collection, Beverly, Mass.

Figure 45

Collapse of Chandler's Mill Covered Railroad Bridge, Lebanon in 1886
showing typical early wooden railroad bridge

Source: Harry A. Frye, "The Northern Road: A Brief History of the Northern R.R. of N.H.", 1982, 15.

Figures 46 & 47

Undated postcards of Lebanon Station, 138.32
(no longer extant)

Source: Collection of Art Pease, Lebanon

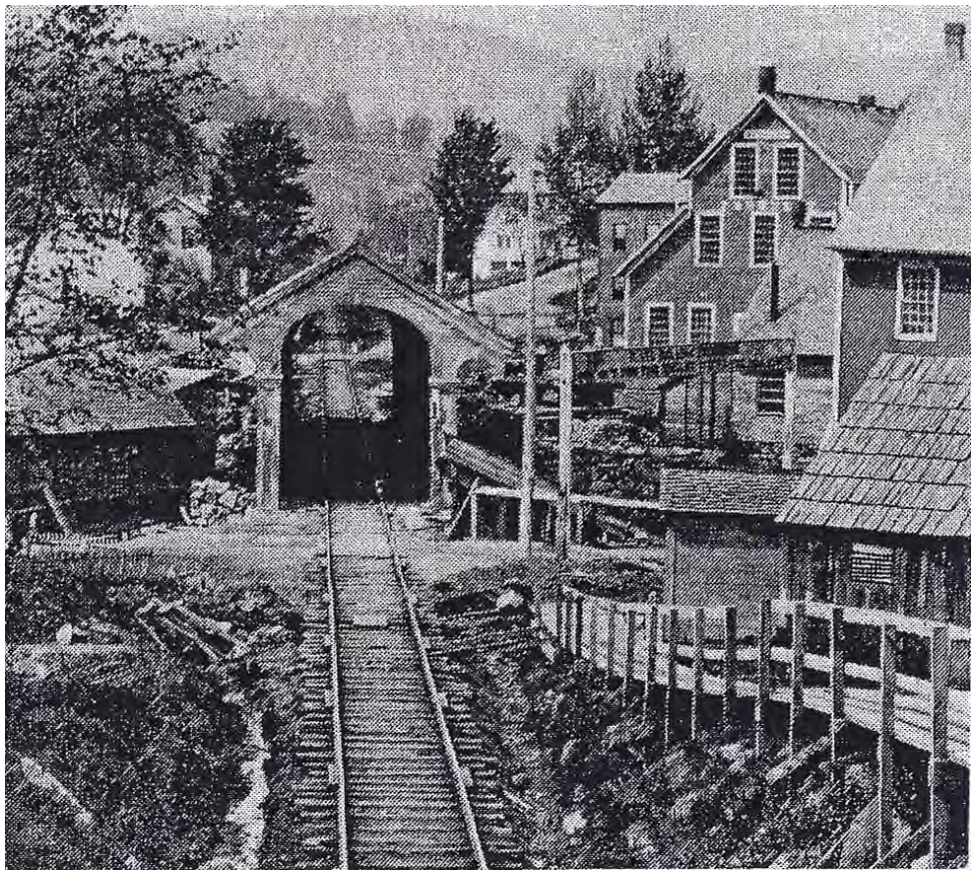


Figure 48

Gristmill Railroad Bridge, Lebanon, about 1870
(current location of Deck Plate Girder over Mascoma River, 138.59?)

Source: *50 Old Bridges of Lebanon, New Hampshire*

Figure 49

Lebanon c.1940, At Grade Crossing, Mechanic & Mascoma Sts.
(see photo 400)

Source: Donald B. Valentine, Jr., "Riding the Northern", 1982, 17.

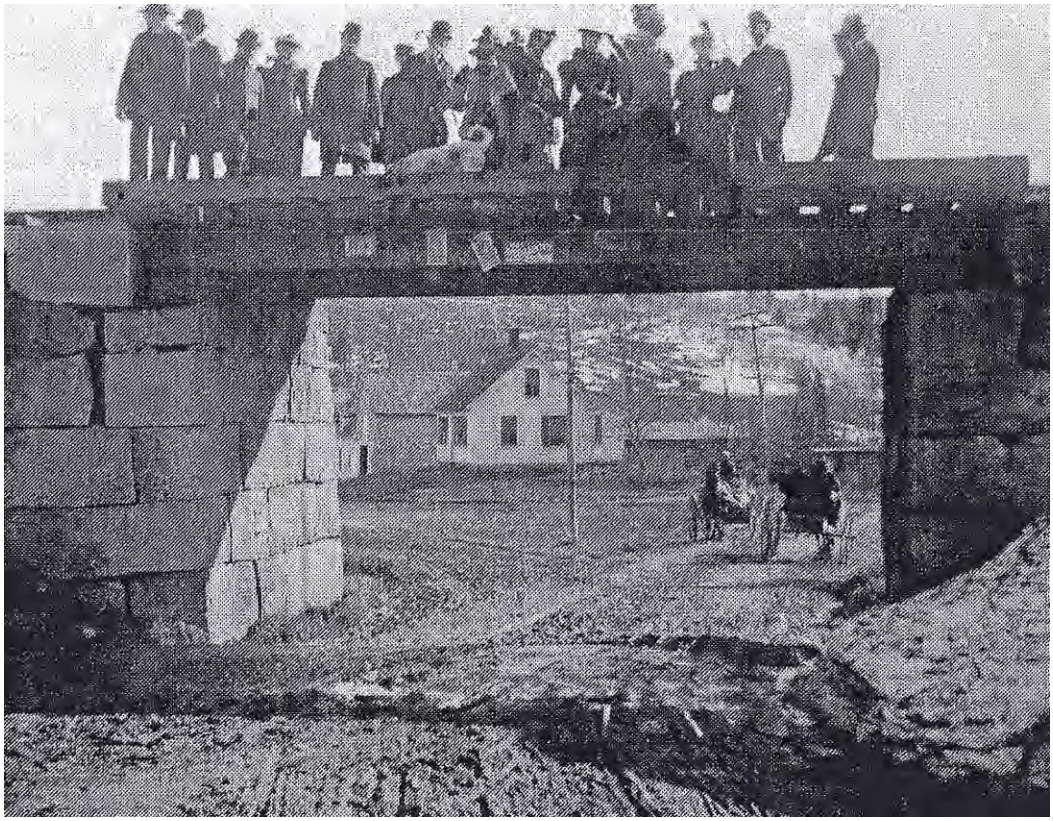


Figure 50

Scytheville Underpass, Lebanon, c.1888
(see Photo 404 for current concrete slab underpass, 139.28)

When the Northern Railroad was first completed, there was a grade crossing here.
In 1859 the Railroad paid for and built the Scytheville Underpass.
This photo was taken after the underpass was rebuilt in 1888-89.

Source: *50 Old Bridges of Lebanon, New Hampshire*

Figure 51

Undated postcard of Stone Arch, Lebanon, 141.35 (extant)

Source: Collection of Lisa Mausolf

Figure 52

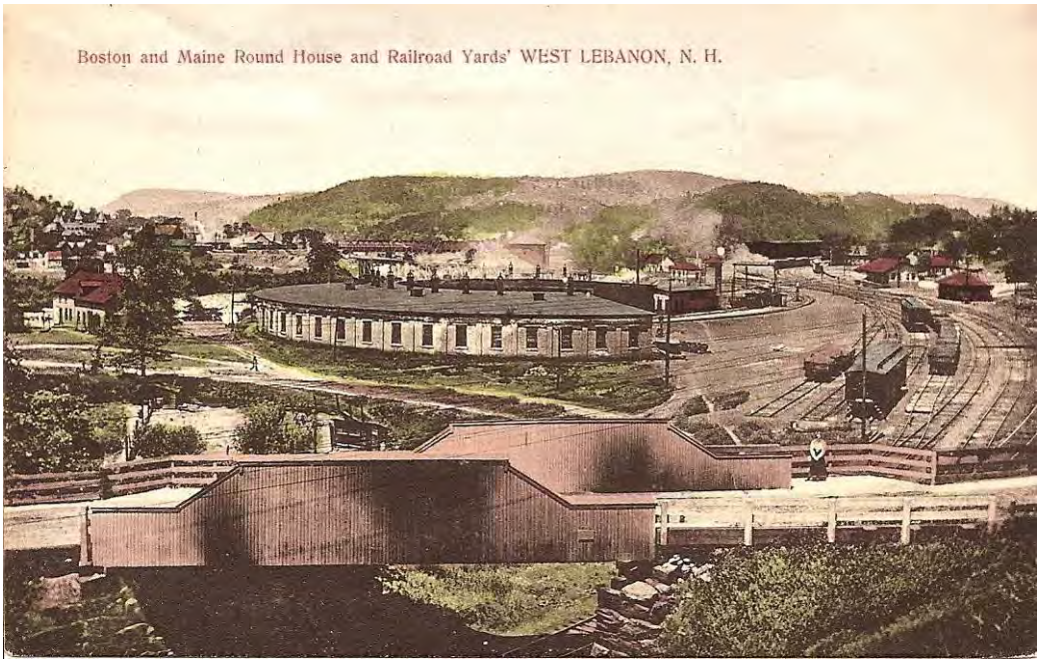
West Lebanon/Westboro Station, 142.55
(extant but moved within railyard)

Source: Collection of Art Pease, Lebanon

Figure 53

c.1915 view of Westboro Station and Freight House in distance

Source: Collection of Frank J. Barrett, Jr.



Figures 54 & 55

Westboro Yard: Top, c.1910 postcard; Below, Sandhouse 1961

Source: Collection of Art Pease, Lebanon

Figure 56

West Lebanon Rail Yard, c.1915, looking north with turntable in foreground

Source: Collection of Frank J. Barrett, Jr.

Figure 57

Undated postcard of Railroad Bridge, 142.74, between West Lebanon and White River Junction, Vermont

Source: Collection of Art Pease

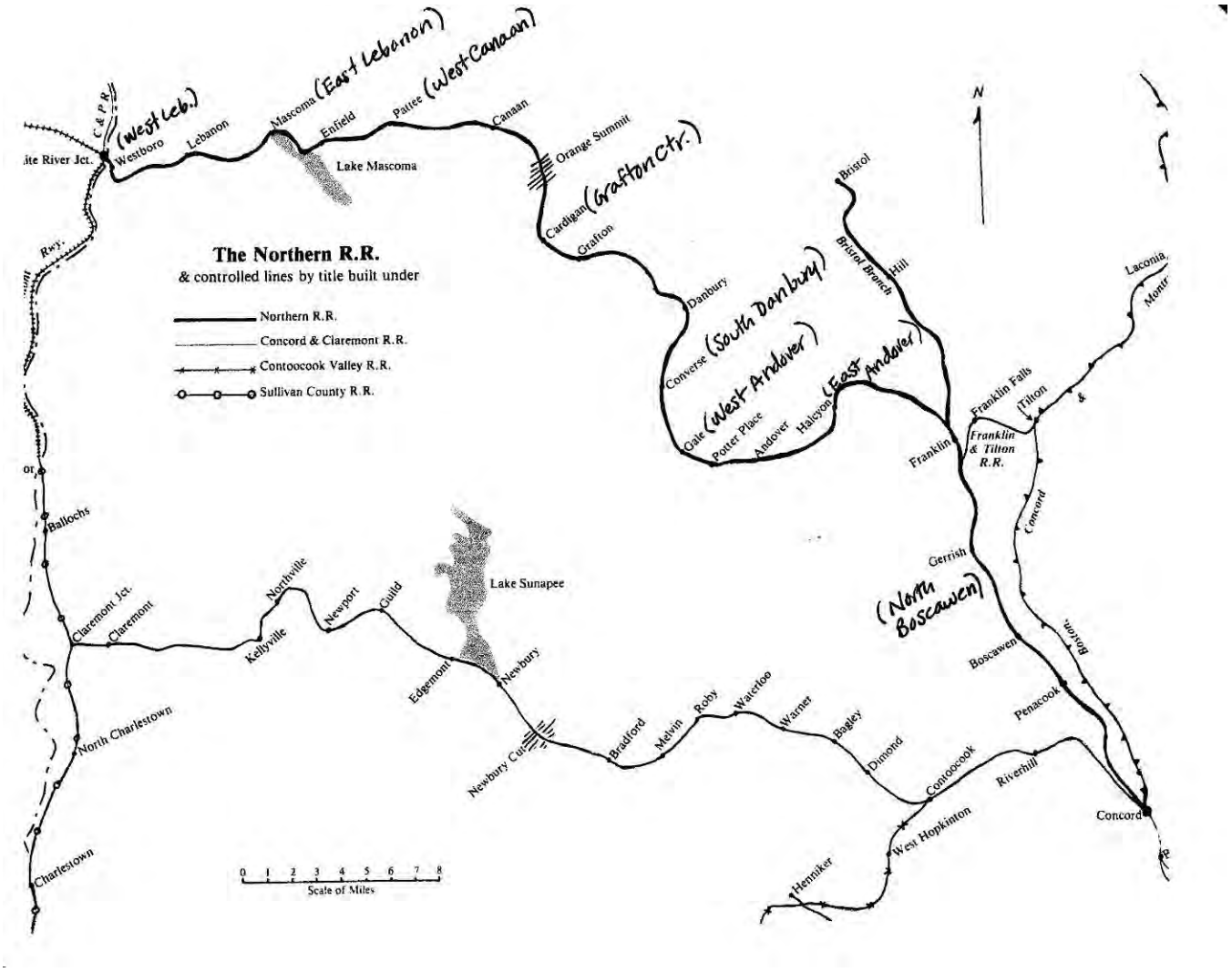


Figure 58

The Northern Railroad and Lines controlled by the Northern Railroad
(Station names in parentheses are original names before renaming in 1908)

Source: Harry A. Frye, "The Northern Road: A Brief History of the Northern R.R. of N.H.", 1982, 9.

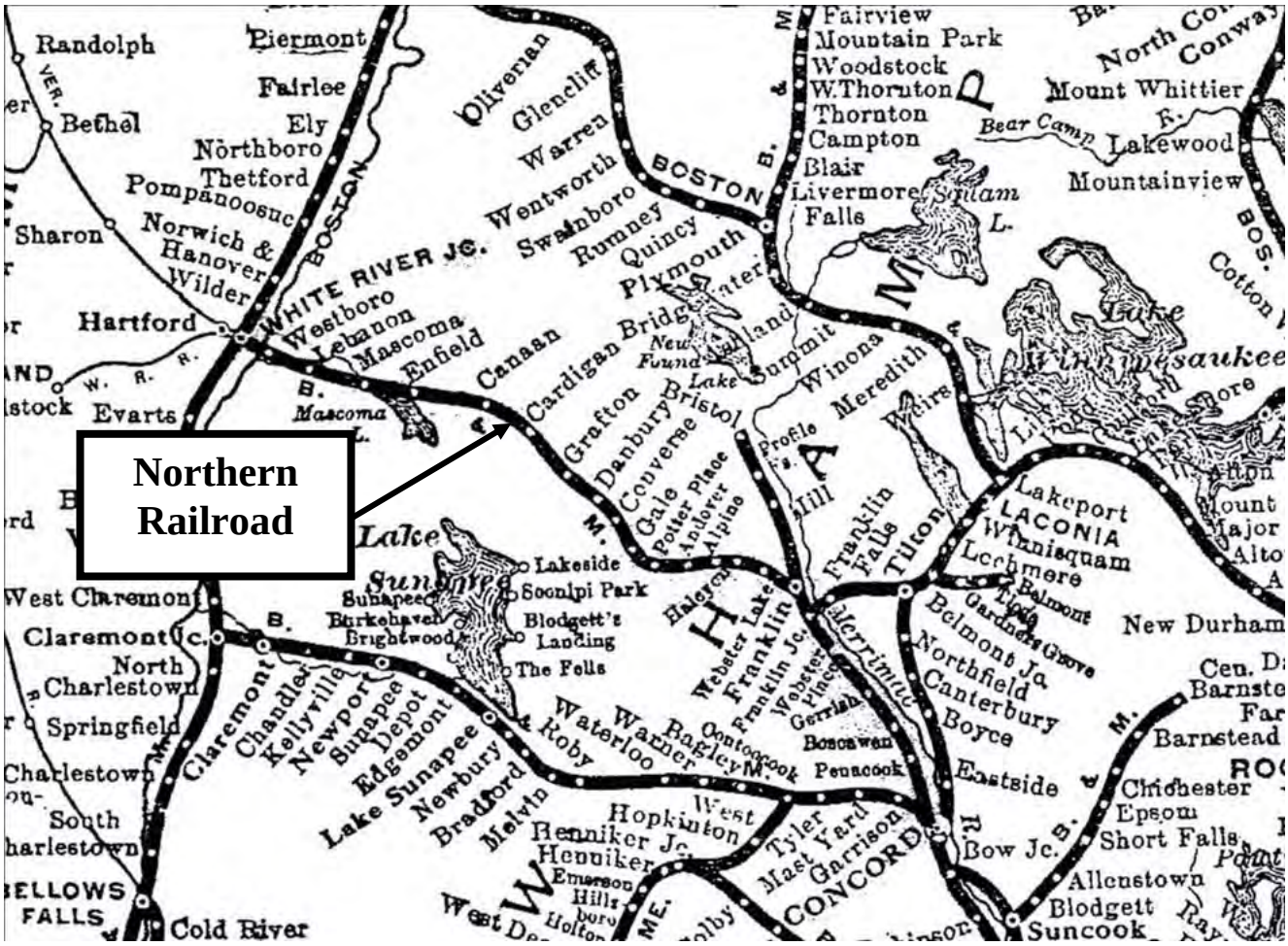


Figure 59

1915 Map of Boston & Maine Railroads showing Northern Railroad

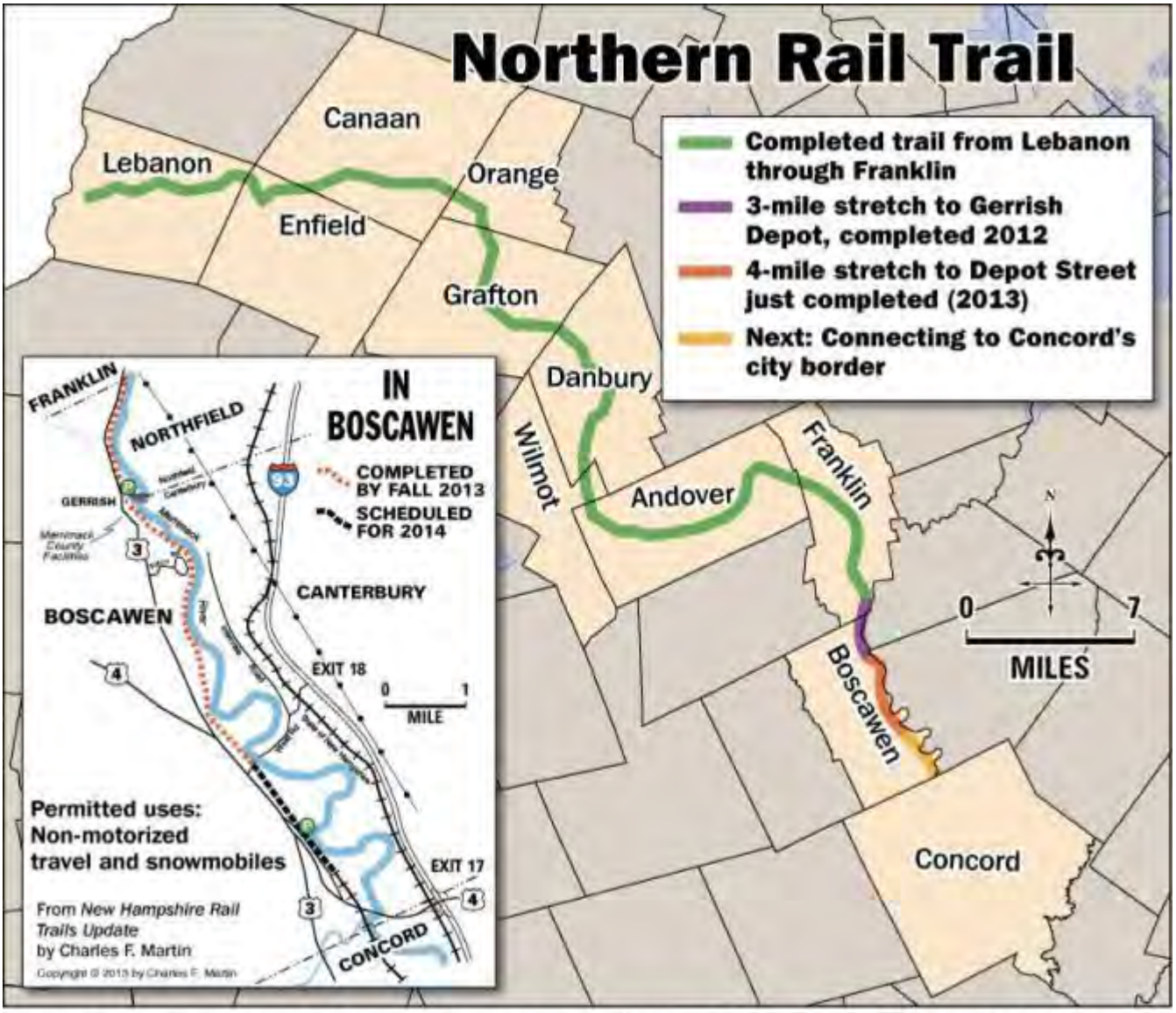


Figure 60

Northern Rail Trail Map, 2013

Source: *Concord Monitor*