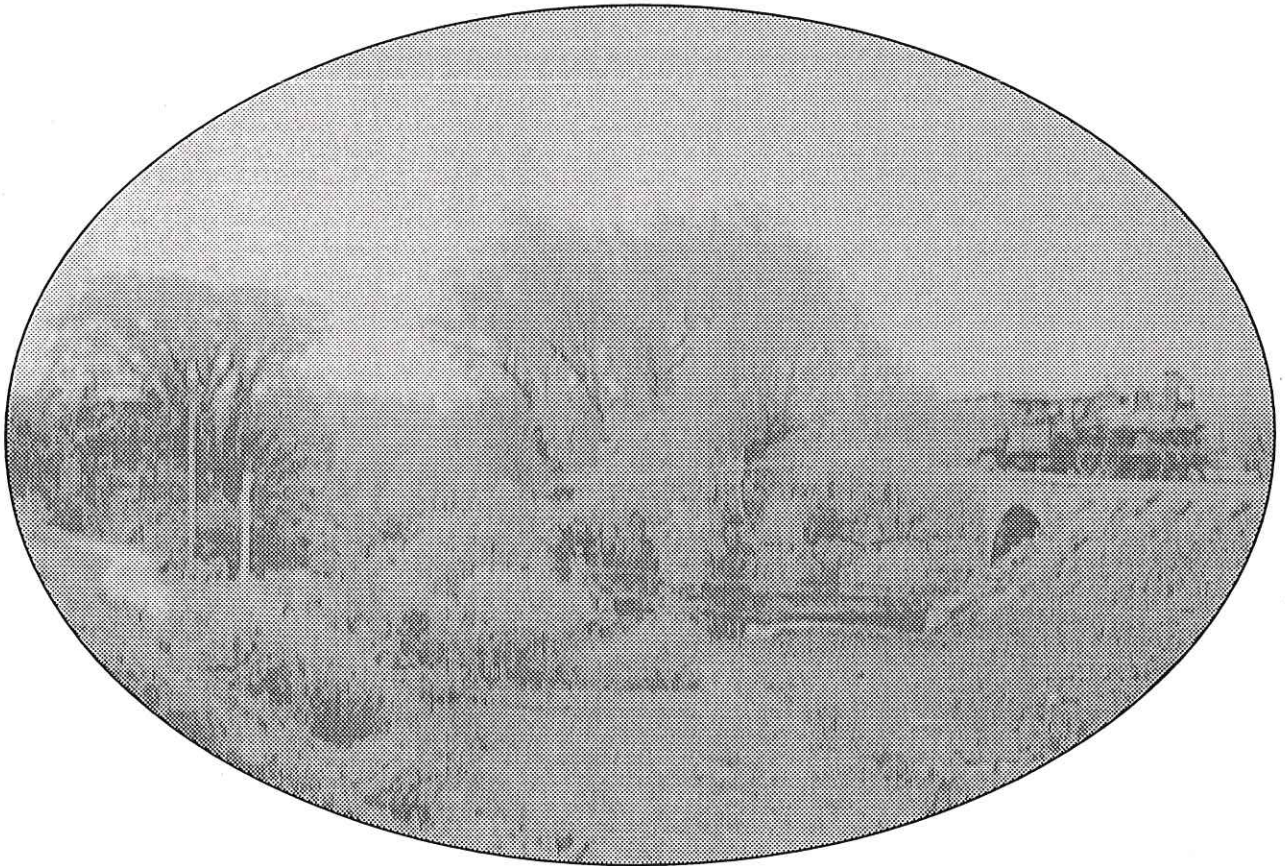


The Iron Horse Heritage Trail Management Plan

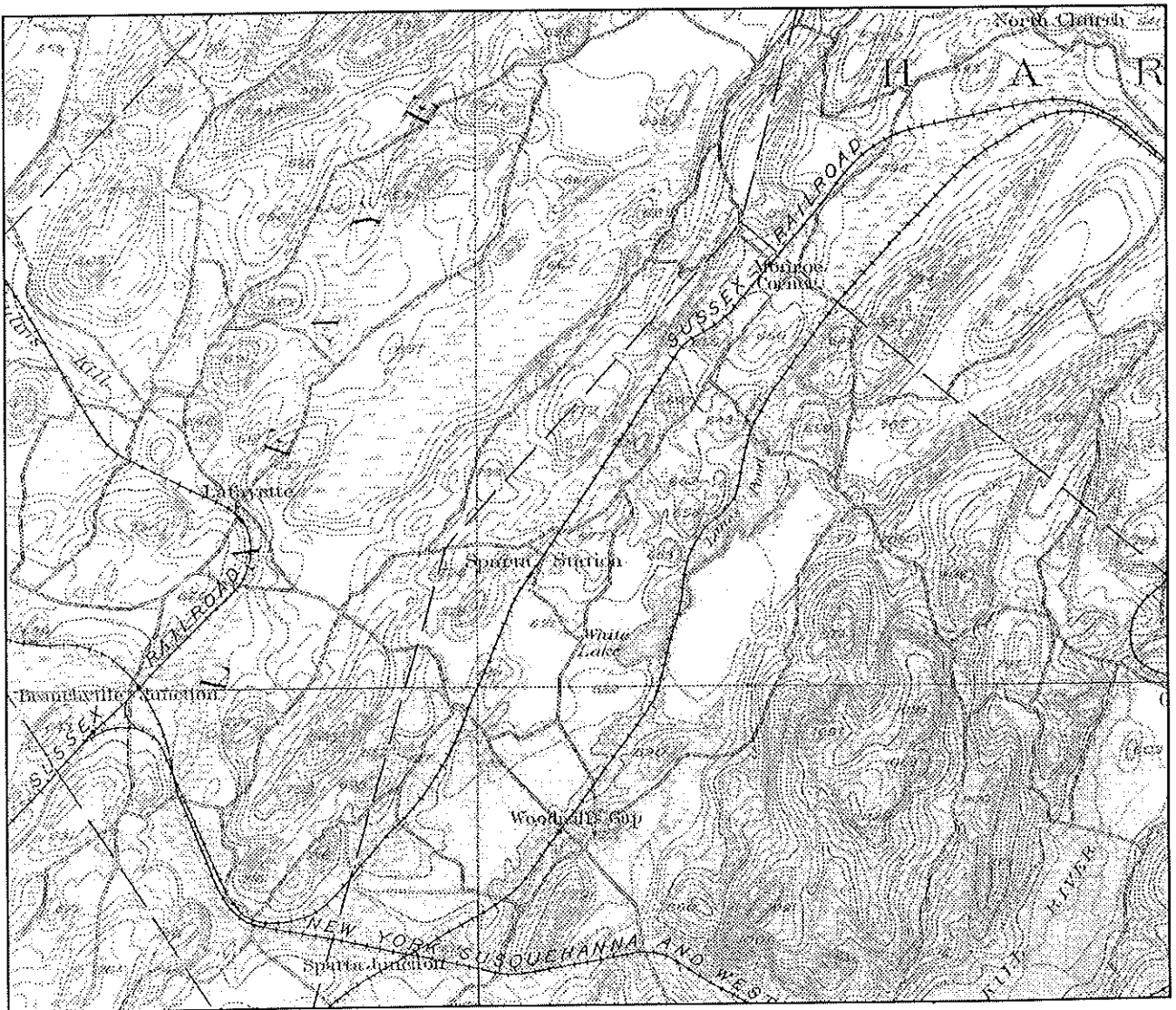
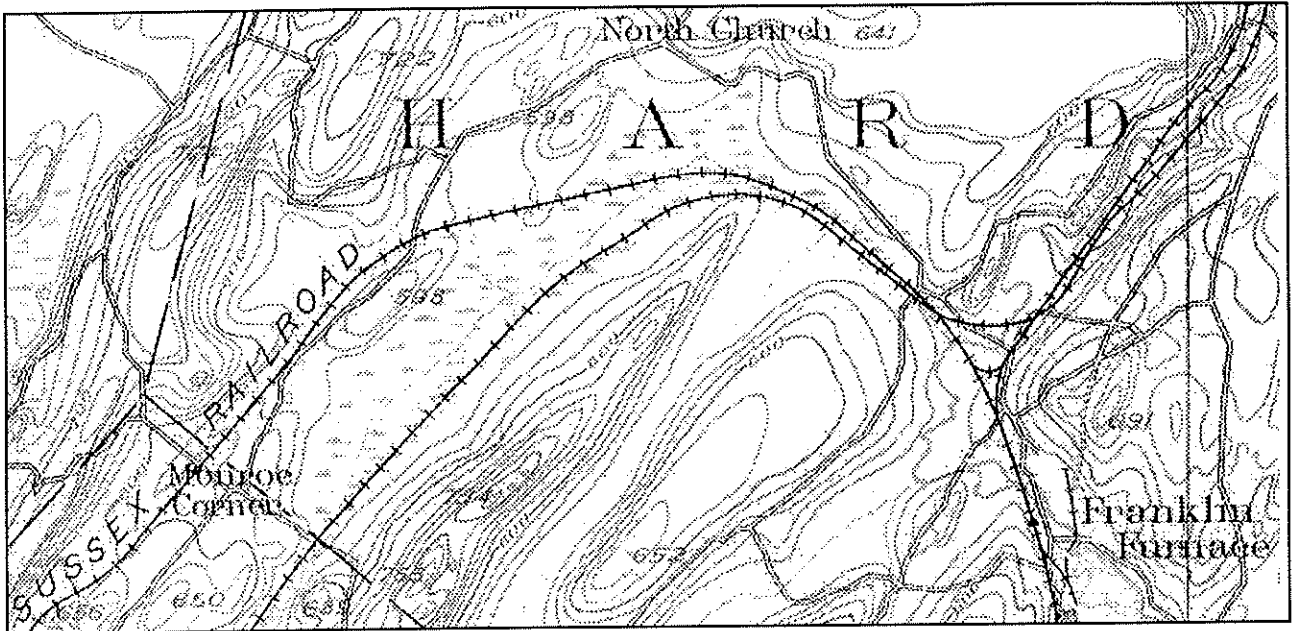
On the former Right-of-Way of the
Franklin Extension of the Sussex Railroad
(the Sussex Branch of the Delaware, Lackawanna & Western Railroad after 1881)



A train on the Sussex Branch of the Delaware, Lackawanna & Western Railroad crosses the Walkill in Franklin on a stone bridge erected in 1869. [Photo between 1890 and 1901] Detroit Publishing Co., State Historical Society of Colorado; 1949. Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Northern Region Office
20 Route #23, Franklin, NJ 07416
Division of Parks and Forestry,
NJ Department of Environmental Protection
May 2002

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Franklin Furnace Quadrangle, Topographical Map of New Jersey, 1884.

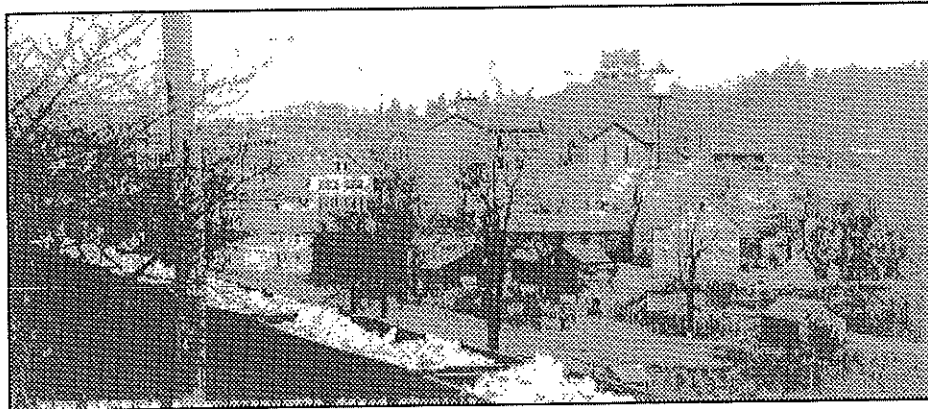
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"Times have indeed changed along the Franklin Branch of the Lackawanna. Gone are the busy creameries at Monroe and Ackerson; gone are the long puffing ore and limestone trains that used to keep the rails busy and shining, and many men engaged at profitable labor; gone are the heavy shipments of miscellaneous freight and express matter that formerly kept things humming at the old Franklin station and freight house; gone are the many passengers who rode the rails between the old mining town and the outside world; gone are most of the eight trains that used to pull into Franklin daily over the Lackawanna, in addition to the limestone specials — just two trains left and one is slated to pass from the schedule on Saturday, leaving just one lonesome Iron Horse left like the Last Rose of Summer.

Soon that train too will become a thing of Yesterday, living only in the memory of old-timers. Then, perhaps, the rusted rails will hum no more, the grass and weeds will cover the ties and Mother Nature, in pity, will cast her garments of greenery over the old roadbed, where once the fruits of commerce passed thundering along."

The Sussex Independent, January 30, 1931



1.0 Introduction and Summary

Returning to Franklin in 1921, after an absence of thirty years, Joseph Richards recalled the days when his father was foreman at the Lang Shaft of the old Franklin Iron Company. That was back in 1864, when the mining town had a population of about 500 people and no railroads. At that time, the mine owners spent about \$30,000 annually to haul Franklinite and zinc ores ten miles in wagons, each pulled by six or eight head of horses. The round trip took teamsters a day to make: up and down the steep slope of Hopewell Mountain on stone steps to Woodport on Lake Hopatcong. Canal boats carried the ore down the lake and into the Morris Canal for shipment to Newark.

The Civil War awakened the industrial power of the Northern States. After the first battle between ironclad gunboats in March 1862, experiments proved the value of Franklinite for armor-plating ships, for manufacturing cast and wrought iron for large caliber guns, and for covering forts. Franklinite paint was used on ironclad steamers, tin roofs, iron railings, the bottoms of wooden vessels, and the paddle wheels of ocean steamers. Industrialists Moses Taylor, John I. Blair, Seldon T. Scranton, Joseph H. Scranton, Charles Scranton, and William E. Dodge, proprietors of the Lackawanna Iron and Coal Company, of Pennsylvania, purchased the Boston Franklinite Company's mineral properties and ironworks in May 1864. They also negotiated a purchase of the Sussex Railroad in order to resolve the long-standing transportation difficulties.

The Franklin extension of the Sussex Railroad, built in 1868-69, opened the first rail outlet to the spectacular iron and zinc deposits of Franklin, New Jersey, and brought coal and all other articles necessary to the operation of its mines and ironworks. This extension consisted of nine miles of track, starting from Branchville Junction on the Warbasse farm in Lafayette and following the grassy banks of the East Branch of the Paulinskill upstream, along the margins of Germany Flats. The iron rails followed the contour of successive limestone and slate ridges, running westward of Monroe Corners. Bending eastward below the old North Church, the rails twice crossed the Wallkill on stone bridges, halting near Franklin Furnace.

Who can calculate the vast mineral wealth that once flowed down this road? Rattling wheels and rolling stock have vanished from the track where iron steeds tugged ore trains through the green pastures and cornfields; the path now traces a quiet woodland and stream. Abandoned seventy years ago, the trail of the Iron Horse winds precariously on the very edge of memory. But its scenic meanders refresh our curiosity, building admiration for nature's reclamation of forgotten places.

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Converting Rails-to-Trails, the New Jersey Trails System continues the public benefit of abandoned railroad rights-of-way, opening safe and scenic corridors through the countryside. The Iron Horse Heritage Trail is an eye-opener, traversing a ponded, picturesque subvalley of the Great Appalachian Valley as it passes the watershed between headwaters of the Paulinskill and Wallkill, respectively tributaries of the Delaware and Hudson Rivers. Through hill and dale, the scenery reports the ice-recessional history of the Kittatinny Valley: glacial lake-bottom deposits, ice-contact deltas, and melt water deposits, that fill the plain between two recessional moraines, formed as the Wisconsin ice receded from its maximum between 20,000 BP and 18,000 BP. In a matter of miles, travelers wander a narrow limestone valley, filled with drift, stepping along the Great Slate Mountain, before touching the Highland gneiss near Monroe Corners.

The Iron Horse Heritage Trail provides public access to, and travel within, the abandoned right-of way of the 1869-1934 Franklin extension of the Sussex Railroad as a scenic connecting or side trail, for the conservation, appreciation and quiet enjoyment of its significant scenic, historic, natural, ecological, geological, and cultural qualities. Its south-western connection to the Paulinskill Valley Trail (former right-of-way of the New York, Susquehanna & Western Railroad) and to the Sussex Branch Trail (former right-of-way of the Sussex Branch of the Delaware, Lackawanna & Western Railroad) opens scenic and historic public corridors, to and from the numerous mineral heritage sites of the upper Wallkill Valley.

This Trail Management Plan describes the context and qualities of the Iron Horse Heritage Trail in order to determine the feasibility and desirability of its designation as a scenic or recreational resource, identifying the maximum public benefit compatible with the nature and purposes of the trail. It designs a program of development and management to harmonize with the trail environment, protecting its scenic values while minimizing any potential adverse effects upon its neighbors. In seeking to define the public interest, this Trail Management Plan also opens the process of designation and management to the scrutiny and participation of local governments, adjacent landowners, as well as potential users, whether they be individuals or organized interest groups.

1.1 Rails-to-Trails Initiatives in Northwestern New Jersey

The proposed Iron Horse Heritage Trail is one of three projects actively being considered for addition to the 47 miles of existing rail-trails in northwestern New Jersey. The State Park Service currently administers the 20-mile Sussex Branch Trail on the former rail bed of the Sussex Branch of the Delaware, Lackawanna & Western Railroad, running north from the Musconetcong River in Byram Township to Branchville (with the exception of 1 1/2 miles within the limits of the Town of Newton). The section south of Andover was acquired in 1979 and the remainder in 1982. The Paulinskill Valley Trail utilizes 27 miles of the abandoned New York, Susquehanna & Western Railroad, acquired for trail purposes in 1992. It crosses the Kittatinny Valley between Knowlton Township in Warren County and Sparta Junction in Sussex County. (For map, see 11.0 Appendices, p. 21)

The proposed Iron Horse Heritage Trail will occupy 9.25 miles of the abandoned right-of-way of the Franklin Extension of the Sussex Railroad (D. L. & W.), opening a connection between the Sussex Branch and Paulinskill Valley Trails in Lafayette Township and the proposed Wallkill Valley Heritage Trail in Franklin. The remaining segment of the Sussex Branch of the Delaware, Lackawanna & Western Railroad, extending a half mile through the Borough of Branchville, is also being discussed for development as a heritage rail-trail. The proposed Wallkill Valley Heritage Trail will follow the abandoned right-of-way of the Midland Railroad, built in 1871-72 (which became the Hanford Branch of the New York, Susquehanna & Western Railroad in 1881), and link significant geological and historical resources associated with the world-renowned mineral heritage of the Franklin Formation along the Wallkill from Ogdensburg through Hamburg.

Additional abandoned rail lines being considered for acquisition include 18.5 miles of the Lehigh & New England Railroad, 31 miles of the Lehigh & Hudson Railway, 19 miles of the Warren Branch of the Delaware, Lackawanna & Western Railroad (including the Oxford and Bel-Del branches), and the 7 remaining miles of the Hanford Branch of the New York, Susquehanna & Western, running between the Wallkill Wildlife Refuge and the State line. When complete, the New Jersey Trail System could make 137 miles of rail-trails in Sussex and Warren Counties available for non-motorized public use.

1.2 Rail-Trails and Heritage Interpretation

Our historical and natural heritage enriches us by its mere presence, evoking wonder and demanding explanation. Interpretation makes the bridge between curiosity and understanding, between observation and insight.

Although nothing in the New Jersey Trail System Act of 1974 (P. L. 1974. c. 159) officially recognizes the interpretive value of rail-trails per se, this trail has such significant historic and natural resources along its route that the functional designation of a heritage trail is more than appropriate. After all, heritage interpretation strives to enlighten people as to their interesting and significant surroundings, preparing the foundation for true resource stewardship.

A recent study on projected visitor trends in the northeastern United States notes that the programmatic and experiential aspects of tourist visitation "will become increasingly important in visitor satisfaction and the creation of memorable experiences will become the most important variable in determining the level of visitor satisfaction." To meet this challenge, heritage interpretation will become an important component of tourism, addressing an aging, better educated, and more diverse audience.

As stewards of the land, of its natural diversity and its splendor, of its scenic wonders and historic places, the Division of Parks and Forestry offers an inclusive interpretive program, providing opportunities for people to connect with the historic and natural resources in its care, using heritage interpretation to create meaningful, memorable experiences for the broadest possible audience. The proposed Iron Horse Heritage Trail tells interesting and important stories about the land and the people, revealing the link between natural resources and history.

1.3 The Iron Horse Heritage Trail

The Northern Region Office of the State Park Service is working in partnership with County and municipal officials, as well as interested citizens, to develop a rails-to-trails heritage corridor along the line of the abandoned Sussex Branch of the Delaware, Lackawanna & Western Railroad, extending from Lafayette Township into Franklin Borough, thereby linking significant scenic, historic and natural resources for their recreational and educational value.

The State of New Jersey is negotiating either to purchase in fee or to obtain an easement for the surficial rights to this former railroad right-of-way, in order to develop and manage a connecting trail as part of the New Jersey Trails System. Either Kittatinny Valley State Park, which already operates the connective Paulinskill Valley and Sussex Branch Trails, or a new management unit, will manage and maintain the Iron Horse Heritage Trail.

2.0 Background

The Sussex Railroad built the Franklin extension in 1868-69. Delaware, Lackawanna & Western Railroad purchased the Sussex Railroad in 1881. The stockholders of the Sussex Railroad Company, a subsidiary of the Delaware, Lackawanna & Western Railroad Company, voted to abandon nearly nine miles of track between Warbasse Junction and Franklin Junction in February 1934. The County of Sussex then acquired the right-of-way. The State of New Jersey is negotiating to obtain surficial rights to 9.25 miles of the former right-of-way of the Franklin Extension of the Sussex Railroad. The Iron Horse Heritage Trail bed departs the Sussex Branch Trail on a wye at Branchville Junction, just west of Warbasse Junction Road in Lafayette Township (and only a quarter miles southwest of Warbasse Junction, where the Sussex Branch and Paulinskill Valley Trails intersect). For the first 1.5 miles, it continues alongside the Paulinskill Valley Trail, crossing the former right-of-way of the New York, Susquehanna & Western (Paulinskill Valley Trail) just north of Garrison Road, before reaching to Sunset Inn-Limecrest Road. From there, the trail runs .75 mile to the border of Sparta Township. The trail runs northeast for about 4 miles through Sparta Township, curving south of North Church Road for 2.5 miles in Hardyston Township, and running its final 0.5 mile through Franklin Borough to an intersection with the abandoned line of the New York, Susquehanna & Western Railroad.

3.0 The Trail Environment

The route of the Franklin extension departed the Sussex Railroad on the Warbasse Farm, outside of Newton, and pro-

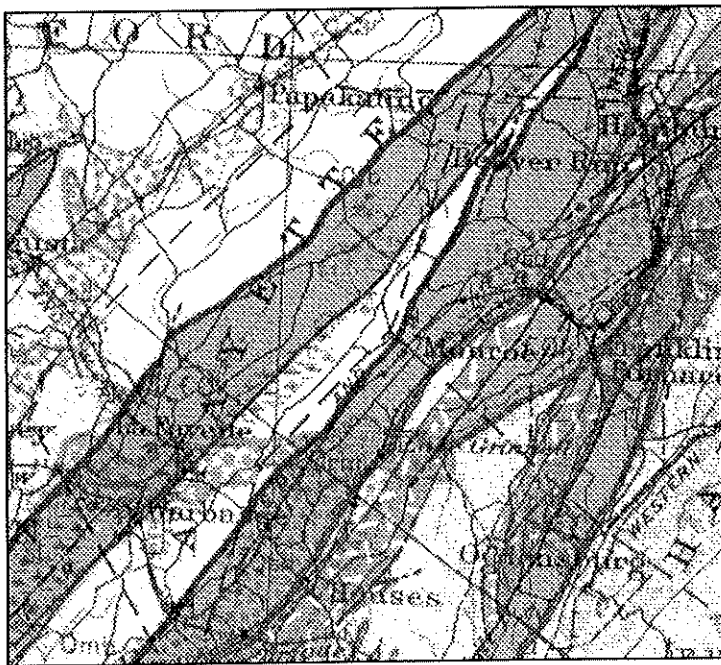
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ceeded along the East Branch of the Paulinskill. By adapting the grade of the railroad to the average level of the successive limestone ridges, running east and west, in almost a direct line with the route of the highway (Route #94), the distance was shortened and a great saving of labor effected. The railroad engineers maintained an easy gradient along the East Branch of the Paulinskill and through a string of wetlands, by raising their track upon an earthen embankment. The heaviest rock cutting was in the vicinity of Samuel Oliver's house, where the railroad left the valley of the East Branch and made its way directly through the hills toward Franklin, just west of David Ackerson's house (1868). For a mile or more, at this point, there was considerable rock work to be done. The railroad crossed the main highway between Lafayette and Franklin (now Route #94), close to the residence of Mr. Mabee (near what is now the Sussex County Technical School), following the range of hills, west of Monroe Corner, to the Hopkin's farm, and thence, again re-crossing the highway (Route #94), east, between the old Hopkin's homestead and the stone house beyond, making an almost direct line along the meadows, east of North Church Road, to the Fowler Mansion, on Stone Mill Road in Franklin. A stone bridge, costing \$5,000, was constructed over the Wallkill. A section of heavy embankment through an ash swamp bordering the Wallkill, and another single-span stone bridge over the stream, brought the Franklin Extension to a turntable depot, situated on the slope of the ridge overlooking Franklin Furnace. A wye was constructed in August 1871 to connect the Midland (New York, Susquehanna & Western after 1882) and Sussex Railroads, near the Fowler place in Franklin.

The Franklin Extension runs up what was once known as Sutton Valley, through Monroe Corners, toward North Church. The ridge of Martinsburg Shale binding this valley on the west has an elevation of 800 feet southeast of Lafayette, but declines to about 700 feet west of Hamburg. A terrace of the Jacksonburg Limestone mediates between the slate upland and the limestone vale below. A gneissic spur of the Highlands, called the Pimple Hills, runs passes northward through Houses Corners and Lake Grinnell, thinning to a mere ripple on the landscape between Monroe Corners and Hamburg.

Above the broad belt of morainal hills at the head of the Paulinskill Meadows, the drainage flows northeast into the Wallkill, including the overflow of a string of kettle ponds nestled in the gravel-filled subvalley. White Ponds, the most southerly sheet of water, lies in the valley at the west foot of the Pimple Hills. It feeds northward into Lake Grinnell (formerly known as Lanes Pond), whose outlet stream passes into Kimbles Pond at Monroe.

The East Branch of the Paulinskill drains Germany Flats, collecting the outlet of Howells Pond and several small tributaries rising on the Pimple Hills and Hickory Hill, along the boundary between Sparta and Andover Townships.



Lewis and Kummel, *Geologic Map of NJ, 1910-1912*, showing bedrock geology (Martinsburg Shale and Kittatinny Limestone) and recessional moraines

3.1 Major Topographic and Geologic Features

Crossing the watershed between tributaries of the Delaware and Hudson Rivers, the Iron Horse Heritage Trail discloses the remarkable deglacial history of the Kittatinny Valley. Within the distance of nine miles, the Franklin extension of the Sussex Railroad was built across a rolling landscape of ice-contact deltas and a proglacial lake basin, extending between the sand and gravel hills of ice-recessional moraines, which divide the headwaters of the Paulinskill and Wallkill, just south of White Lake.

Stagnation of the ice along the Ogdensburg-Culvers Gap moraine led to the formation of proglacial Lake Newton, whose poorly drained bed is now occupied by the humus deposits of the Paulinskill Meadows between Newton and Lafayette. This recessional moraine is conspicuous

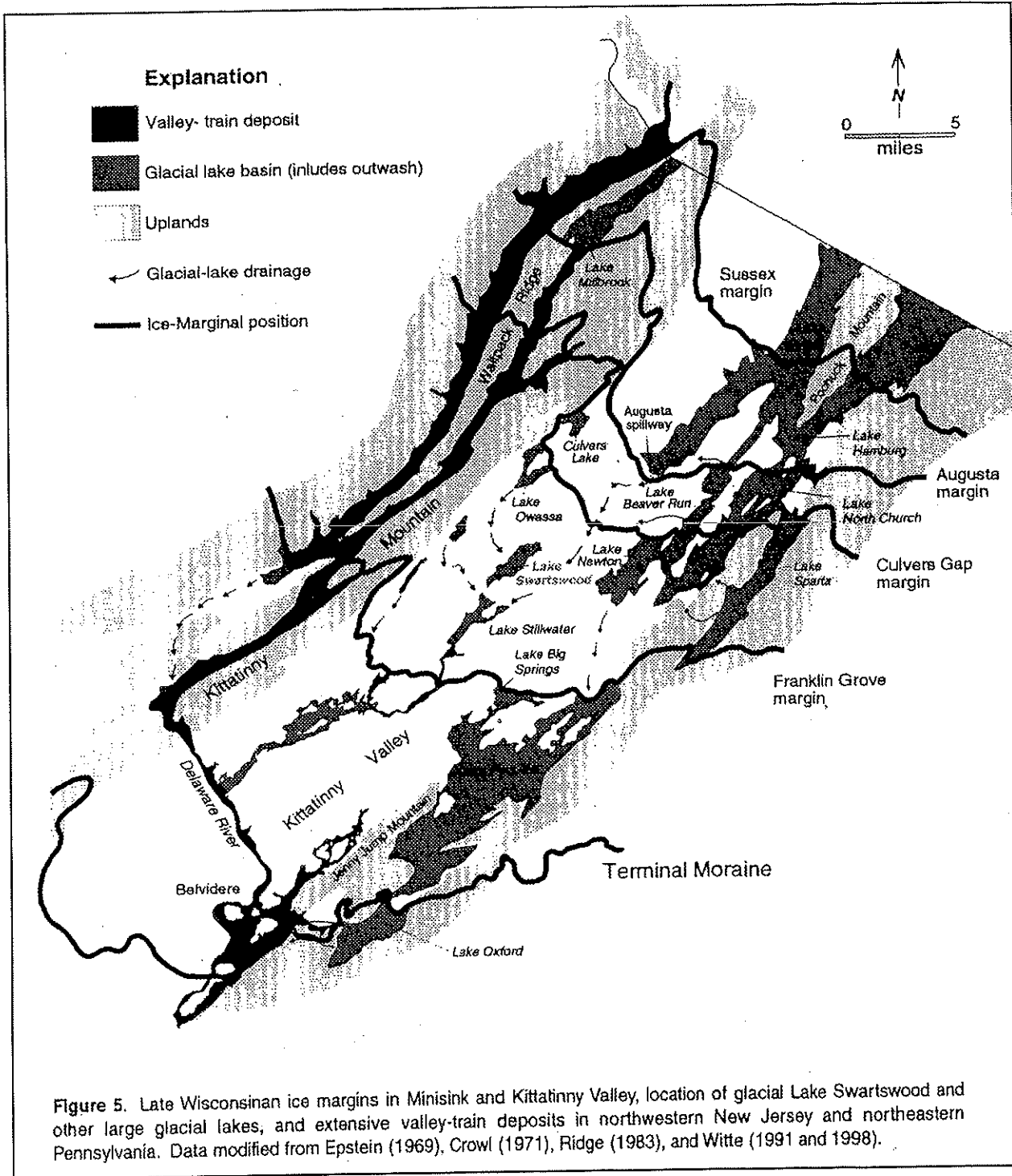


Illustration from *Geologic History of Swartswood Lake*, (June 3, 1998 - Draft) by Ron W. Witte, NJ Geological Survey

between Branchville Junction and Lafayette. The Iron Horse Heritage Trail begins southward, near Warbasse, and follows the cross-cloze through which the East Branch of the Paulinskill drains Germany Flats, crossing the lake-bottom deposits of proglacial Lake Newton and stream-terrace deposits associated with the drainage of proglacial Lake North Church. For a portion of this distance, the trail closely parallels the grassy and wooded banks of the stream. The trail continues along the ice-contact delta known as Germany Flats, a broad sand and gravel plain, pocked by marshy depressions formed by stagnant blocks of glacial ice. For nearly its entire length along the western edge of the subvalley, the rail bed is elevated, with little vegetative growth obstructing the ballasted track line.

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The trail will skirt the fenced south edge of the athletic fields of the Sussex County Technical School, crossing Route #94. Allowing for a short by-pass on the west side of the highway, it continues east along the foot of the slate uplands and limestone terraces through Monroe. The string of lakes to the east, along the Lehigh & Hudson Railway, are kettle ponds. The sandy plain rises northeast, reaching a maximum at Lake Grinnell where it joins the recessional moraine that crosses the valley at this point. Limestone knobs protrude above the till and massive kame terraces are evident between the north end of Lake Grinnell and Monroe.

Crossing east of Route #94 at the intersection of Lasinski Road in Hardyston Township, it skirts the south side of North Church Road (Route #631), running between North Church Road and the Conrail tracks. This section of the roadbed is elevated above the wetlands surrounding the outlet stream from Kimble Pond, its minor tributaries passing through existing culverts. The North Church delta is a flat-topped plateau of sand and gravel, five-eighths of a mile in length and a mile and three-quarters wide, extending between North Church and Hardystonville. Just north of the road, the delta front on its lobate south side stands as much as 100 feet high. The most massive kames in Sussex County, some reaching 150 feet in height, are found along the northern margin of the delta, in the vicinity of Hamburg. The topography indicates that proglacial Lake North Church was held against the living ice front to the north and dammed by the huge embankment of drift across the Walkkill valley at Ogdensburg on the south, and by remnants of the Ogdensburg-Culvers Gap moraine.



Fig. 43.

The North Church delta, sketched from a photograph. The elevated flat near the background is the delta.

Figure 43. Rollin Salisbury, *The Glacial Geology of NJ, Vol. V of the Final Report of the State Geologist*, (Trenton: 1902)

3.2 Natural Heritage Priority Sites

Natural Heritage Priority Sites contain some of the best and most viable occurrences of endangered and threatened species and natural communities. The boundaries of each are drawn to encompass critical habitat. Often the boundaries extend to include additional buffer lands to protect the habitat. Each site is ranked according to its significance for biological diversity. The scale ranges from B1 to B5, with sites ranked B1-B3 being of global significance and sites ranked B4-B5 being of state significance: B1 (outstanding significance, generally the "last of the least" in the world"); B2 (very high significance, such as the most outstanding occurrence of any natural community); B3 (high significance, such as any other viable occurrence of an element that is globally imperiled); B4 (moderate significance, such as a viable occurrence of a globally rare element); B5 (of general biodiversity interest). The route of the Iron Horse Heritage Trail passes through a Natural Heritage Priority Site, namely, the Monroe Big Springs. See map in the Appendix at the end of this document.

1. Monroe Big Springs

Description of Site

The site is a large limestone fen wetland complex found in the headwaters of a tributary to the Wallkill River. Vegetation ranges from forested wetlands to shrub and herb dominated meadows. Adjacent lands are largely farms or forests.

Boundary Justification

The primary boundary is drawn to include key wetland habitats for rare species and natural communities. The secondary bounds are drawn to include the topographic drainage basin of the wetland complex.

Biodiversity Rank (B2)

The site contains a good example of a globally imperiled wetland natural community, and more than seven special concern plant species and animal species.

4.0 Prehistoric Resources

The prehistoric Minisinks were a dialectal grouping and loose alliance of families, who inhabited the ridges and valleys from the Hudson Palisades and interior Highlands northwest to the Catskill-Pocono Plateau, between the tidal heads of the Schuylkill and Hudson Rivers. Though widely dispersed along the principal streams of this rugged, deglaciated hill country, the largest groups resorted to seasonal resource-stations, mainly fall/winter hunting camps and spring fishing stations, in the Upper Delaware Valley.

At least three affiliated groups of Minisinks are historically identifiable as residing inland of the first range of Highlands, within the present boundaries of New Jersey: the Minisinks, Pequannocks, and Tohockonetcong. The Minisinks inhabited several large villages, in the Upper Delaware Valley, centering in the vicinity of the river island called Minisink. The name "Minisink" may derive from *minne* (a corruption of *mbi*, meaning "water") or from *minnisais*, meaning "the smaller island." The Pequannock resided east of Lake Hopatcong, along the stream that still bears their name, extending southeast to the Watchung Ranges. "Pequannock" is probably an approximation of *pequen-ittuk*, referring to a place "cleared of trees." Eastward, between the Ramapo Mountains and the Saddle River, their territory blended into the domain of their relations and allies, the Machkentiwomi (Kakiat) and Tappans.

The Tohockonetcong band dwelt upon the river and subvalley of that name, later called the Paulinskill. Their principal habitations surrounded the Paulinskill Meadows, in and around present-day Newton, and on the shores of Swartswood Lake. Their name may be a corruption of *Pokhakenikan*, meaning "a hole in the earth, a hollow, or a grave." Possible explanations for the name include: it may refer to a limestone sink hole near the Big Spring or it may refer to the Devil's Hole in Newton; it may refer to any one of a number of hollows in the glaciated landscape, including the Paulinskill Meadows; or it may refer to one of the prehistoric grave yards in the general vicinity.

A Tohockonetcong village was probably located on elevated ground along the southern margins of the Paulinskill Meadows in Newton, where numerous inhabited sites were crowded into less than half a square mile, inspiring Professor Max Schrabisch to conclude "that this spot was one of the headquarters of aboriginal life here in Sussex County" (*Geological Survey of New Jersey, Bulletin 13. Indian Habitations in Sussex County, New Jersey, 1915*). Several rock shelters can be found in proximity to the Iron Horse Heritage Trail, including Ackerson's rock house; Snover's Cave one mile northwest of Monroe; several sites at Hopkins Corners; and on the Simmons farm (Stone Mill Road), where numerous relics of prehistoric industry have been found.

The loose, nearly egalitarian, social organization of the Minisinks and Lenape suggests small bands of hunter-gatherers, such as the Tohockonetcong, repeating a seasonal circuit of family territories sufficient to their nourishment, harvesting the natural bounty of fish, game and wild plant foods (only supplemented by small-scale horticulture). Seasonal resource stations, whether hunting camps or fishing places, were often sited near the debouchment of tributary streams, suggesting that watersheds demarcated family territories. Usually dispersed according to the carrying-capacity of their lands, related families seasonally congregated in larger alliances. Foot paths marked the pattern of seasonal migrations among resource stations and the network for trade, facilitating the diffusion of cultural traits.

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4.1 Sussex County's First Railroad

For more than ninety years, the mineral and agricultural wealth of the Great Kittatinny Valley languished for want of a cheap, reliable outlet across the Highlands to market. When Peter Cooper, Edward Cooper and Abram Hewitt, owners of the Trenton Iron Company, re-opened the abandoned Andover Mine in 1847, they were compelled to cart their ore to the bank of the Morris Canal at Waterloo in heavy wagons, paying \$800 annually in turnpike tolls. The Sussex Mine Railroad was chartered in 1848 and built as a mule tramway in 1851. Mule teams dragged ore cars from the Andover mine to the White Hall Summit and rode downgrade to Waterloo. A round trip took five hours and 250 tons were transported daily.

The Morris & Essex Railroad began to extend westward from Dover to Hackettstown in 1852. The Sussex Mine Railroad Company then decided to build a steam railroad, to extend from Andover into Newton, and to connect with the Morris & Essex at Waterloo. The Sussex Mine Railroad became the Sussex Railroad Company in January 1853 and contractors Phelps & Co., of Massachusetts, began construction that April. The railroad commenced operations in December 1854, running two trains daily from Newton. The Morris & Essex opened to Hackettstown in January 1855.

The Boston Franklinite Company was organized at Franklin Furnace in May 1860. About 12,000 tons of ore were annually transported in wagons over a distance of 10 miles to the Morris Canal, at an average cost of \$2 per ton and an annual expenditure of \$30,000.

The battle between the ironclad gunboats, the Monitor and the Merrimac, at Hampton Roads in March 1862 predated "a complete revolution in the construction of naval vessels" The British War Department experimented upon two ironclad targets, proving that either could be riddled at a distance of 200 yards. A single bar of Franklinite, tested by order of the French government at the National Forges of the Cussade, proved that its tenacity exceeded that of the best irons of England, Spain, Sweden or Siberia, all of which were tested at the same forges.

On May 17, 1862, the *New York Herald* promoted a railroad extension to Franklin, expecting that "as the franklinite cures both the red and cold short qualities of other irons, the amount that might be used on the North [Hudson] river would soon reach one hundred thousand tons per annum." Under charter from the New Jersey Legislature, the Franklin Steel Company was organized to manufacture Franklinite paint for use on ironclad steamers, tin roofs, iron railings and the bottoms of wooden vessels. After six months' trial, the paint also proved successful in preventing oxidation on the paddle wheels of ocean steamers. It was also said to galvanize iron and to destroy worms and keep vessel bottoms free from grass. As soon as the required capital was raised, the company planned to manufacture Franklinite iron for gunboats and armor-plated men-of-war. With the Civil War pressing all means and routes of transportation to their limits, the Sussex Railroad contracted with Mr. Noble, proprietor of the Mercer County Zinc Works, in January 1864 to forward 60 tons of zinc ore brought weekly by wagon from Franklin to Newton for rail shipment to their Trenton mills. This amount was usually sent down by canal in summer and by rail in winter.

Industrialists Moses Taylor, John I. Blair, Seldon T. Scranton, Joseph H. Scranton, Charles Scranton, and William E. Dodge, proprietors of the Lackawanna Iron and Coal Company, of Pennsylvania, purchased the Boston Franklinite Company's mineral properties and ironworks in May 1864. They also purchased control of the Sussex Railroad.

4.2 Extensions to Branchville, Franklin, and McAfee

An extension of the Sussex Railroad through Lafayette to Branchville was begun in 1867 as an outlet for the agricultural products of that portion of Sussex County, lying along the base of the Blue Mountains, and with the further intention of extending its tracks to the Delaware River via Culvers Gap. The extension to Branchville was funded by an offering of \$180,000 in new stock, but the work proceeded very slowly.

A Citizens' Committee from Newton met in January 1868 with the joint-owners of the Franklin mines and the Sussex Railroad, concerning a proposed branch railroad to Franklin. The Sussex Railroad Company offered to build the main line through Newton, if its citizens agreed to raise \$10,000 to secure the right-of-way and grade from their village to a point in the line of the Branchville extension, about a mile and a quarter from the Newton Depot, and also to secure

the right-of-way from the Warbasse farm to Franklin, by one of three routes to be selected by the Company, for an amount not to exceed \$15,000. The Committee accepted the proposition and thirty of the town's leading citizens signed a \$25,000 bond, which it presented on January 17, 1868, "to the Company in lieu of furnishing the right of way, grading portions of the track, &c."

Having adopted a route through Lafayette, the Directors of the Sussex Railroad authorized the trunk line to Franklin at their meeting in Newton on May 1, 1868. Chief Engineer Charles E. Noble let contracts to grade the nine miles of proposed track. Preparations to extend the Sussex Railroad beyond Franklin to Hamburg were also made in November 1868.

John Blair, president of the Sussex Railroad, awarded contracts for the Franklin extension in May 1868. A large force of workmen pushed construction forward. The grading completed, the contract for laying iron rails was awarded in November 1868 to Isaac L. Overton. Contracts for grading a further extension of the line from Franklin to the State line were awarded in December 1868.

The Lackawanna Iron Company purchased 32 acres of the Fowler property at Franklin, near the terminus of the Franklin railroad extension, in February 1869. The rails reached within a mile of Franklin in April 1869, when the extension was described as "a well laid and well ballasted road, having a firm and solid bed, and being built of iron and ties of the best material."

Daily trains began running over the Franklin branch of the Sussex Railroad, to within half a mile of Franklin, on July 16, 1869. By this time, the line was completed to the Fowler Mansion, near the Wallkill, over which a bridge costing \$5,000 was being constructed. The railroad was to be further extended to Hamburg and Vernon, with the ultimate hope of a connection with the Warwick Valley Railroad, a branch of the Erie. A spur from Hamburg, running about two and a half miles northeast to the Pochuck hematite mine, was graded in December 1868.

With the advent of rail communications, the New Jersey Zinc and Mining Company, of Newark, shifted their operations from Sterling Hill to Franklin Furnace in September 1869. By November 1869, a hundred tons of magnetic ore from the Franklin mines passed daily on the Sussex Railroad en route to Scranton, Pennsylvania. In November 1869, contractors Smith, Towell and Irwin pushed the Franklin extension to completion. Nothing further remained to be done, except to build a bridge of one span across the Wallkill, to fill a portion of the heavy embankment and to lay the track. The Sussex Railroad Company erected a temporary engine house, near Franklin, to accommodate their engines during the winter.

When the Midland Railroad connected with the Sussex Railroad at Franklin in June 1872, Moses Taylor, William E. Dodge, John I. Blair, Seldon T. Scranton, John H. Brown, E. T. Hatfield, Jr., and Joseph C. Platt, Jr., organized the Franklin Iron Company, with mineral rights to 12,000 acres in Sussex County, including one mountain tract of 7,000 acres. Ore came from mines at Franklin, Canistear, and Pochuck Mountain. A new furnace was erected at Franklin during the following year at a cost of \$500,000, producing pig iron which was transferred to Scranton, Pennsylvania, for conversion to Bessemer steel. Running at full capacity, Franklin Furnace produced between 250 and 300 tons of pig iron weekly.

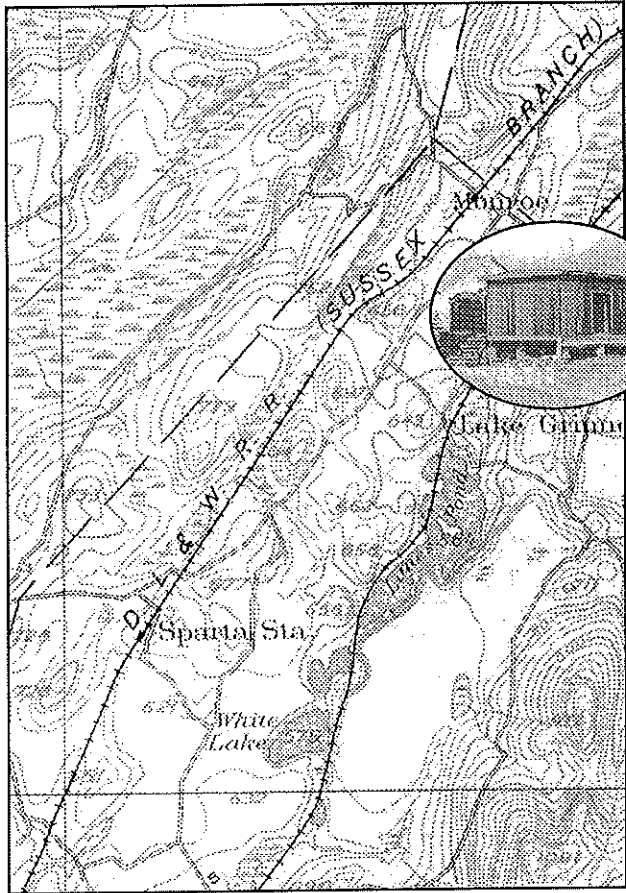
The new Franklin Furnace was put in blast on February 3, 1874, but operations were suspended after only five months on account of the depressed condition of the iron business. In March 1874, the Midland Railroad fell into receivership having "failed to meet its running expenses." In March 1875, it was re-organized as the New York Midland Railroad Company. As mining and manufacturing interests revived, Franklin Furnace was put in blast on July 5, 1879, after five years' suspension. By the end of the month, it was producing 350 tons weekly.

The Sussex Railroad Company contracted with the Franklin Iron Company to transport 17,000 tons of ore from the Franklin and Pochuck mines during the summer months, and with the Passaic Zinc Company to transport 25,000 tons of zinc ore. The railroad also carted Spanish ore to Franklin, where it was mixed with local ores to produce a superior quality of Bessemer iron. The Franklin Iron Company purchased a mineral tract along the Hudson River in New York, and was to receive ore from these mines, as well as African ore, all of which was to be shipped from Hoboken over the D. L. & W. and Sussex Railroads. They received large shipments of coke from Connersville,

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Pennsylvania, using one-fourth coke with three-fourths anthracite for their fuel. About 75 men were employed at the works.

4.3 The Sussex Branch of the Delaware, Lackawanna & Western Railroad



John I. Blair, president of the Sussex Railroad, sold control of the line to the Delaware, Lackawanna & Western Railroad on July 15, 1881. For the remainder of its useful life, the Sussex Railroad operated as the Sussex Branch of the Delaware, Lackawanna & Western Railroad. Franklin Furnace shut down in 1890 because of competition from Lake Superior ores. For a faster connection with New York, a cut off was built to Netcong-Stanhope in 1901, replacing the Waterloo junction.

There were only two intermediate station stops along the route of the Franklin extension: creameries and small stations at Monroe and at Ackerson's Station (north of Father John's Lane in Sparta Township). Changing the transfer point for freight to the Lehigh & Hudson Railroad from Franklin Junction to Andover Junction in 1905 curtailed the amount of business on this section. As late as 1915, several trains each day were needed to carry zinc ore and limestone from the Windsor Lime Company and the New Jersey Lime Company. But limestone quarries eventually closed and shipments of ore from the Zinc Company's mines at Franklin were greatly reduced.

With the spread of paved roads, the automobile achieved dominance over the railroad between 1920 and 1940. With a reduction in limestone and zinc shipments from Franklin, the growing use of trucks to ship freight, and the loss of passenger ridership to buses, business on the nine-mile section

between Branchville Junction and Franklin Junction dwindled away to nothing. The 5:36 p. m. train from Franklin to Newton was dropped from the timetable on April 24, 1921. The Lackawanna removed trains Nos. 607 and 608 into Franklin on January 16, 1922. There was a further loss of freight, when fire destroyed the former William Provost creamery at Monroe on July 5, 1929. The Lackawanna waiting room and freight station were also lost to the flames. After forty years' operation, the morning Lackawanna train between Franklin and Newton ended service on February 2, 1931. Darling Old Nell, the famous Franklin-Newton flyer, was retired on May 1, 1931.

The railroad applied for permission to take off the last remaining train on its Franklin branch, noting that the 40 or 50 passengers who rode the afternoon train each week day had dwindled to about three a week in only eight years. The milk business had evaporated and the limestone tonnage disappeared. When the Hamburg paper mill closed in 1933, freight transfers from the New York, Susquehanna & Western diminished. Automotive transportation of farm products stole business and passenger service was discontinued due to the fact that a majority of the passengers preferred to use buses, reducing the number of railroad passengers to one or two daily. Stockholders voted in February 1934 to abandon the nine miles of the Sussex Railroad between Branchville Junction and Franklin branch as a matter of economy. The track was removed in 1936.

Train service on the Sussex Branch of the Delaware, Lackawanna & Western Railroad from Branchville to Andover Junction ended in 1966. The remaining 7.5 miles between Andover and Netcong closed in 1973.

5.0 Interpretive Resources and Presentation Strategies

The following sites hold interest and meaning, relative to the interpretive themes of the Iron Horse Heritage Trail, and should be highlighted through a variety of interpretive media, including brochures, wayside exhibits, talks, digital media, and personal services:

1. Interpretive resources located along the Iron Horse Heritage Trail:

- Glacial features, notably the North Church Delta (proglacial North Church Lake), kames, kettle ponds, recession-
al moraines, outwash plains such as Germany Flats, and post-glacial watersheds and wetlands, particularly the
East Branch of the Paulinskill and the Paulinskill Meadows (proglacial Lake Newton)
- Monroe Big Springs, Natural Heritage Priority Site
- Historical Background of the Franklin Extension of the Sussex Railroad (Delaware, Lackawanna & Western
Railroad after 1881)
- Stone-arch railroad bridge over the Wallkill
- Brick and tile works near North Church (glacial clays)
- The Monroe and Ackerson creameries and depots
- Warbasse and Branchville Junctions
- Former site of mineralogist Samuel Fowler's Homestead on Stone Mill Road
- Prehistoric inhabitation
- Wildlife viewing stations
- Species identification for plants and animal life, using wayside markers.

2. Interpretive resources located within the viewshed of the Iron Horse Heritage Trail:

- The New Jersey Zinc Co. Mill No. 2
- Monroe School House

6.0 Legislative and Administrative Background

The New Jersey Trails System Act of 1974 (L. 1974, c. 159) established a State trails system consisting of scenic, recreation and connecting or side trails, "in order to provide for the ever-increasing outdoor recreation needs of an expanding population, and in order to promote public access to, travel within, and enjoyment and appreciation of the outdoor, natural and remote areas of this State ..." The Legislature authorized the institution of a Statewide system of trails "both in natural and scenic areas of New Jersey, and in and near the urban areas of this State."

Scenic trails were to be "extended trails so located as to provide maximum potential for the appreciation of natural areas and for the conservation and enjoyment of the significant scenic, historic, natural, ecological, geological, or cultural qualities of the areas through which such trails may pass." These trails were to be limited exclusively to foot use, except that the use by horses or non-motorized bicycles may be permitted on segments of scenic trails where deemed appropriate by the Department of Environmental Protection. State recreation trails provide a variety of outdoor recreation uses in or reasonably accessible to urban areas. Connecting or side trails provide additional points of public access to, or connections between, State scenic or recreation trails.

The Department of Environmental Protection is required to consult with appropriate Federal, State, and local government agencies and public and private organizations, to establish a uniform marker for the State trails system, and to coordinate the State trails system with the National trails system.

The selected route of a State trail shall be compatible with the preservation or enhancement of the environment it traverses, and the boundaries of the right-of-way established in such a manner that they protect the scenic values of the trail. In selecting rights-of-way, the Department of Environmental Protection shall give full consideration to minimizing the adverse effects upon the adjacent landowner or user and his operation. Development and management of each segment of the trails system shall be designed to harmonize with and complement any established multiple-use

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plans for that specific area in order to insure continued maximum benefits from the land.

To promote non-interference with nature within the external boundaries of the right-of-way, the natural vegetation shall be kept undisturbed except for any clearing required for construction of the trail, occasional vistas, or trail-use facilities. Every effort shall be made to avoid uses incompatible with the purposes for which the trails were established. The Department of Environmental Protection may permit other uses along the trail which will not substantially interfere with the nature or purposes of the trail. When deemed to be in the public interest, the Department may enter into written cooperative agreements with local governments, landowners, private organizations or individuals to operate, develop and maintain any portion of a recreation or scenic trail.

The Legislature authorized the Department of Environmental Protection to make studies for the purpose of determining the feasibility and desirability of designating additional scenic or recreation trails. It was also to review all formal declarations of railroad right-of-way abandonments for possible inclusion into the State trails system.

7.0 Statement of Purpose

As part of the New Jersey Trails System, the Iron Horse Heritage Trail shall provide public access to, and travel within, the abandoned right-of way of the Franklin extension of the Sussex Railroad, a 7.75-mile line of track between Warbasse and Franklin Junctions, which operated from 1869 to 1934, as a scenic, connecting trail, for the conservation, appreciation and quiet enjoyment of its significant scenic, historic, natural, ecological, geological, and cultural qualities.

8.0 Statement of Significance

The Iron Horse Heritage Trail preserves the Franklin extension of the Sussex Railroad, built in 1868-69, which provided the first rail outlet for the spectacular iron and zinc deposits of Franklin, New Jersey, and which brought coal and all other articles necessary to the operation of its mines and ironworks. Before its abandonment in 1934, this right-of-way served the needs of several mines, limestone quarries and kilns, dairy farmers and creameries, passenger and general freight service.

8.1 Scenic Quality

The Scenic Quality of the Iron Horse Heritage Trail is enhanced by a diversified and heavily glaciated landscape of exceptional geological interest and beauty, as it passes from the margins of the Paulinskill Meadows, through forested wetlands along the East Branch of the Paulinskill, running northward along the west rim of a narrow buried limestone vale, walled between slate uplands to the west and a Highland spur, known as the Pimple Hills, to the east. The largely deciduous vegetative cover changes with the terrain, suiting marshy depressions in the thick drift, well-drained gravel hills, as well as shale slope and limestone terrace environments.

8.2 Accessibility

The Iron Horse Heritage Trail begins on a wye west of Warbasse Junction Road, where it departs the Sussex Branch Trail, and twice intersects the Paulinskill Valley Trail, once north of Garrison Road and again near its crossing of the Sunset Inn-Limecrest Road (Route #623) in Lafayette Township. It crosses Demarest Road in Sparta Township and Route #15, just east of the intersection of Demarest Road and Father John's Lane, at the old creamery stop known as Ackerson. The Trail crosses Route #94 south of Denton Quick Memorial Field at the Sussex County Technical School. It crosses the Hopkin's Corner Road just south of the boundary between Hardyston and Sparta Townships. It crosses Route #94 again at the intersection of Lasinski Road. It crosses Davis and Stonemill Roads in Franklin Borough.

The area bordering the Wallkill, in and around the triangle formed by the intersecting lines of the New York, Susquehanna & Western Railroad and the Delaware, Lackawanna & Western Railroad, (See 11.0 Appendices, p. 22) contains a wealth of historic and natural resources, as well as outstanding scenic value, and therefore deserves special consideration. Three options are being considered for the area of this wye, where the Iron Horse Heritage Trail will

connect with the proposed Wallkill Valley Heritage Trail:

Option #1: The trail will utilize all three (3) legs of the triangle, incorporating the abandoned rail bed of the New York, Susquehanna & Western Railroad (which the State of NJ is currently negotiating to purchase). Six to eight parking spaces will be constructed on the rail bed in the vicinity of the viaduct; the exact location of the parking lot to be determined by an accurate survey of the area. Fill will be applied, as needed, to stabilize and restore the trail surface, wherever it has been disturbed by the SCMUA sewer line.

Wayside exhibits shall interpret: mineralogist Samuel Fowler and his former Stone Mill Road homestead; the 1869 stone-arch Sussex Railroad bridge over the Wallkill; the purpose of the triangle (wye) and the history of the Franklin extension of the Sussex Railroad (Delaware, Lackawanna & Western after 1881) and the Midland Railroad (New York, Susquehanna & Western after 1882); the former Hungarian Bottling works; and the stone arch road bridge. There shall also be wayside exhibits identifying plant and wildlife and designated wildlife viewing stations.

Option #2: The trail will utilize all three (3) legs of the triangle, incorporating the abandoned rail bed of the New York, Susquehanna & Western Railroad (which the State of NJ is currently negotiating to purchase). Fill will be applied, as needed, to stabilize and restore the trail surface, wherever it has been disturbed by the SCMUA sewer line. The State of New Jersey will also attempt to acquire a number of private lots in and around the triangle. Priorities for acquisition shall be: Lots #26, #27, #23, and #22 in Block 40 of the Tax Map of the Borough of Franklin. A small picnic area (Fowler Grove) may be located on a portion of the Borough-owned property along the Wallkill, with the abandoned road bed and stone bridge as a focal point. This would require an expanded parking lot, accommodating twelve cars, and a trail-head sanitary facility.

Wayside exhibits shall interpret: mineralogist Samuel Fowler and his former Stone Mill Road homestead; the 1869 stone-arch Sussex Railroad bridge over the Wallkill; the purpose of the triangle (wye) and the history of the Franklin extension of the Sussex Railroad (Delaware, Lackawanna & Western after 1881) and the Midland Railroad (New York, Susquehanna & Western after 1882); the former Hungarian Bottling works; and the stone-arch road bridge. There shall also be wayside exhibits identifying plant and wildlife and designated wildlife viewing stations.

Option #3: The trail will utilize only two (2) legs of the triangle or the wye formed by the bifurcation of the former Sussex Railroad (D. L. & W.). Six to eight parking spaces will be constructed on the rail bed in the vicinity of the viaduct; the exact location of the parking lot to be determined by an accurate survey of the area. Fill will be applied, as needed, to stabilize and restore the trail surface, wherever it has been disturbed by the SCMUA sewer line.

Wayside exhibits shall interpret: mineralogist Samuel Fowler and his former Stone Mill Road homestead; the 1869 stone-arch Sussex Railroad bridge over the Wallkill; the purpose of the triangle (wye) and the history of the Franklin extension of the Sussex Railroad (Delaware, Lackawanna & Western after 1881) and the Midland Railroad (New York, Susquehanna & Western after 1882); the former Hungarian Bottling works; and the stone arch road bridge. There shall also be wayside exhibits identifying plant and wildlife and designated wildlife viewing stations.

8.3 Length

The Iron Horse Heritage Trail is 9.25 miles long. Connecting westward with the Paulinskill Valley and Sussex Branch Trails, and eastward with the proposed Wallkill Valley Heritage Trail, it allows both short or long distance trail use.

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8.4 Multiple Use

The flat, cinder base would safely accommodate various trail uses, such as hiking, bird-watching, nature walks, horseback riding, cross-country skiing, and bicycling, along its entire length. Motorized recreational use and hunting will not be permitted.

8.5 Development Costs

For most of its length, the old rail bed is clear of vegetative cover, except for the section beginning at Davis Road in Franklin Borough and continuing for approximately one-half mile toward Route #94. Along this stretch, the rail bed needs to be cleared of vegetation and depressions in the trail surface filled. Mechanical clearing of the property may be possible in most locations.

Being generally elevated, few drainage improvements are needed. Minimal capital improvement costs are limited to some fencing, re-grading near road intersections and one railroad crossing, and short by-passes to better connect various interrupted segments. Stream culverts seem to be adequate and structurally sound.

Gates and signs shall be installed at each of the eight (8) road crossings along the route of the Iron Horse Heritage Trail (at an estimated cost of \$450 per gate).

There are several solid-waste dumps in close proximity to the Iron Horse Heritage Trail, especially in the vicinity of the Sussex County Technical School and Route #15. These dumps, ranging in size from a few cubic yards to over 15 cubic yards, will be cleaned up by, or under the direction of, the State Park Service. Disposal costs should be minimal. Most of the sites are composed of building debris or household garbage.

8.6 Public Support

Historical railroad groups have encouraged the preservation and public use of the Iron Horse Heritage Trail, providing a 1918 survey of the route. The abandoned rail bed is a de facto trail, sufficiently used for hiking, horseback riding, bicycling, motorcycle and all-terrain vehicle use as to keep most of its 9.25-mile length clear of vegetation. Annual use along this unimproved facility may already exceed 5000 people.

8.7 Environmental Impact

As the Iron Horse Heritage Trail would utilize, almost entirely, the extant surface of the abandoned right-of-way of the Franklin extension of the Sussex Railroad, environmental impacts would be minimal. The rail bed is firm, elevated for most of its length, screened by vegetation on its slopes, but with a cinder path requiring little clearing. Areas where endangered plant or animal species may be identified will not be developed or disturbed. As a connecting or side trail, no trail-related facilities are planned, except at the northern trail head, near the Franklin viaduct.

The Iron Horse Heritage Trail may also usefully link fragmented wildlife habitats. It will also build appreciation for the protection of historic and natural resources through heritage interpretation.

9.0 Trail Classification and Use

The Division of Parks and Forestry recommends that the Iron Horse Heritage Trail be classified as a connecting or side trail, which provides additional points of public access to, or connections between, State scenic or recreation trails. The New Jersey Trails System Act of 1974 (L. 1974, c. 159) defines scenic trails as "extended trails so located as to provide maximum potential for the appreciation of natural areas and for the conservation and enjoyment of the significant scenic, historic, natural, ecological, geological, or cultural qualities of the areas through which such trails may pass."

As a connecting or side trail, the Iron Horse Heritage Trail shall be limited exclusively to foot use, except that the use by horses or non-motorized bicycles may be permitted on segments where deemed appropriate by the Department of Environmental Protection.

9.1 Goal and Management Objectives

Goal of Connecting or Side Trail Classification

As a connecting or side trail, the Iron Horse Heritage Trail shall maintain its natural, historic and scenic qualities for non-motorized trail uses, providing additional points of public access to, or connections between, the Paulinskill Valley and Sussex Branch Trails, as well as to potential trails that may be developed at its northern terminus.

Objectives

Management of the Iron Horse Heritage Trail would adhere to the following objectives:

- To manage and maintain the Iron Horse Heritage Trail in a manner compatible with the preservation or enhancement of the environment it traverses.
- To establish the boundaries of the right-of-way in such a manner that they protect its scenic values.
- To give full consideration to minimizing the adverse effects upon the adjacent landowners.
- To develop and manage the Iron Horse Heritage Trail system as a harmonious extension of established multiple-use plans governing connective trails in order to insure continued maximum benefits from the land.
- To promote non-interference with nature within the external boundaries of the right-of-way, by leaving the natural vegetation undisturbed, except for any clearing required for construction of the trail, occasional vistas, or trail-use facilities.
- To avoid uses incompatible with the purposes for which the Iron Horse Heritage Trail and its connective scenic trails were established.
- To permit only those non-conflicting uses which shall not substantially interfere with the nature or purposes of the trail. Conflicting uses, such as hunting and motorized vehicles, will not be permitted.
- To provide safe access and off-road parking for trail users.
- To maintain artifacts associated with the Franklin extension of the Sussex Railroad (later the Delaware, Lackawanna & Western Railroad) to the fullest extent possible.
- To interpret its natural and historical qualities through appropriate interpretive media.
- To identify parking and access areas suitable for handicapped use, and to modify the trail surface and other supporting amenities, to meet ADA standards.

Management and Administrative Responsibilities

The Division of Parks and Forestry in the New Jersey Department of Environmental Protection is responsible for administration of the Iron Horse Heritage Trail. Kittatinny Valley State Park (or a new management unit) will be directly responsible for the development and maintenance of the trail, and for enforcement of trail regulations. All

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Park Service rules and regulations under N. J. A. C. 7:2-1.1 et seq. will apply to the Iron Horse Heritage Trail. The Northern Region Office of the State Park Service is preparing this Trail Management Plan in cooperation with the Superintendent and staff of Kittatinny Valley State Park. The Bureau of Forest Fire Management will enforce regulations under the New Jersey Forest Fire Laws, Title 13, as well as inspect and insure accessibility for emergency fire vehicles. The Office of Resource and Development shall oversee development through the capital budget and construction programs. The Division of Fish and Wildlife will enforce regulations under the New Jersey Fish Code, N. J. A. C. 7:25-6.1 et seq. as they apply to fishing in the Paulinskill.

10.0 Basic Trail Requirements for Development and Management

Trail Boundaries and Boundary Markers

Trail boundaries will be determined through acquisition surveys and acquisition title research. The installation of boundary markers depends upon the type of ownership that the State of NJ obtains: State Park Service boundary markers at the minimum frequency of one marker per one-tenth mile will identify property, if full ownership in fee is obtained. Their frequency may increase at select locations to enhance resource-protection activities or goals.

Trail Interruptions

There are several trail interruptions that will have to be overcome through negotiation, the acquisition of additional right-of-way through easements, donation or purchase, and construction of the new re-alignments.

One interruption exists in the vicinity of Davis Road in Franklin Borough, where the rail bed is overgrown and somewhat damaged by seasonal flooding.

Beginning at a point about one half-mile southeast of Davis Road, and continuing to State Route #94, the rail bed is being used as an access to a private residence. There appears to be an alternative entrance way and it will be further investigated.

On the west side of State Route #94, there are three residences who access driveways cross the Iron Horse Heritage Trail. Right-of-way agreements need to be negotiated.

Where the Iron Horse Heritage Trail crosses State Route #94 (at the site of the Sussex County Technical School), the rail bed cuts across the school grounds, athletic field and running track. The trail must detour around this obstruction by moving south along the edge of the school grounds, in order to cross State Route #94 at a point just south of the school's perimeter fence. This re-alignment must involve the Department of Transportation and the Sussex County Technical School.

At the site of the Sussex County "Business Incubator" project, the trail must once again exit the rail bed, though the extent of this re-alignment remains unknown. Until such time as this project is activated, the Iron Horse Heritage Trail will utilize the bed of the former Franklin Extension of the Sussex Railroad.

Bridge Evaluation

The only bridge along the former line of the Franklin Extension of the Sussex Railroad is the stone arch bridge over the Wallkill, near Stone Mill Road in Franklin Borough, which was built by the Sussex Railroad Company in 1869. This bridge appears to be in good condition, requiring only some minor stabilization work.

Obstructions

A large pile of stones has been placed approximately 1,000 feet south of the intersection of the Iron Horse Heritage Trail with Demarest Road, forming a three-foot high barrier across the rail bed. This obstruction shall be removed.

Trash Removal

Any illegally dumped trash, consisting of household items, tires, construction materials, or animal waste, shall be routinely removed from along the trail, by, or under the direction of, the New Jersey State Park Service. Volunteers will also help to keep the trail free from litter, vegetation, and debris.

Trail Bed Improvements

Trail bed improvements shall include:

- The removal of vegetation from the trail bed to a minimum width of 12 feet.
- Regrading any side drainage ditches to augment drainage.
- Replacement or repair of clogged culverts.
- Addition of sub base materials where needed to increase elevation to prevent ponding of water.
- Addition of surface stabilization material where disturbance occurred during SCMUA pipeline installation.
- The installation of signs showing permitted uses of the trail as well as interpretive wayside exhibits at select locations

Routine maintenance and repair includes: the removal of downed trees or broken branches in the trailway; clearing the trail of encroaching vegetation; repairing the trail surface and washouts; replacing or installing necessary drainage structures such as drainage dips or culverts; replacing deteriorated or damaged parts of bridges, or wayside exhibits.

Gates

All road crossings will require gating to prevent motor vehicles from gaining access to the Iron Horse Heritage Trail. Sufficient room will be provided to allow pedestrian and bicycle use to bypass the gates for uninterrupted travel. Secure bicycle parking will be provided at trail heads.

Bridge Renovations

The only bridge along the route of the Franklin Extension of the Sussex Railroad is the stone arch bridge over the Wallkill, near Stone Mill Road in Franklin Borough, where railings may need to be installed, and some stabilization work done. Otherwise, the railroad passed over several small streams using culverts. These culverts are in acceptable condition. Several culverts, however, are missing at the Franklin-Hardyston boundary.

Signs

Signs indicating permitted uses will be posted at select locations along the trail and at all trail heads.

Visitor orientation or the interpretation of the themes and resources identified and inventoried in this Plan, as well as other cultural or natural features that are deemed appropriate for interpretation, will mainly be accomplished through interpretive wayside exhibits and a heritage trail brochure.

Trail heads

Trail heads will be located near the Franklin viaduct and at Sunset Inn-Limecrest Road.

Parking areas

A parking area will be located at the northeast terminus of the Iron Horse Heritage Trail, its size and location depending on which option is chosen for the wye where the former Sussex Branch of the Delaware, Lackawanna & Western Railroad intersected the New York, Susquehanna & Western Railroad (the proposed Wallkill Valley Heritage Trail). Under Option #1, six to eight parking spaces will be constructed on the rail bed in the vicinity of the viaduct; the exact location of the parking lot to be determined by an accurate survey of the area. Under Option #2, the State of New Jersey will also attempt to acquire a number of private lots in and around the triangle. Priorities for acquisition shall be: Lots #26, #27, #23, and #22 in Block 40 of the Tax Map of the Borough of Franklin. A small picnic area (Fowler Grove) may be located on a portion of the Borough-owned property along the Wallkill, with the abandoned road bed and stone bridge as a focal point. This would require an expanded parking lot, accommodating twelve cars, and a trail-head sanitary facility. At the other end of the trail, visitors may use parking facilities already provided near the Paulinskill Valley Trail (on Junction Road in Lafayette Township). In the future, a trail parking area may be developed in conjunction with the County's development of the "business incubator" site.

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ADA Access

The Iron Horse Heritage Trail will be barrier free. Gates installed at the access points will supply sufficient at-grade clearances so that people with disabilities will be able to circumvent the gate with support equipment without interference. All interpretive wayside exhibits will accommodate ADA accessibility standards. Parking areas and other supporting amenities shall meet ADA standards.

Fencing on Property Borders

The State Park Service will not construct fencing on property borders, but will not object if adjacent landowners construct fences on their property at their expense.

Vegetative Screening

Native vegetation outside the trail tread or outside those areas needed for trail users' clear sight-lines will be encouraged to mature and increase in density, except where scenic vistas or interpretive views are desired.

Sanitary facilities

Sanitary facilities shall be available at Warbasse Junction Road and at the wye near the Franklin Viaduct.

Funding Opportunities

Funding for development, maintenance and interpretation of the Iron Horse Heritage Trail will come from a variety of sources:

- Americans with Disabilities Act funding
- National Rails-to-Trails grants
- Federal Surface Transportation funding
- State Park Service Capital funding
- State Park Service Operational funding
- Green Acres Bonds
- Private or public donations

Personnel Requirements

Permanent as well as hourly staff will undertake vegetation management, litter control, monitoring law enforcement and general maintenance. Existing staff at Kittatinny Valley State Park (or some new management unit to be designated) will provide the necessary personnel. Additional seasonal funds will be provided to extend the current seasonal forces to the Iron Horse Heritage Trail.

Additional Projects

A trail brochure shall provide a brief history of the Franklin Extension of the Sussex Railroad, and describe interesting sites along the way. It shall also list permitted and prohibited uses and include a trail map showing parking areas, road intersections, and the trail's connection to other public recreational areas.

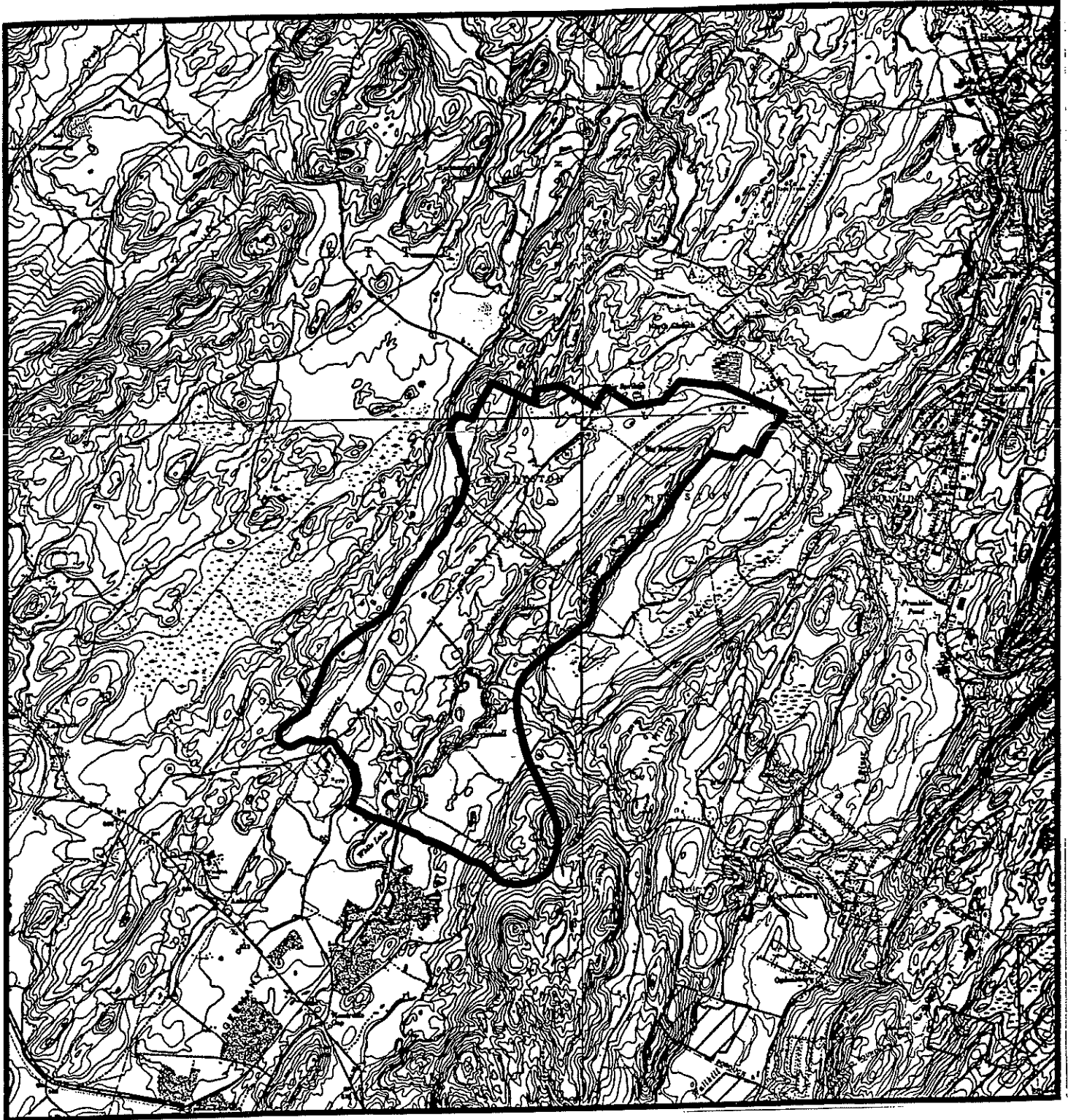
The NJ Department of Environmental Protection, other public agencies, and/or interested or concerned private organizations may develop inventories of cultural and natural resources (as funding permits). The presence of rare or endangered plants or animals may necessitate changes of the management of the trail environment, providing increased protection and enhancement of their numbers.

Connecting the Iron Horse Heritage Trail with the Wallkill Valley Heritage Trail is an immediate goal of the Division of Parks and Forestry, NJDEP. Tying together State, County, and local open space and recreation areas is a long-term goal of New Jersey's Green Acres program.

Recommended Acquisitions

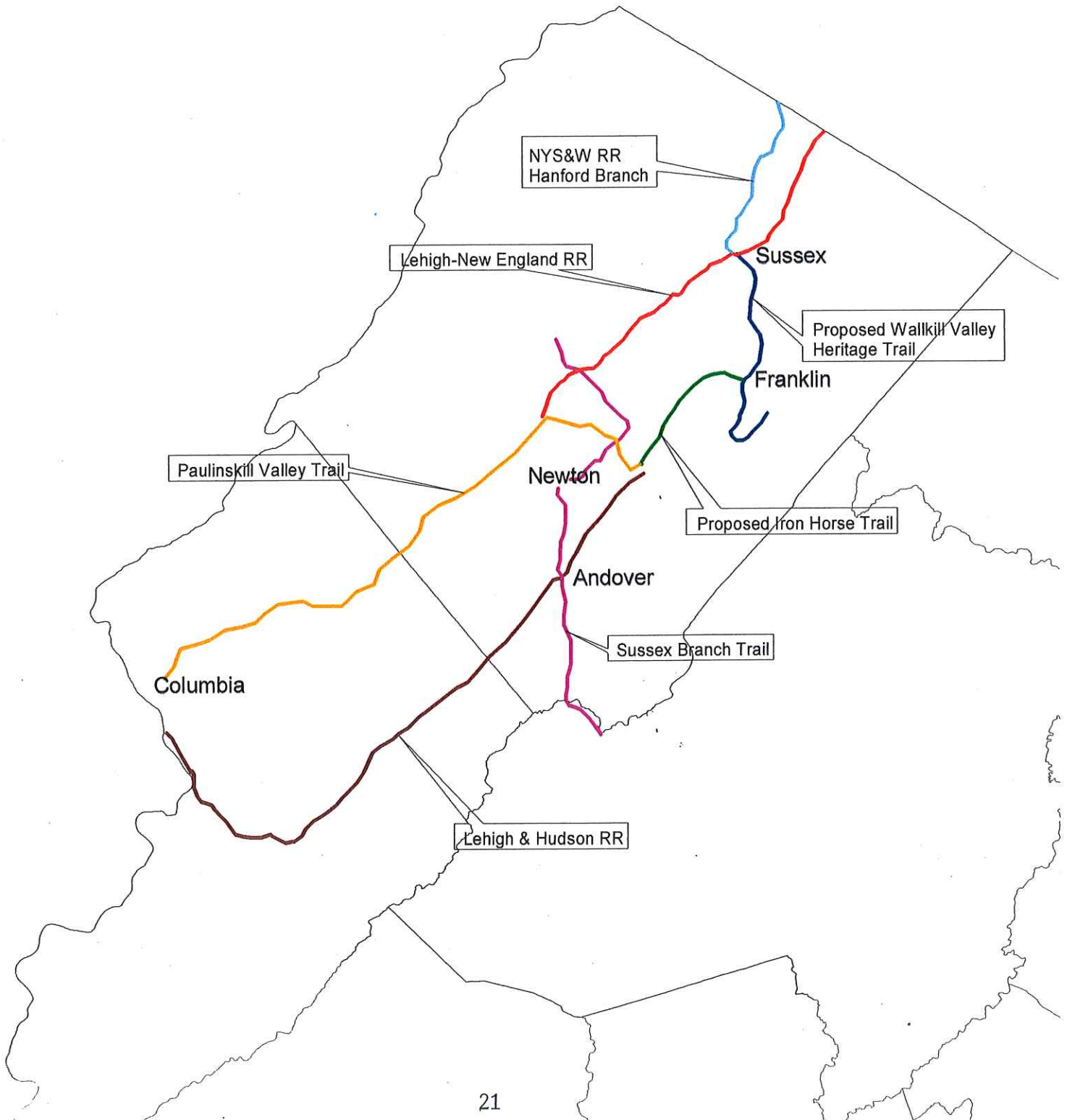
Priorities for acquisition shall be: Lots #26, #27, #23, and #22 in Block 40 of the Tax Map of the Borough of Franklin.

11.0 Appendix



Natural Heritage Priority Site
Monroe Big Springs
Sussex County
NJDEP, Division of Parks and Forestry
Natural Lands Management

Rail Trail Initiatives On Abandoned Rail Beds In Sussex and Warren Counties



Iron Horse Heritage Trail Franklin Boro Triangle Option

