

LONG ISLAND RAIL ROAD
MINEOLA ELECTRICAL SUBSTATION
57 MAIN STREET
Mineola
Nassau County
New York

HABS LEVEL II – DOCUMENTATION FOR DEMOLITION
PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA
REDUCED MEASURED DRAWINGS



The former Mineola LIRR Electrical Substation, August 14, 2018.

NEW YORK STATE HISTORIC PRESERVATION OFFICE
Pebbles Island Resource Center
P.O. Box 189
Waterford, NY 12188

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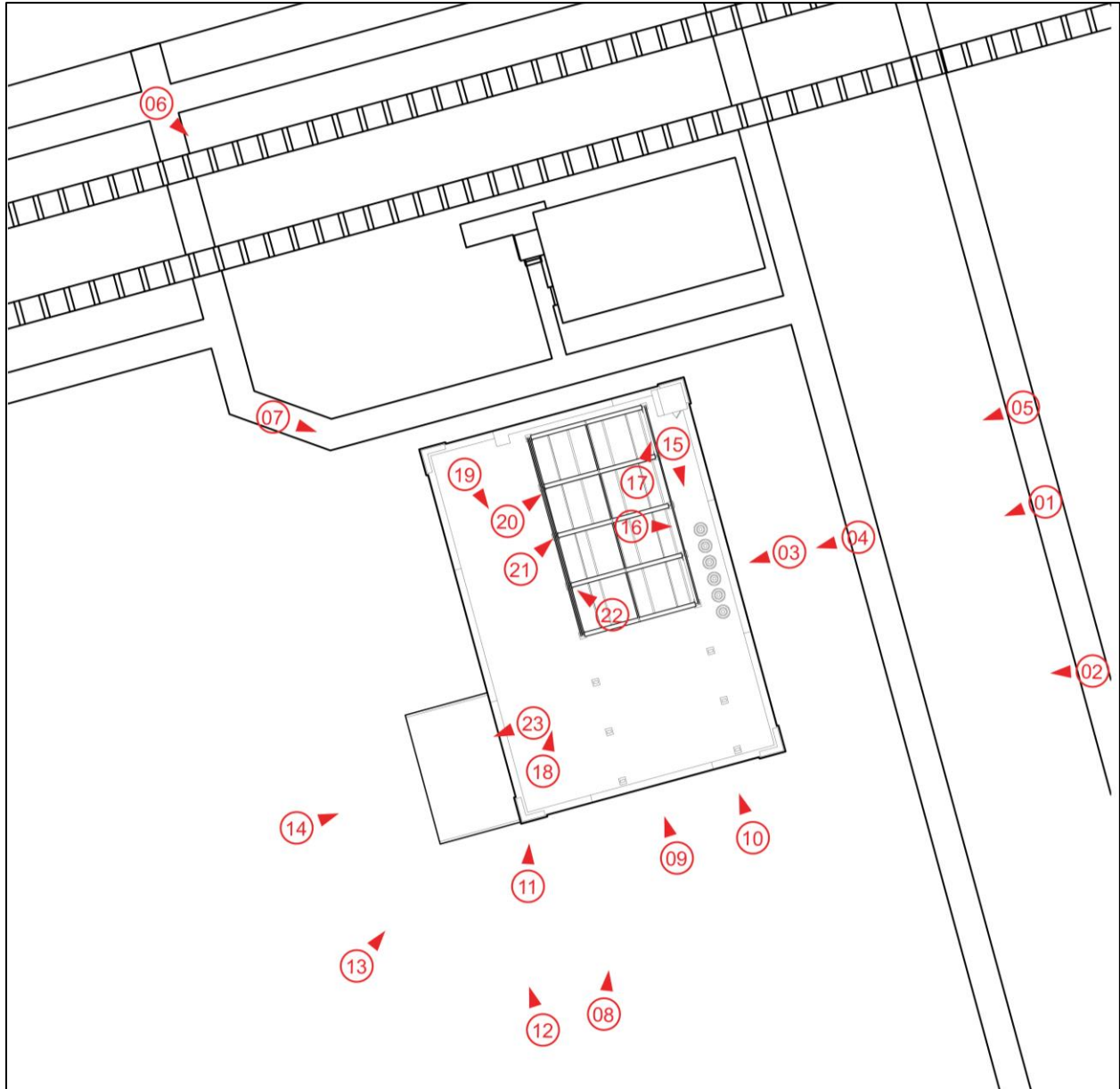
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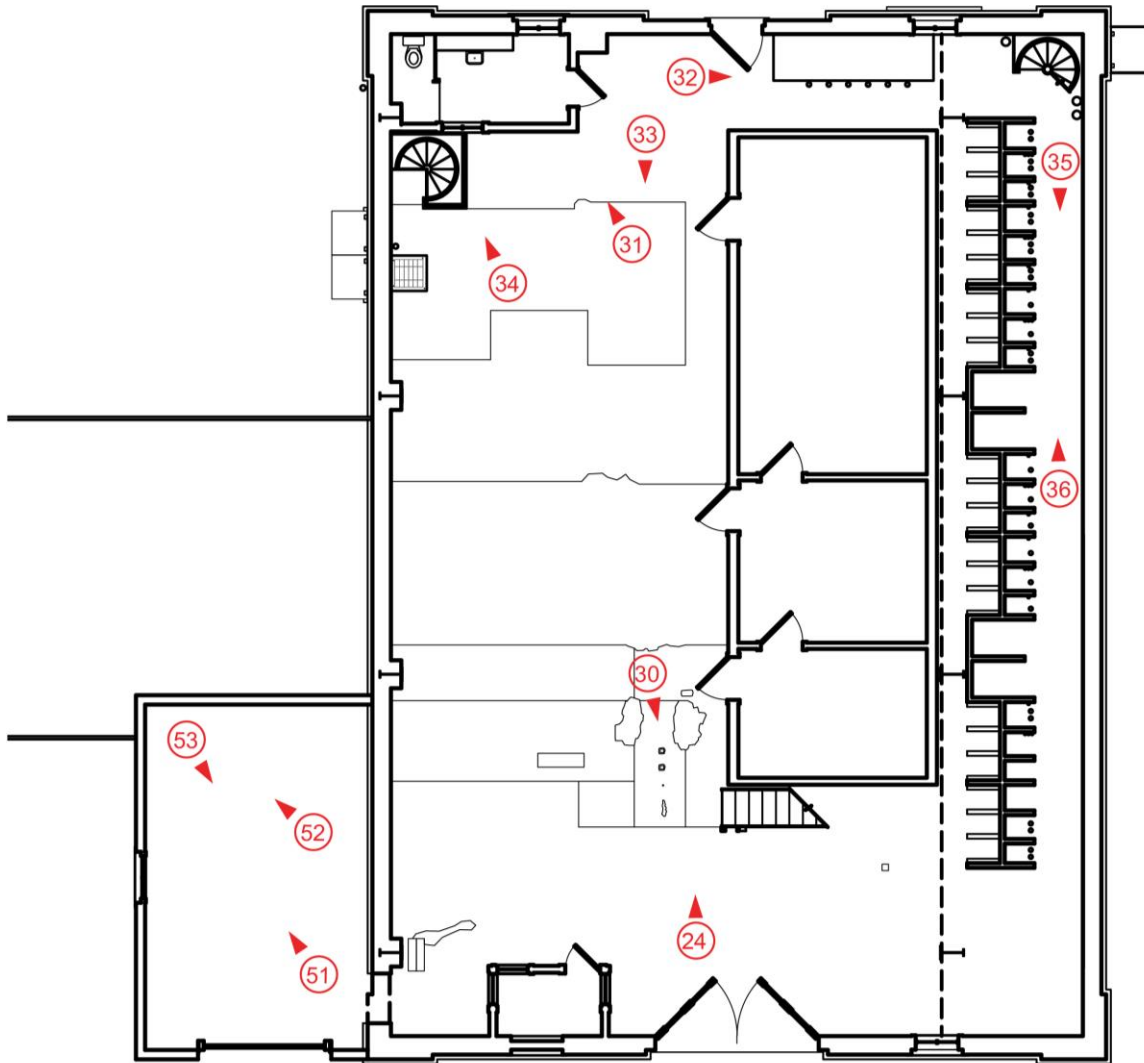
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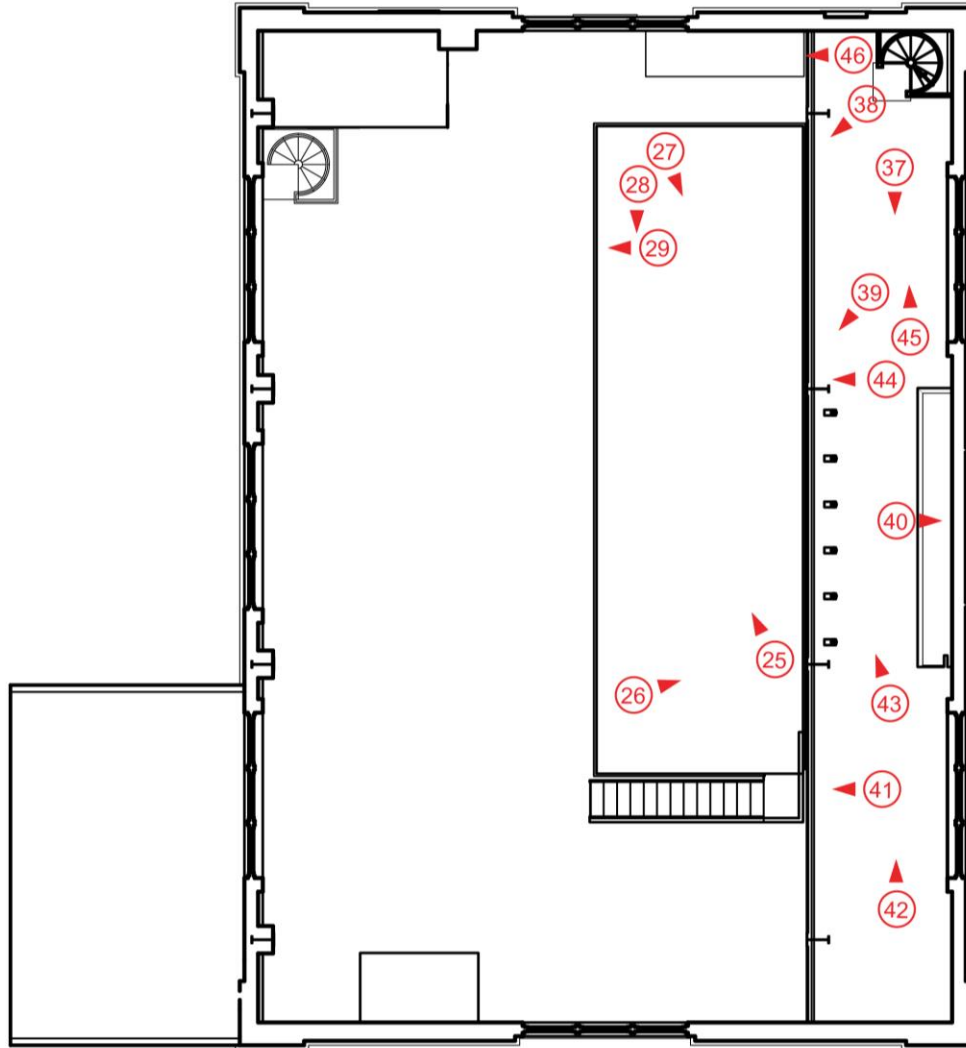
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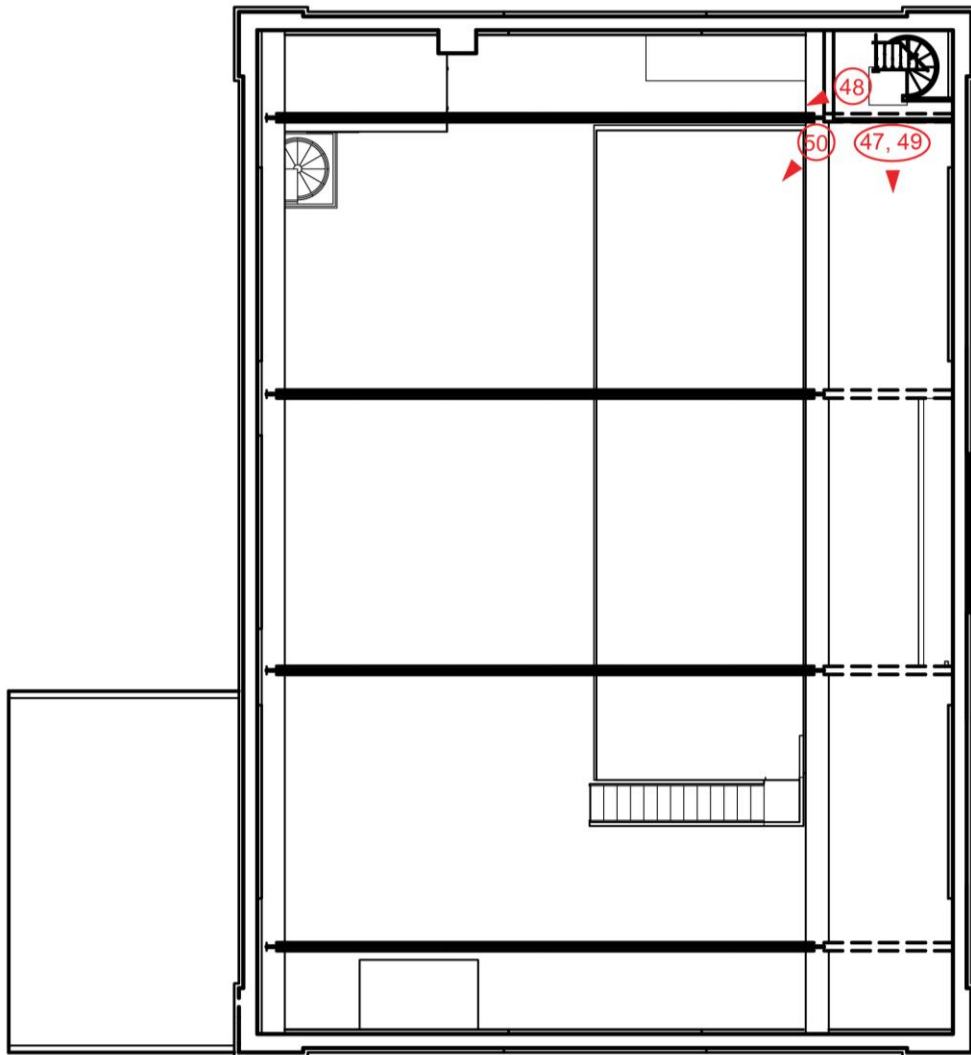
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Photographers: Taylor Driscoll, Nicole Ellenberger, Allison Fricke, Siri Olson.

Date of Photographs: August 14 and 15, 2018.

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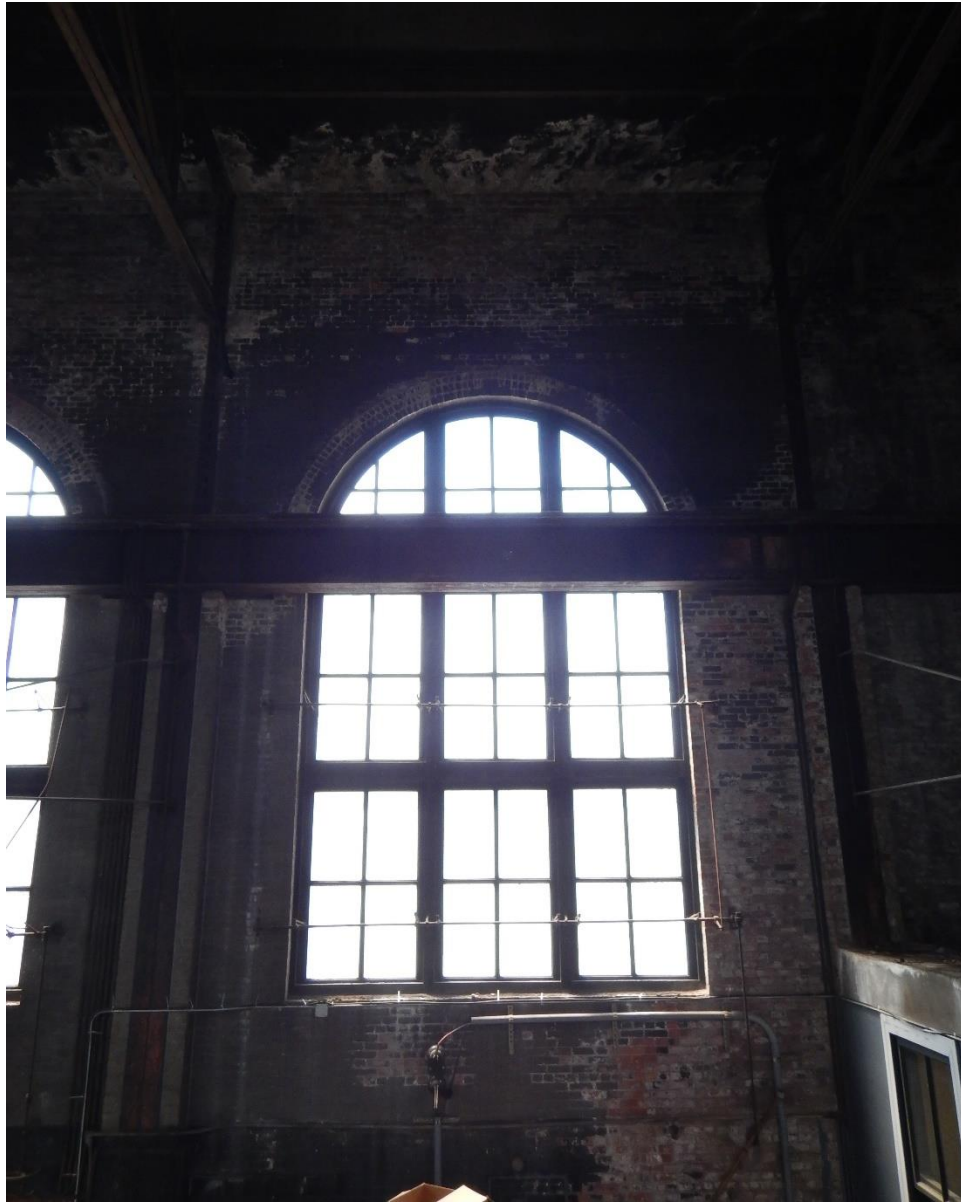


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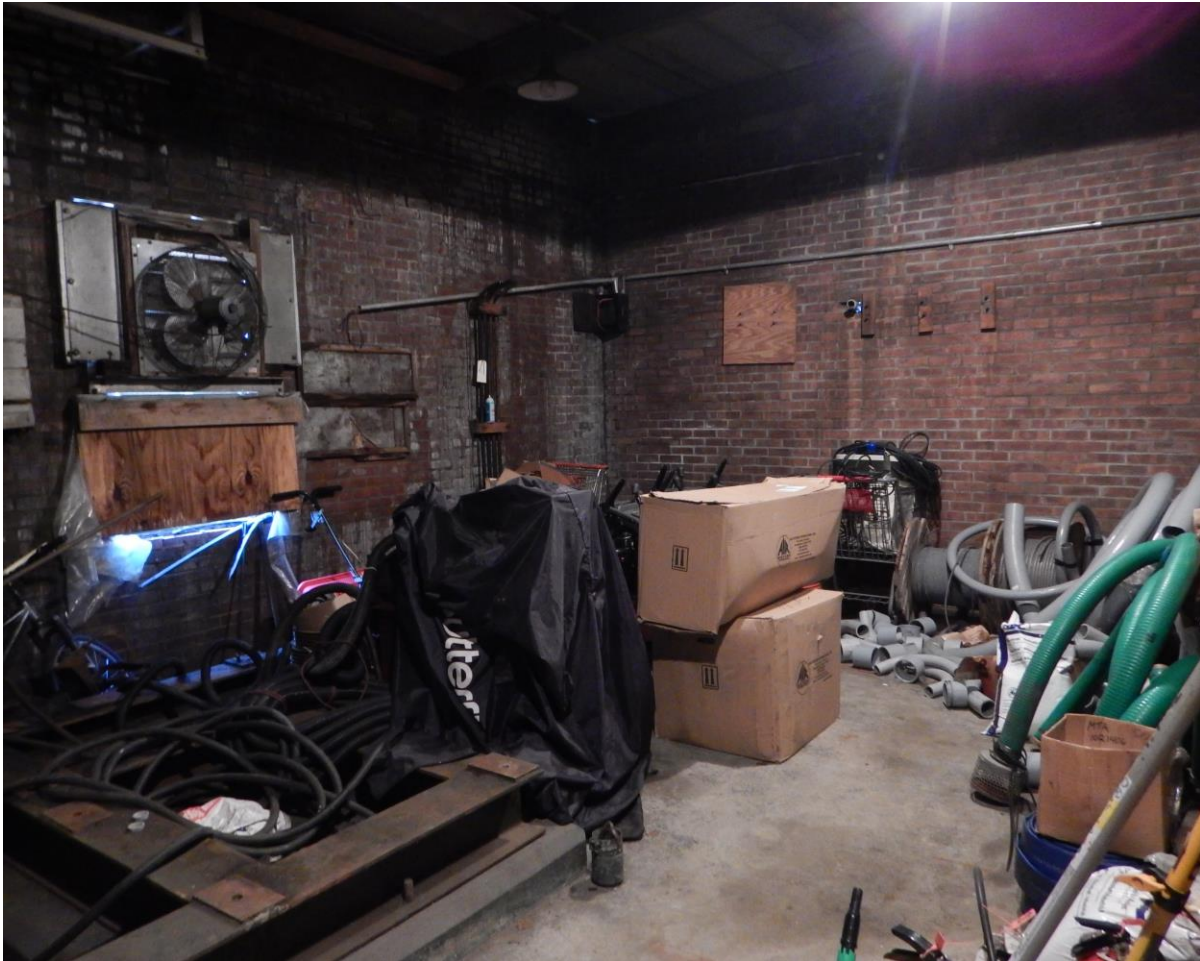


PHOTO 51. INTERIOR ADDITION FACING NORTHWEST



PHOTO 52. INTERIOR ADDITION FACING NORTHEAST



PHOTO 53. INTERIOR ADDITION FACING SOUTHEAST

**LONG ISLAND RAIL ROAD
FORMER MINEOLA LIRR ELECTRICAL SUBSTATION**

- Location:** Mineola Electrical Substation, 57 Main Street, Mineola, Nassau County, New York 11501
- Present Owner/Occupant:** The Long Island Rail Road, a subsidiary of the Metropolitan Transit Authority, is the present owner and occupant of the building.
- Present Use:** The LIRR Mineola Electrical Substation is currently used for occasional office space and to house some electrical conduits and signal wires that pass through the building.
- Significance:** The history of the Long Island Rail Road, one of the oldest and busiest railroads in the country, is intricately linked with the growth and development of Long Island. Mineola was and remains a hub of the railroad. The substation is the oldest extant structure at Mineola Station and a largely intact example of the grandiosity, permanence, and elegance the Long Island Rail Road infused in even the most functional buildings erected up to the Great Depression. The Mineola Electrical Substation was part of an ambitious electrification process at the start of the twentieth century, when the Long Island Rail Road transitioned from steam-powered locomotives to electric. The Substation represents the technological advancements of the time and is a remnant of one of the company's most productive periods that also witnessed the construction of Pennsylvania Station, tunnels under the East River, and the rapid growth of public transportation networks that would permanently influence New York City and Long Island's regional patterns of development.
- Historian(s):** Nicole Ellenberger, Taylor Driscoll, Allison Fricke, and Siri Olson
- Project Information:** The purpose of preparing the graphic, photographic, and written documentation complying with the National Park Service's Historic American Buildings Survey (HABS) requirements for the Nassau Tower and Electrical Substation at Mineola is to prepare for the demolition of both buildings. Chrysalis Archaeological Consultants hired Easton Architects to complete the documentation complying with HABS Level II guidelines as a mitigation effort. Recordation of the two structures in accordance with

the *SHPO Structure Documentation Guidelines* was stipulated in the Letter of Resolution among the Long Island Rail Road, New York State Department of Transportation, and New York State Office of Parks, Recreation and Historic Preservation (executed August and September 2017). The Letter of Resolution pertains to a much broader project: “The Long Island Rail Road Expansion Project From Floral Park to Hicksville in Nassau County.”

Easton Architects visited the site on August 14 and 15, 2018 to survey each property and gather information for the graphic and written documentation of the report. Photographs were taken by Nicole Ellenberger, Taylor Driscoll, Allison Fricke, and Siri Olson.

Attempts were made to update this report with primary sources; however, few such sources are extant or available. An unknown but significant number of Pennsylvania Railroad and Long Island Rail Road records, including employment records, maps, blueprints, and glass-plate valuation negatives of the Long Island Rail Road, were destroyed in the 1950s. This report relies on secondary and tertiary sources produced by railroad enthusiasts, academics, and some extant primary source materials.

Part I: Historical Information

A. Physical History

1. **Date of Construction:** The Mineola Substation was constructed in 1910.
2. **Architect/Engineer:** The original architect or engineer is unknown.
3. **Original and subsequent owners, occupants, uses:** The Long Island Rail Road is the original owner of the property and has been the only occupant of the building. It has always functioned as an electrical substation providing power to the Long Island Rail Road tracks.
4. **Builder/Contractor/Supplier:** The original builder or contractor of the building is unknown. The source and supplier of original building materials is unknown.
5. **Original Plans and Construction:** The original appearance of the Mineola Substation was largely how the building appears today. The building was constructed during a larger campaign of electrification of the Long Island Rail Road's tracks and is one of a series of substations that received power from the new Long Island City Power Station. Original architectural drawings and construction information for the Mineola Substation are unavailable and were likely destroyed by the Long Island Rail Road in the mid-twentieth century.
6. **Alterations and Additions:** The building does not appear to have undergone significant exterior alterations over the course of its history. Although original architectural plans have not survived, historical photographs and visual inspection of the building suggest that minor changes have included the infill of a few openings and the covering and/or removal of windows. A single-story garage was added sometime after 1918. A wood platform and stair that connected the Substation interior to the signal tower was removed in 1923. From historic photograph, the platform appears to have been located in the first story window opening, just below the lintel, and the stair entered at the mezzanine level opening. At the interior, electrical and mechanical equipment was likely altered many times as technology advanced and the needs of the railroad shifted.

B. Historical Context

Early History and Formation of Mineola

The countryside around Mineola, known as the Hempstead Plains, was flat prairie inhabited by Native Americans of the Massapequa, Merioke, and Rockaway tribes.¹ The Dutch arrived in Long Island in the first half of the seventeenth century, settling in modern-day Brooklyn and Queens. The English followed, first settling on the coasts of eastern Long Island. Both groups of colonists moved inland as century progressed, pushing out the Native American population,

¹ Milred H. Smith, *Early History of the Long Island Railroad, 1834-1900* (Uniondale, Long Island: Salisbury Printers, 1958), 5.

which also suffered great losses from western diseases.² The terrain of the Hempstead Plains made the area amenable to overland travel, as well as farming and raising cattle, which the Dutch and English began to do in the early nineteenth century. Dairy farming, agriculture, and fishing became the main sources of economic production on Long Island. As such, the middle of Long Island developed a reputation as a barren, flat, sparsely populated area. In 1786, Mineola became the seat of Queens County, which at that time included modern-day Queens and Nassau Counties, and the first Mineola Courthouse was constructed at that time.³ Industrial development concentrated on the East River while the inland territory of Queens County remained rural, even towards the end of the nineteenth century and early twentieth century. When Queens County voted to join New York City in 1898, the farmer population living in the rural eastern region (now Nassau County) voted to secede later that same year. The residents of newly-formed Nassau County named Mineola the county seat. Mineola subsequently incorporated in 1906.⁴

The Long Island Rail Road

The Long Island Rail Road Company was incorporated by an act of the New York State Legislature on April 24, 1834, with the intention of linking New York and Boston via Long Island and a ferry.⁵ The railroad company chose to build through the flat, largely uninhabited plains in the southern section of the island where tracks could be laid without rivers or topography to maneuver and trains could speed through easily. The Long Island Rail Road (LIRR) had laid the first major section of the Main Line from Jamaica to Hicksville, stopping in several locations including Mineola, by 1837 when an economic crisis temporarily stopped work.⁶ The railroad's first branch line, completed in 1839, ran from Mineola to the relatively active commercial village of Hempstead to the south. For this reason, Mineola was known as "Branch" or "Hempstead Branch" until 1858.⁷ Work on the Main Line recommenced in 1840, reaching the proposed terminus in Greenport in 1844.

Upon reaching Greenport in 1844, the almost all-rail link between New York City and Boston was complete. However, the success was short-lived. The seemingly impossible task of constructing a railroad through Connecticut's challenging topography was achieved in 1848, making the Long Island route obsolete. Faced with potential disaster, the Long Island Rail Road Company formulated a plan to produce a passenger market for their product. The challenge was formidable: the bulk of the population in Long Island at the time lived on the coasts with easy access to ship travel, while the central plains remained sparsely settled, with the exception of Hempstead, now linked to the Main Line via Mineola.⁸ The Long Island Rail Road cautiously expanded its network of rails starting in 1854 and began a long campaign to encourage real estate

² Maureen O'Connell, *Historical Guide to Nassau County* (Mineola, NY: Nassau County Clerk, 2014); Ralph Henry Gabriel, *The Evolution of Long Island* (New Haven, CT: Yale University Press, 1921), 50-60.

³ "This is the Story of Progress in Mineola," *Long Island Jewish Press* (October 1965), 25.

⁴ Rhoda Amon, "Long Island: Our History/Our Towns/Nassau/Mineola/First Farmers, Then Lawyers," *Newsday*, February 22, 1998.

⁵ Smith, *Early History of the Long Island Railroad*, 2.

⁶ Amon, "Long Island: Our History."

⁷ Smith, *Early History of the Long Island Railroad*, 6; "This is the Story of Progress in Mineola," 25. The name "Mineola" has its origins in the Algonquin tribe of Native Americans, but there are a variety of stories about who made the decision to change the name and where exactly it comes from.

⁸ "LIRR: Tracking Long Island's History," *Newsday*, April 19, 1998.

development and settlement in the interior areas of Long Island.⁹ Changes in policy at the LIRR caused growing animosity between the company and the people of Long Island, which fed competing railroads on the island including the South Side Railroad, North Shore and Flushing Railroad, and Central Railroad. Rate wars among the railroads resulted in 1876 in the acquisition of the Long Island Rail Road by Conrad Poppenhusen of the North Shore and Flushing Railroad.¹⁰ The years of competition ended with Austin Corbin, who became president of the Long Island Rail Road in 1880 and then consolidated the various Long Island railroads. The construction and consolidation completed by Corbin essentially brought the Long Island Rail Road to its present service map (save for its connection to Manhattan) by 1900.¹¹

On April 29, 1899, the New York State Legislature “passed the act giving to the Long Island Railroad the right to build a subway under Atlantic Avenue in Brooklyn, to tunnel under the East River, and to erect a terminal station in New York.”¹² However, without the capital to fulfill the dream of a direct rail connection to Manhattan, the Long Island Rail Road looked to the capital-rich Pennsylvania Railroad. The Pennsylvania Railroad acquired the Long Island Rail Road in 1900, paying \$6 million for the controlling interest of Long Island’s stock.¹³ By 1907, the Pennsylvania Railroad had published plans for a terminal and four tracks under the East River. Pennsylvania Station on Manhattan’s west side opened three years later, on September 8, 1910, “with the LIRR as its inaugural train.”¹⁴ Construction on the bridge and tunnel rail connection was complete in March 1917.¹⁵ The continuous rail connection between Manhattan and Long Island was a significant step for Long Island; previously remote areas could now be considered within commuting distance of the city and the railroad facilitated even more real estate speculation and development.¹⁶ The turn of the century was also a watershed moment in the broader history of New York City. Scores of immigrants poured through Ellis Island and swelled the city’s population, new building projects were underway including the subway system, and many new industries cropped up every year, predominantly in Brooklyn and western Queens.¹⁷ Railroads flourished nationally as a major mode of transportation in the early twentieth century, ushering in a period of economic growth for the Long Island Rail Road.

World War II stressed the Long Island Rail Road capacity with large numbers of military personnel and commuters.¹⁸ However, the 1950s saw the dramatic decline of public transportation and the rise of the automobile and the suburb. The growth of the highway system also meant that rail freight shipping could not compete with trucking.¹⁹ On February 2, 1949, the Pennsylvania Railroad declared bankruptcy for the Long Island Rail Road. New York State set

⁹ Gabriel, *The Evolution of Long Island*, 143.

¹⁰ George H. Burgess, *Centennial History of the Pennsylvania Railroad Company, 1846-1946* (Philadelphia: The Pennsylvania Railroad Company, 1949), 480.

¹¹ Burgess, *Centennial History of the Pennsylvania Railroad Company, 1846-1946*, 480.

¹² Gabriel, *The Evolution of Long Island*, 143.

¹³ Burgess, *Centennial History of the Pennsylvania Railroad Company, 1846-1946*, 474; Ron Ziel and George H. Foster, *Steel Rails to the Sunrise* (New York: Duell, Sloan and Pearce, 1965), 120.

¹⁴ “LIRR: Tracking Long Island’s History.”

¹⁵ Gabriel, *The Evolution of Long Island*, 143.

¹⁶ Gabriel, *The Evolution of Long Island*, 144.

¹⁷ Robert C. Sturm, *The Long Island Railroad Company: A History, 1834-1965* (Babylon, NY: Long Island—Sunrise Trail Chapter, National Railway Historical Society, 2014), 73.

¹⁸ “LIRR: Tracking Long Island’s History.”

¹⁹ Derek Stadler, “The Modernization of the Long Island Rail Road,” *CUNY Academic Works* (2016), 2.

up the Long Island Transit Authority to oversee safety and improvement measures while former Pennsylvania Railroad official Thomas M. Goodfellow headed up the LIRR. Despite progress, the LIRR was still in need of improvements when New York State took it over with the newly-formed Metropolitan Commuter Transportation Authority (MCTA) in 1966.²⁰

Growth of Mineola

The development of Mineola and other inland Long Island towns is integrally linked to the history of the Long Island Rail Road. Mineola had started to grow as the seat of Nassau County beginning in 1786 and its prominence was strengthened by its location along the LIRR Main Line after 1837. When the short line to Hempstead was completed in 1839, Mineola continued to grow as a center of travel on Long Island. Mineola was one of several Long Island towns with a trolley connection with service to Roslyn, Hicksville, Port Washington, and Hempstead and the south side villages in the late nineteenth century, and from Mineola to Flushing in the early twentieth century.²¹ The Mineola station also served as the departure point for the Oyster Bay line of the Long Island Rail Road, the first leg of which was constructed in 1864 from Mineola to Glen Head.²² The line reached Locust Valley in 1871.²³ As a newly accessible destination, the town began to draw visitors especially once it became the long-time home for the Long Island Fair (later re-named the Mineola Fair), founded in 1842. The town hosted the Fair from 1866 to 1953.²⁴

Mineola and other Hempstead Plains towns experienced accelerated growth as a direct result of the rail connection between Manhattan and Long Island. Transportation between the various villages and regions of Long Island was improved, as well as the connection to the rapidly expanding boroughs of Brooklyn, Queens, and Manhattan.²⁵ Residential developers saw opportunities to build whole new neighborhoods, journals and newspapers touted health benefits of suburban living and the convenience and improvements of the Long Island Rail Road service, and the influx of wealthy families building recreational estates contributed to the rapid development of Long Island.²⁶ A new Mineola station was constructed in 1923, which significantly boosted land values and development accelerated. The *Long Island Daily Press* reported in July 1923 that local developers had begun buying up land near Mineola Station when the new station was announced for the purposes of constructing apartments and stores, consequently driving up land value.²⁷ The population (and demand for homes and amenities)

²⁰ Stadler, "The Modernization of the Long Island Rail Road," 6-7.

²¹ "In Mineola Neighborhood," *Brooklyn Times*, March 27, 1909.

²² Smith, *Early History of the Long Island Railroad*, 59; Elizur Brace Hinsdale, *History of The Long Island Railroad Company, 1834-1898* (New York: The Evening Post Job Printing House, 1898), 8.

²³ Smith, *Early History of the Long Island Railroad*, 59.

²⁴ "Long Island Fair Returns to Old Bethpage Village from September 30 to October 3," *Targeted News Service*, September 17, 2010.

²⁵ John A. Bonafide, "Long Island Railroad Station at Farmingdale," National Register of Historic Places Inventory/Nomination Form (Albany, NY: New York State Office of Parks, Recreation and Historic Preservation, November 13, 1991), 2.

²⁶ D. Maujer McLaughlin, "Nassau County Now a Great Home Center," and Ralph Peters, "Electrification of the Long Island Railroad," *Real Estate Record and Builders Guide* vol. 99 (June 1912), 1222-23.

²⁷ "New Station at Mineola Gives Land Values Big Boost," *Long Island Daily Press*, July 27, 1923.

continued to grow, doubling between 1950 and 1960 as young veterans and their families moved out to the suburbs.²⁸

The flat Hempstead Plains not only nurtured railroad transportation, but also air transportation. Proximity to New York City paired with plenty of flat land helped make Mineola the site of considerable aviation innovation and airplane production, particularly between 1918 and 1939.²⁹ Such early pioneers in aviation as Charles Lindbergh, Clarence Chamberlain and the Curtiss brothers spent time in Mineola during the “Golden Age of Aviation,” later giving rise to commercial airline production near Mineola.³⁰ By the 1950s, other Mineola industries included Swift and Co, the Knickerbocker Ice Company, Pittsburgh Plate Glass, H.O. Penn Machinery Company, National Biscuit Company, Armour Corporation, and Mason Mint.³¹

Evolution of Mineola Station

As the Long Island Rail Road and the town of Mineola developed, so did the Mineola Station. The first Mineola station was located within a wye (a triangle-shaped area bounded by track crossings) formed by the Main Line heading east-west, Hempstead Branch Line heading south, and the Oyster Bay Branch Line heading north (Figs. 1 and 2).³² A photograph of Mineola Station taken by George Brainerd c. 1872-1888 depicts a small, clapboard railroad depot in a rural setting (Fig. 3). In his seminal history of the Long Island Rail Road, author Vincent Seyfried notes that the depot was reportedly rehabilitated or altered in 1872. The photograph appears to have been taken from above the tracks looking east, likely on the A-frame bridge that conveyed pedestrians over the railroad tracks. Seyfried says of the bridge: “As the town grew, the station benefited from one of the earliest grade crossing eliminations—a bridge carrying Mineola Blvd [then 2nd Ave] over the track was erected in March 1878” (Fig. 4).³³ Photographs and historic maps locate the original and rebuilt 1872 train stations slightly west of where Nassau Tower now stands on the corner of Front and Main Streets. The station was rebuilt again in approximately 1883, again as a simple wood structure with one single interior room, but with the addition of large eaves on either side for waiting passengers.

Seyfried also notes the construction of a new brick switch tower at Mineola completed in May 1890 and operating during the last week of July 1890 (Fig. 5). He writes, “From contemporary descriptions we learn that the building was 16 x 30 in size and 33 feet in height; inside there were 36 levers.”³⁴ This tower was called Tower #48 until 1900, at which point the Long Island Rail Road numbering system changed and the tower was re-named Tower #45. It was renamed again as MT Tower in 1907.³⁵ Offices and storage occupied the first floor while the signal operation, with the panel board and switch levers, took place on the second floor. The tower

²⁸ Martin Weldon, “Salute to Mineola,” script of radio broadcast (New York: Port of New York, 1954), 7.

²⁹ Joshua Stoff, “The Aviation Heritage of Long Island,” Cradle of Aviation Museum, last updated 2018, <http://www.cradleofaviation.org/history/heritage.html>

³⁰ Weldon, “Salute to Mineola,” 7.

³¹ Weldon, “Salute to Mineola,” 4.

³² David D. Morrison, *Long Island Rail Road: Oyster Bay Branch* (Charleston, SC: Arcadia Publishing, 2018), 11.

³³ Vincent F. Seyfried, *The Long Island Rail Road: A Comprehensive History* (Garden City, Long Island: Vincent F. Seyfried, 1966-75), vol. 3, 188.

³⁴ Seyfried, *The Long Island Rail Road: A Comprehensive History*, vol. 6, 208.

³⁵ Seyfried, *The Long Island Rail Road: A Comprehensive History*, vol. 6, 208.

controlled the switches and signals for the Hempstead Branch, the Oyster Bay Branch, and this section of the Main Line.³⁶ The engineer posted at the tower blew a whistle or horn to alert people at the grade crossing at Main Street about approaching trains.³⁷ The design of this building was very simple: the building was a plain, two-story brick building with a pitched roof. It stood just east of the Mineola station on the corner of Front Street and Main Street, at the grade crossing of Main Street (See Fig. 2). The brick MT switch tower stood until 1922.

The Mineola Substation and Nassau Tower

The Long Island Rail Road Company determined that increased ridership in the early twentieth century would be accommodated by electrification of the rail system. The transition from steam to electric was spurred by the use of electric rails by the Interborough Rapid Transit (IRT) and Brooklyn Rapid Transit (BRT), pressure from municipal governments who wanted the end of steam pollution in their towns, the electrification of Penn Station, and the increased capacity and speed afforded by electrification.³⁸ The electrification of the Long Island Rail Road was a notable and pioneering endeavor, one of the first (if not the first) railway in the nation to attempt the change on such a large scale.³⁹ A central power station was constructed in Long Island City and began operating with a network of six substations in 1905. The first substations were Woodhaven Junction, East New York, Grand Avenue (Brooklyn), Hammel, Rockaway Junction Hammel, and Valley Stream, and two portable sub-stations were temporary placed at Belmont Park and Springfield Junction.⁴⁰ The power station and substations were planned, designed, and built by Westinghouse, Church, Kerr & Company under the direction of George Gibbs, chief engineer of electrical traction for the Long Island Rail Road.⁴¹

In 1910, the Mineola electrical substation, known as electric substation No. 8, was completed and came online.⁴² By this time, substations at Jamaica, Long Beach, and Winfield had also been added and five more were planned to meet increasing demand.⁴³ The Mineola substation replaced a portable substation apparatus that was able to move between branch lines, and a contemporary newspaper account notes that the substation would provide the electricity for the Hempstead and Garden City lines from Rockaway Junction to Hempstead and for the third rail extensions from Floral Park to Mineola and the Oyster Bay branch. Rotary transformers with 1,000 kilowatt capacities were to be installed in the substation.⁴⁴

³⁶ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 26, 29.

³⁷ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 31.

³⁸ Sturm, *The Long Island Railroad Company: A History, 1834-1965*, 81-82.

³⁹ "Electric Operation on the Long Island Railroad," *Electric Railway Journal* 37, no. 23 (1911), 1002-03.

⁴⁰ "The Pennsylvania Railroad's Extension to New York and Long Island—The Long Island City Power Station," *Street Railway Journal* 27, no. 14 (April 1906), 536; W.N. Smith, "The Power Transmission Line and Third-Rail System of the Long Island Railroad-I," *Street Railway Journal* 27, no. 23 (June 1906), 896.

⁴¹ W.N. Smith, "The Rotary-Converter Substations of the Long Island Railroad," *Streetcar Railway Journal* 27, no. 25 (June 1906), 983.

⁴² Long Island Rail Road Company, *29th Annual Report*, December 1910, 19.

⁴³ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 31; "Development of the Island's Transportation," *New York Times*, September 4, 1910.

⁴⁴ "Mineola Sub-Station," *Brooklyn Daily Eagle*, March 29, 1910.

The process of electrification reportedly proceeded without issue, or at least with enough success to propel future expansion plans.⁴⁵ The main power plant in Long Island City produced and distributed high voltage AC power to a network of electrical substations at strategic locations, of which Mineola was one. The substation contained control equipment, blowers, and a “step-down transformer to reduce the voltage from the transmission line to a safe level for feeding into a rotary converter that acted simultaneously as an AC motor and as a 600-volt DC generator.”⁴⁶ Altogether, the substation equipment served to reduce the high-voltage power from the main power plant and convert it to direct current (DC) power. Electrification of the railroad also involved installing hundreds of miles of new tracks and transmission wires, “double tracking” to increase the number of freight and passenger lines available, and introduced the “third rail,” powered by the substations. In the first six years of the electrification process, 62 miles of the LIRR routes were electrified, 100 trains ran each day in either direction, carrying an average 11,800 daily passengers.⁴⁷

At the Mineola electrical substation specifically, the power was intended to provide electricity to the Hempstead Branch via feeder cables to the third rail and for future expansion of electric lines (Fig. 6); a third rail was not extended on the Main Line to Mineola until 1926.⁴⁸ LIRR documentarian Dave Keller explains that the cables ran “alongside the non-electrified tracks which ran from Mineola to Hempstead Crossing just east of the Garden City station. Electrification via third rail reached Mineola and went south along the spur to Garden City in October 1926, allowing electric trains to run from Mineola to Hempstead, Mineola to West Hempstead and Mineola to Valley Stream via the West Hempstead branch” (Fig. 11).⁴⁹

The early substations required supervision at all times; consequently, they were usually constructed next to stations, switch towers, or “residences of their tenders.”⁵⁰ The Mineola substation was no exception. It was constructed adjacent to the 1883 station and brick switch tower. The size of the electrical substation building necessitated moving the east canopy of the 1883 station closer to the tracks, so all three buildings could fit within the area bound by the wye and Main Street (Fig. 10).⁵¹ Architecturally, the substation was designed in a restrained Beaux Arts style—an immensely popular style at the turn of the century that pervaded civic, commercial, residential, and industrial buildings. Through Classical and European proportions and decoration, the Beaux Arts style was intended to evoke power and permanence. The large round-arched windows at the substation recall monumental Roman arches, and decorative elements such as intermediate stone courses and decorative brickwork balance elegance with industrial functionalism (Fig. 7).

⁴⁵ Sturm, *The Long Island Railroad Company: A History, 1834-1965*, 81-82.

⁴⁶ Hilton and Due, *The Electric Interurban Railways in America* (1964), 55, as quoted in Bonafide, “Long Island Railroad Station at Farmingdale,” 6.

⁴⁷ “Electric Operation on the Long Island Railroad,” 1002.

⁴⁸ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 29.

⁴⁹ Dave Keller, “L.I.R.R. Telegraphic Call Letter, Number, and Names for Station,” *Trains Are Fun*, last updated June 24, 2018, <http://www.trainsarefun.com/lirrphotos/LIRR%20CALL%20LETTERS.htm>; Dave Keller, email message to author, July 5, 2017.

⁵⁰ Hilton and Due, *The Electric Interurban Railways in America*, 55, as quoted in Bonafide, “Long Island Railroad Station at Farmingdale,” 6; Bonafide, “Long Island Railroad Station at Farmingdale,” 5.

⁵¹ David Morrison & Valerie Pakaluk, *Long Island Railroad Stations* (Charleston, SC: Arcadia Publishing, 2003), 48.

The Mineola substation and the brick switch tower side by side until 1922. A wood platform and stair connected the second story of the switch tower to an interior mezzanine in the substation. On December 31, 1922 a wooden boxcar hitched to an Erie Railroad freight train collided with the MT Tower, severely damaging the structure. When the boxcar was removed, the tower collapsed (Figs. 8 and 9). A wooden platform connecting the tower and substation that had allowed the engineer to escape was removed after the tower collapse, but the electrical substation did not sustain any damage.⁵² The tower was re-built around the existing 1890 Saxby & Farmer 52 lever mechanical interlocking machine.⁵³ The re-built MT Tower, constructed of wood rather than brick, was placed into service on April 25, 1923 (Fig. 12). It was renamed “FAIR” after the annual Mineola Fair in April 1937 and then renamed “NASSAU” in September of 1938.⁵⁴ The Nassau Tower controlled the switches for the Hempstead Line, a portion of the Oyster Bay Line, and a portion of the Main Line up to the closing of the Hempstead Line in 1965. The tower controlled all of the Oyster Bay Line after the closing of Locust Tower in 1975.⁵⁵

Shortly after the construction of the new switch tower, the Long Island Rail Road Co. completed a new station in September 1923. This station moved to the west side of Mineola Boulevard to the present station location.⁵⁶ The moving of the station location in 1923 meant a separation of the stations and the service buildings (i.e., the sub-station and tower).

The Long Island Rail Road constructed buildings in a wide variety of architectural styles throughout the late nineteenth and early twentieth centuries. Monumental masonry buildings with varying ornament often characterized stations and support buildings, as did wood-frame structures with Dutch gable roofs and revival-style details.⁵⁷ However, the railroad also erected many simple, hip-roofed structures between the 1890s and 1940; the last station of this type was constructed in Medford in 1940.⁵⁸

As of 2018, only a few hip-roofed structures survive, including the Port Washington and Smithtown station buildings and the Locust Valley switch tower.⁵⁹ The hip roof is characteristic of LIRR construction at the time, although the use of wood was atypical for the time. The Long Island Rail Road built primarily in masonry from about 1890 to the start of the Great Depression, building a variety of impressive structures meant to exude permanence and solidity. Most interlocking towers were built of wood until 1900, after which time they were built of masonry.⁶⁰ The reasons for the decisions by the LIRR to construct some buildings of masonry and others of wood in the late nineteenth and early twentieth centuries remain unknown. As author Ron Ziel notes, “Unfortunately, after the passing of a century in which the railroad assiduously destroyed

⁵² Morrison, *Long Island Rail Road: Oyster Bay Branch*, 28.

⁵³ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 25.

⁵⁴ Keller, “L.I.R.R. Telegraphic Call Letter, Number, and Names for Station”; Dave Keller, email message to the author, July 5, 2017.

⁵⁵ Morrison, *Long Island Rail Road: Oyster Bay Branch*, 8.

⁵⁶ Seyfried, *The Long Island Rail Road: A Comprehensive History*, vol. 3, 188.

⁵⁷ Ron Ziel and Richard Wettreau, *Victorian Railroad Stations of Long Island* (Bridgehampton, NY: Sunrise Special Ltd in conjunction with Amereon House, 1988), 116.

⁵⁸ Ziel, *Victorian Railroad Stations of Long Island*, 92.

⁵⁹ David D. Morrison, *Long Island Rail Road: Port Jefferson Branch* (Charleston, SC: Arcadia Publishing, 2013), 71.

⁶⁰ Ziel, *Victorian Railroad Stations of Long Island*, 170.

virtually all the records and photographs pertaining to its development, it is impossible to gauge many of the factors that determined station construction decisions.”⁶¹

Currently, the Mineola Electrical Substation is largely out of service, although some signal and power controls still run through the building, suspended across the interior ceiling. Nassau Tower’s 52 lever interlocking machine was replaced with an electronic switch system in 1997.⁶² Nassau Tower was one of the Long Island Rail Road’s few remaining active signal towers, as the LIRR moves to centralize signaling at one location. The signals in Nassau Tower remain in limited use today.⁶³

⁶¹ Ziel, *Victorian Railroad Stations of Long Island*, 170.

⁶² Keller, “L.I.R.R. Telegraphic Call Letter, Number, and Names for Station”; Dave Keller, email message to the author, July 5, 2017.

⁶³ Keller, “L.I.R.R. Telegraphic Call Letter, Number, and Names for Station.”

Part II. Architectural Information

A. General Statement

- 1. Architectural character:** The Mineola Electrical Substation is a brick and steel building constructed in a simplified and restrained Beaux Arts style. Built in 1910, the Substation was part of a multi-year railroad electrification program and reflects the general style of Long Island Rail Road support buildings of this period.
- 2. Condition of fabric:** Overall, the Substation is in very good condition. The brick facades remain intact and the steel structure appears to be sound. Minor areas of weathering and biological growth are present but do not pose threats for further deterioration. Windows and door exhibit some displacement and missing materials but only to a minor degree. The Substation has retained its historic integrity of design, materials, and feeling as well as its contextual relationship to the railroad track and Nassau Tower.

B. Description of Exterior

Overall dimensions:

The substation is rectangular in plan with the two shorter facades oriented in the north/south direction. The building measures 76' by 53' and rises 42' in height. A single story, rectangular garage addition extends from the south corner of the west facade.

Foundations:

The foundation is concrete. Slightly uneven grade levels obscures the foundations and lowest brick courses at the exterior facades.

Walls:

Exterior facades are composed of red brick with light-color limestone stone details; ornamental elements are created by brick patterns and glazes. The symmetrical composition of the building and the individual facades speaks to the Beaux Arts design of the building, as do the simplified ornamental elements of the corbelled brick, stone courses, and monumental arched windows.

Each facade is divided horizontally into three sections: a base (approximately two stories in height in comparison to the adjacent Nassau Tower), upper portion with decorative brick patterning, and stepped parapet. Around the base of the building is a brick water table that is topped by four courses of recessed corbeled brick. In the base section of the building, the brick is laid in American common bond with five stretcher courses between each header course. The upper portion is laid in Flemish bond; headers are glazed and/or burned to have a shiny, dark grey coloring, creating a checkerboard pattern in this section. A three-course brick band separates the base from the upper section. This all-stretcher band is interspersed with trios of three-brick stretchers laid in a soldier bond separated by three stacked headers. Interrupting the checkerboard pattern are diamond-shaped panels; an all-header border, which is raised slightly

from the main plane, surrounds concentric squares of red brick. The round-arch window openings are surrounded in this section by five courses of brick headers arranged in concentric arches with a stone keystone at the center. A band of corbeled brick topped with a single course of stone encircles the building and separates the upper wall section from the brick parapet. The parapet level is laid in American common bond and capped with stone copings. The center portion of the parapet has a single step upward at each facade.

Anchoring each corner of the building are brick piers, which project slightly from the main plane of each facade. The piers do not have the patterned brickwork and are laid entirely in American common bond. An intermediate section of corbelled brick and single stone course is present at the piers, level with the dividing band between the base and upper wall sections. A second coping stone is set atop the parapet at the four corners.

The red bricks are generally unglazed and range from light to dark shades. The light bricks tend to have a slightly rougher surface texture. Where drainage pipes are located adjacent to corner piers and there are areas of biological growth, the bricks are darker in color. Areas of missing or reduced mortar are present across all facades. The rough textured mortar is grey-brown in color with small- to medium-size aggregate.

The four facades have similar, although not identical, fenestration patterns and overall symmetrical composition. The south facade contains the building's primary entrance and is dominated by a central round-arch opening with door and window openings. The opening is recessed from the main facade plane. A contemporary spotlight has been attached to the upper west section of the wall and three transformers (no longer holding live conduits) penetrate through the wall in the upper east corner corbeling.

The east facade is divided into three bays. The outer bays contain arched window openings, discussed in further detail below. The center bay contains a decorative brick panel in its base section, level with the lower portions of the windows. This panel is laid with the same Flemish bond and glazed headers as the upper wall sections and surrounded by a raised border of headers. One diamond brick panel is located between each of the corner piers and the window openings and three diamonds are spread evenly across the center bay. The upper sections of the facade at the north and south corners contain multiple through-wall penetrations and mechanical fasteners for electrical equipment, including four transformers that still contain live conduits.

The north facade contains a central arched window opening and several additional rectangular openings (further detail below). This facade faces Nassau Tower and the nearby railroad tracks. The center arch is slightly recessed; unlike the south facade, brick encloses the lower portion of the wall below the window. Two diamond brick panels flank the centered opening. A bright red stripe has been painted across the brick at the base of this facade.

The west facade is divided into three bays, which each contain an arched window opening. Four diamond brick panels are dispersed between the corner piers and the openings. One through-wall penetration and mechanical fastener are located in the northern portion of the facade. A contemporary metal fence attached to the facade surrounds a small electrical equipment yard to the west, partially obscuring the lower portion of the facade.

Structural system, framing:

The substation is a brick and steel structure. Though not visible at the exterior, the corner piers and intermediate steel columns create the structural system. Horizontal steel trusses correspond to the exterior brick corbeling.

Porches, stoops, balconies, porticoes, bulkheads:

The only exterior feature is the garage addition at the southwest corner. The one-story structure is capped with a flat roof and constructed of brick laid in a running stretcher bond. The red brick is a darker hue than the main substation brick and the mortar is whiter and more visible. Short parapets with stone copings are present at the north and south facades. An uneven joint between the garage and the substation is visible, where bricks at the corner pier were cut into and removed when the addition was constructed. The roof is clad with tar roofing over a thin concrete underlayment. A quarter-arch concrete buttress is located at grade on the west facade. Protective casing for electric conduits are attached at the west facade, as is the metal fence surrounding the electrical yard. Contemporary lights are fastened to the west and south facades.

Chimneys:

There are no chimneys on the Substation.

Openings

Doorways and Doors:

The primary entrance to the Substation is located at the center of the south facade. The massive double doors are wood, clad in a painted metal sheathing. The metal sheet has torn in several areas and has many areas of dents, creases, and folds; the malleability suggests that the material is lead sheet. Each door leaf is divided into two X-patterned panels. Iron kick-plates are nailed to base of each leaf and iron hinge straps are nailed to the bottom, midpoint, and top of the doors.

A second door is located at the north facade. This door is much smaller and is set within a rectangular opening surmounted by a stone lintel. The door is a single leaf, hollow metal door in a metal frame. One wood garage door is located at the south facade of the garage addition. This painted wood door is composed of twenty rectangular panels, two of which have been replaced with metal vents.

Windows and shutters:

The dominant windows are very large, round-arched, multi-lite windows. The windows are composed of three rows of four-lite sashes. The four glazing units are separated by thin mullions and set with wood frames; the top row sashes have rounded frames. Individual sashes are separated by horizontal and vertical muntins. The window frames and structural components are wood clad in patinaed copper sheet. In select areas, the metal sheathing has broken, revealing the wood frame underneath. The windows are glazed with wire glass with a bubbled texture. Some lites are cracked or have small holes. The two lower rows operate as awning windows.

The large window openings are rounded arches with a stone sill, stone keystone, and decorative brick courses at the arch. At the west facade, the center four-lite sash has been removed and replaced with plywood. Also at the west facade, the southernmost window has been shortened because of the garage addition: the bottom row of lites has been removed, reduced the lowest row of windows to three two-lite sashes. The stone sill has also been removed.

Additional windows are located on the north and south facades. These are set within rectangular openings and are two-over-two, double-hung sashes. These windows are also wood frame with sheet copper cladding. At the south facade, rectangular openings flank the main entrance; however, the west window has been covered by a piece of plywood. At the north facade, two windows flank the central arched bay and small entrance. The top sash of the west window has been covered with plywood. At the approximate second story level, a third rectangular opening is present towards the northeast corner. This opening has been infilled with brick, which is slightly recessed to still show the former opening. A stone lintel and sill (though more deteriorated and possibly a different type of stone than the other sills) are present. This opening previously contained the walkway between the substation interior and the switch tower that preceded Nassau Tower.

One window opening is present at the west facade of the garage addition. This punched opening has a severely deteriorated wood frame and has been infilled with a metal covering at the interior.

Roof:

The Substation is capped with a flat roof. The roof has a tar and gravel covering. The roof surface is not uniformly flat and exhibits slightly slopes in various areas. The tar roofing and flashing rise to inconsistent levels on the backside of the parapet. A large, open steel structure is located in the northeast portion of the roof. Formerly used to support electrical transformers and wiring, the structure is an irregular assembly of I-beams, L-angles and riveted connections. The steel is uniformly corroded due to its continuous exposure to the elements.

In the northeast corner is a small concrete bulkhead that shelters the interior stair providing roof access. This structure is clad entirely with bituminous roofing material. A single plywood door leads from the roof to a small landing for the ladder stair. The stone coping behind this bulkhead is flashed with copper sheet. The gutter system is composed of punched holes in the roofing material that lead to pipes attached to the east and west facades. Six large vents and transform supports are located on the roof, just behind the east facade parapet.

C. Description of Interior

Floor Plans:

The Substation is rectangular in plan and consists primarily of one large interior space. This room is open through the full height of the building. There is a basement level that occupies the full footprint of the substation. This basement has a central hallway at the center of the building, running in a north/south direction and concrete partitions.

The main interior space is dominated by the steel structure of the building and its mechanical equipment. The easternmost quarter of the interior space, along the east wall, is separated by the steel structure. Two large, riveted steel beams run north/south, one in front of the west wall and one approximately ten feet from the east wall, supported by four steel I-beam columns on each side. Above these beams are thinner, webbed steel members that extend to the ceiling and connect with trusses. Two steel catwalks with wood plank decks and an overhead crane span between the structural beams over the southern portion of the interior. The crane bears the label "Northern Crane" from its manufacturer, Northern Engineering Works, and has two parallel tracks with a dual-axel trolley containing a hoist; heavy chains and a large metal hook descend from the hoist towards the substation floor.

The eastern quarter of the space contains a mezzanine level with a narrow concrete slab and steel framing, approximately halfway between the interior floor and main steel beam. The mezzanine extends the full length of the building at the east wall. This mezzanine level sits atop a bank of brick vents and bays. Although the exact purpose or function of this area is unclear, the brick structure is constructed of beige brick with a dark grey mortar and is divided on the east side into numerous bays with metal fins. The west side has many square openings in the brick, open to a chamber beyond. At the mezzanine level above, a steel structure composed of smaller members support numerous electrical transformers and a complex network of conduits. The horizontal members terminated in the brick of the east wall near the ceiling.

Two non-original enclosed spaces are also present within this main interior space. West of the mezzanine, and occupying much of the floor area, is a block of single-story offices constructed of concrete masonry units (CMU). This enclosure has a wood roof, which is surrounded by a wood railing to create an intermediate deck level. This area is accessed by a separate stair and does not connect to the mezzanine. A restroom has been inserted into the northwest corner of the building, enclosed by two concrete walls and ceiling. The single-story garage addition at the west facade is accessed by a punched opening in the southwest corner and consists of a single, rectangular room.

Stairways:

One metal spiral stairway with a thin metal railing and balusters is located in the northeast corner of the interior. This stair provides access to the mezzanine level through a square opening in the concrete floor. It continues upward to a small concrete landing just below the ceiling; this slab sits on three courses of corbelled brick at the north and east walls. This landing and metal ladder-like stair provides access to the roof.

A second metal spiral staircase is located in the northwest corner of the interior, south of the enclosed restroom. Through a square opening in the concrete floor, this stair leads to the basement. The opening is surrounded by a thin metal railing. A wood stair on the south side of the CMU offices provides access to the roof of the enclosure. The stair has an open railing and risers and is constructed of dimensional lumber.

Flooring:

The floors of the main interior space, mezzanine, and basement are concrete. There are no additional finishes on the floor. The concrete slab at the mezzanine is punctured by thin openings

for conduit pipes to run from the brick equipment below to the network of transformers on the steel above.

Wall and ceiling finish:

The interior walls are exposed brick. The brick is laid in American common bond and does not reflect the decorative brick patterning of the exterior facades. Large areas of the north, west, and south walls are painted black. The brick otherwise appears to have been whitewashed or have remnants of some other kind of coating. Three courses of corbelled brick are present just below the ceiling at the east and west facades.

At the west wall, four structural piers project from the main wall plane. They are located on either side of and between the window openings. These brick piers expose one flange of the steel I-beam columns. These piers do not rise the full height of the interior; they extend to the height of the large steel beams adjacent to the wall. Above this beam, smaller steel members are embedded within the main plane of brick. One projecting brick pier is present in the west portion of the north wall, at the location of the restroom. This pier extends the full interior height and the brick in this section is painted a light beige color. The upper portion of the north wall is slightly recessed, creating a small ledge on which the two main steel beams rest.

The ceiling is concrete and retains board-form markings. Six steel beams are embedded in the ceiling in the north/south direction; two of these beams are encased in concrete. Four steel trusses with diagonal braces run east/west, attached to the ceiling and riveted to the steel beams and columns. The concrete shows areas of efflorescence and light discoloration where it meets the exterior walls.

Openings

Doorways and doors:

Door openings at the exterior walls correspond to the opening description at the exterior facades. The double doors of the primary entrance at the south wall swing inwards to the interior. The interior faces of the doors have the same X-framed panels and sheet metal sheathing as the exterior. Two courses of brick separate the top of the rectangular door opening from the stone sill of the round-arch window opening.

At the north wall is the secondary entrance. Above this rectangular opening, a segmental arch composed of three header courses is embedded within the wall, below which is an arched metal panel. The hollow metal door swings inwards. Other doors include a single, hollow metal door in a metal frame in a wide punched opening in the west wall leading to the garage addition. Overhead tracks for the garage door are attached to the ceiling of the garage addition. Wood laminate doors lead to the offices within the CMU office enclosure and a paneled wood door is located at the northwest restroom.

Windows:

Window openings correspond to the round-arch openings at the exterior facades. Openings do not have stone sills or keystones; ornamentation is limited to three arched courses of headers surrounding the top of each window opening. At the north wall is the second-story infilled

window opening visible on the exterior facade. A three-course segmental arch is embedded in the wall above the former opening. Infill brick is clearly differentiated by a dark red color, running stretcher bond, and thicker mortar joints than the surrounding area. The west first-story window opening is located in the restroom. The upper sash of this window is blocked by plywood at the exterior and a small metal vent installed in the wood. At the west wall, the southernmost window and the opening have been truncated; the lowest row of window lites have been replaced with brick infill. This infill corresponds to the level of the garage addition roof.

One two-over-two wood-framed window with textured wire-glass glazing is located on the south wall of the restroom enclosure. At the garage addition, the window opening has been infilled with plywood and a metal vent and fan.

Hardware:

Notable extant hardware includes door and window operating pieces. Hardware for the primary entrance doors include large wide iron hinges and straps that are bolted to the door leaves and brick walls. One iron vertical bar handle is fastened to the exterior of the eastern door leaf below a hinged metal strap and padlock; these do not appear to be original or are of an unknown time. Operating hardware for the awning sashes at the east and west windows is extant. These consist of thin metal rods that extend the width of the windows with hinged arms connected to each four-lite sash and the crank wheels and gears that control the arms.

Mechanical equipment

Heating, air condition, ventilation:

Metal radiators are located at the mezzanine level. Six large pipes penetrate the concrete ceiling near the center of the east wall. These carry electrical conduits to equipment on the roof, but also act as vents.

Lighting:

The interior is illuminated primarily by natural light from the large windows. Thin metal armatures attached to the steel columns support industrial metal pendant lights; three along the west wall and three above the CMU office enclosure. The original lighting fixtures and arrangement are not known. The industrial lights may be original or early fixtures.

A modern floodlight is present at the restroom enclosure and box lights are attached to the wood railing above the offices. Box lights and a multi-bulb pendant light are fastened to the steel trusses.

Plumbing:

Utility pipes of differing sizes are present across all four walls. Some pipes are cut and capped off, while others are still in use. Modern pipes in the northwest corner serve the restroom.

D. Site Information

Historic landscape design:

Since the Substation was constructed as a functional building within the Mineola station complex, there was no original landscape or site planning designs. The general setting reflected the utilitarian purpose of the building – it was close to the switch-control tower and the Mineola passenger station. The Substation, Nassau Tower, and the Mineola station were constrained in the wye bounded by three rail and trolley lines and the presence of Main Street. The station is no longer located next to the Substation and has been replaced by the small electrical equipment yard. To the north are Nassau Tower and the main line of Long Island Rail Road tracks, and to the east is Main Street, a pedestrian sidewalk, and small parking lot. The Hemstead Branch line tracks no longer run to the west of the building.

Outbuildings:

There are no additional outbuildings associated with the Substation.

Part III. Sources of Information

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B. Historic Images and Figures

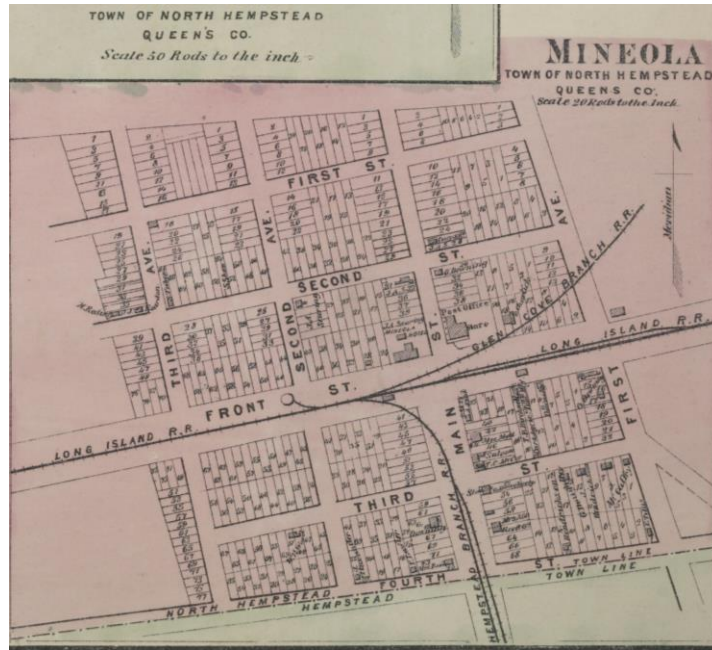


Fig. 1. An 1873 map illustrates the small rectangular station located at the junction of several railroad tracks. Source: (Detail) Map by Frederick W. Beers. "Mineola, Town of North Hempstead, Queens Co.," 1873. Image courtesy of the New York Public Library.

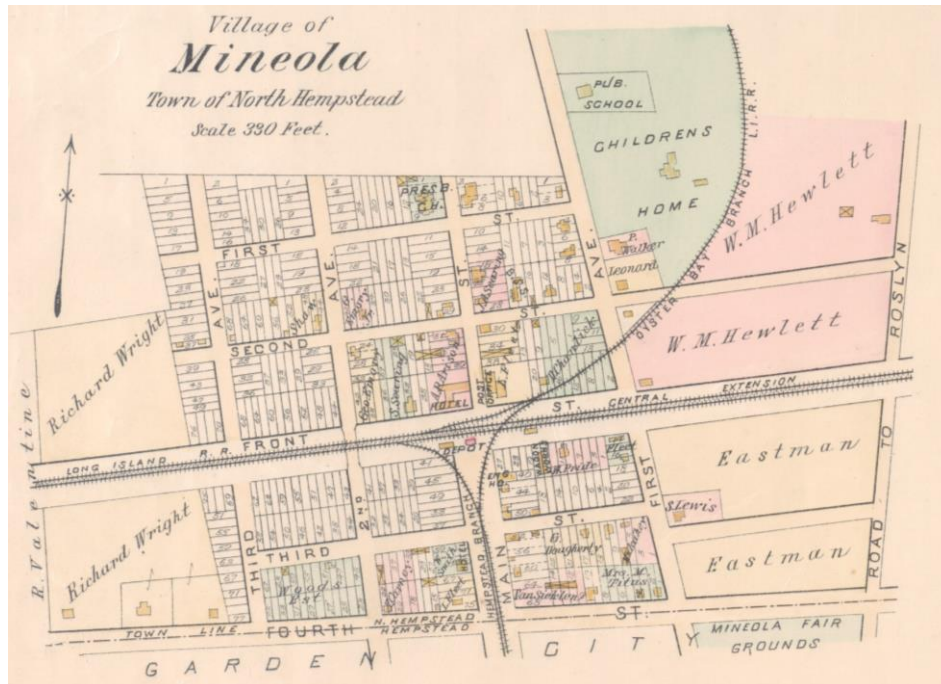


Fig. 2. By 1891, the signal tower has been added and a third rail line constructed to enclose the station buildings. Source: (Detail) Map by Chester Wolverton. "Plate 26: Village of Oyster Bay, Town of Oyster Bay. - Village of Roslyn, Town of North Hempstead. - Village of Mineola, Town of North Hempstead. - Village of Hicksville, Town of Oyster Bay." Atlas of Queens County, Long Island [1891]. Image courtesy of the New York Public Library.



Fig. 3. View of an early Mineola Station, c.1872-1887, looking east along the Main Line tracks. The Hempstead Branch line (right) turns southward. Source: Brainerd, George Bradford. *Mineola Station, Long Island*. 1872-1887. Collodion silver glass wet plate negative. Image courtesy of the Brooklyn Museum, <https://www.brooklynmuseum.org/opencollection/objects/191058>.



Fig. 4. An early grade-crossing elimination bridge carrying Mineola Boulevard. The Mineola station is visible in the distance beyond the bridge. Source: Brainerd, George Bradford. *Bridge, Mineola, Long Island*. 1872-1887. Collodion silver glass wet plate negative. Image courtesy of the Brooklyn Museum, <https://www.brooklynmuseum.org/opencollection/objects/191059>.

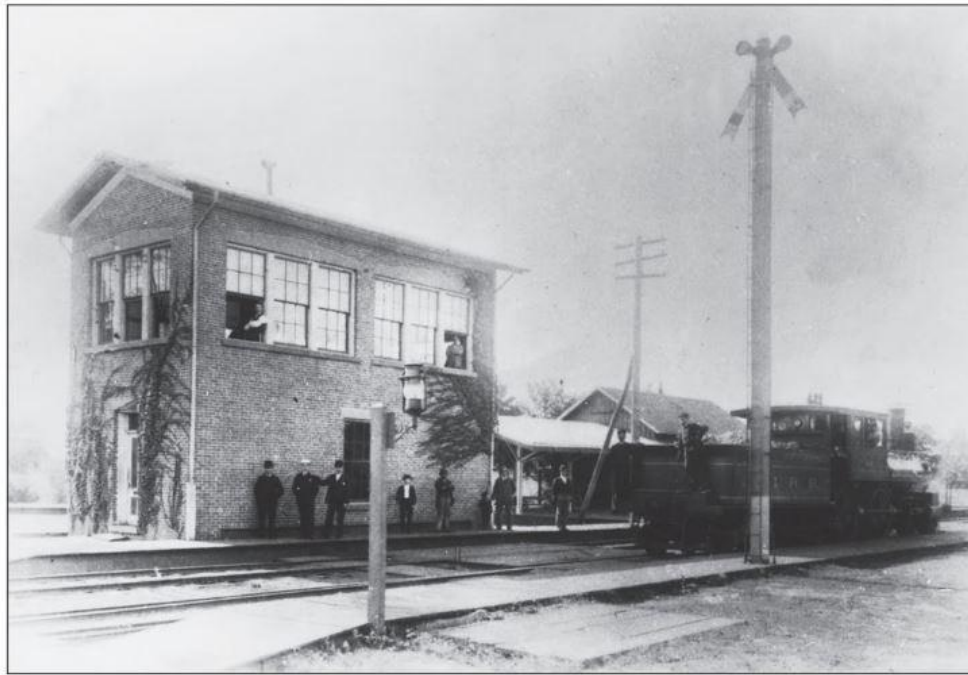


Fig. 5. This photograph depicts the brick signal tower and the 1883 Mineola station (right) prior to the construction of the electrical substation in 1910. Source: *Long Island Rail Road: Oyster Bay Branch*, 26.

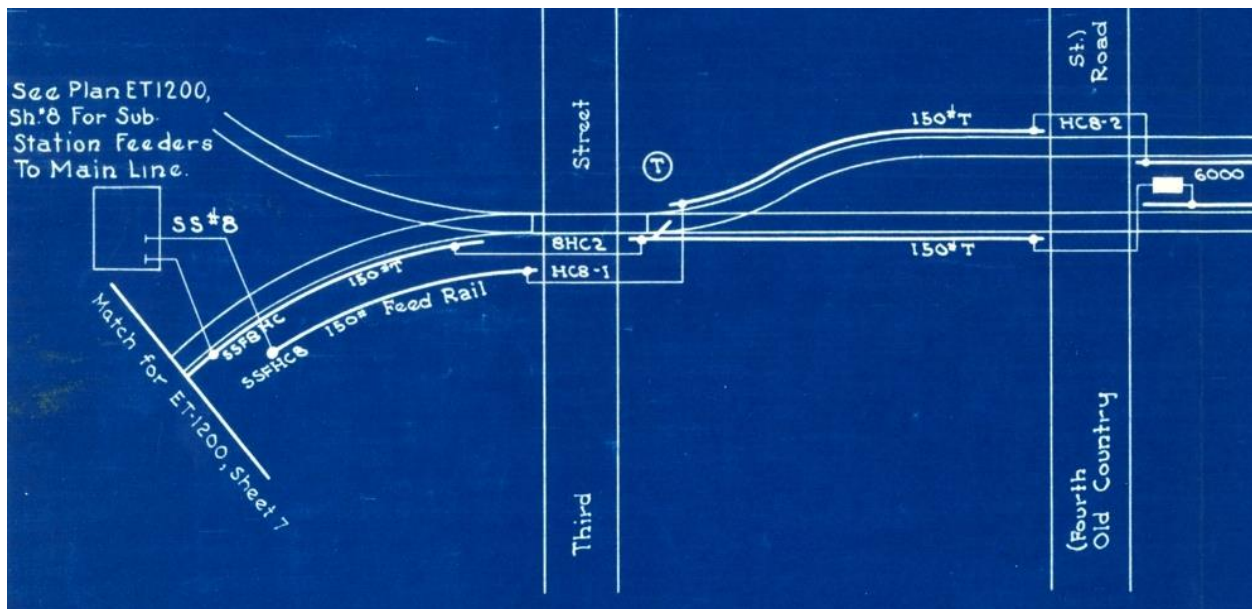


Fig. 6. This blueprint shows the feeders going from Substation No. 8 to the Hempstead Line and the tracks just south of the substation. Source: Huneke, Arthur John. "The L.I.R.R.'s Four Battery Cars." Last modified December 31, 2017. <http://arrrts-archives.com/battery.html>.



Fig. 7. The east and south facades of the Mineola Electrical Substation (substation No. 8) in a photograph dated November 7, 1918, eight years after the building's completion. View looking west from Main Street. The bridge between the substation and signal tower is still intact (visible at the far right). The garage addition has not yet been built. Little else had been altered between this photograph and the current appearance. Source: *Long Island Rail Road: Oyster Bay Branch*, 29.



Fig. 8. The brick signal tower was destroyed on December 31, 1922. The north and east facades of the Substation are unharmed, viewed looking south on Main Street. Source: *Long Island Rail Road: Oyster Bay Branch*, 29.



Fig. 9. The destroyed brick signal tower would be replaced by the Nassau Tower in 1923. The platform and stair that connected the tower and the Substation is clearly visible at left. These were likely demolished around the time of the new tower's construction. Source: *Long Island Rail Road: Oyster Bay Branch*, 28.



Fig.10. This post-1923 photograph shows how the 1883 station, signal tower (far left), and Electrical Substation are so close to each other that the east canopy of the station had to be moved to accommodate the substation. Source: Photographer Joe Burt, image accessed from the Queens Public Library.



Fig. 11. Newly electrified rails in use around 1926, view looking north from the Hempstead Line tracks next to Main Street. The main doors and awning windows at the south facade of the Substation are clearly visible. Source: Huneke, Arthur John. "The L.I.R.R.'s Four Battery Cars." Last modified December 31, 2017. <http://arrts-archives.com/battery.html>. Image courtesy of Dave Keller.



Fig. 12. A train passes the rebuilt signal tower in the 1950s. Source: *Long Island Rail Road: Oyster Bay Branch*, 25, image courtesy of the Mineola Historical Society.