

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD
WORKS, BUILDING 5
(Maintenance and Millwright Building)
333 Hamilton Avenue
South Plainfield
Middlesex County
New Jersey

HAER NJ-144-I
HAER NJ-144-I

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

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HAER No. NJ-144-I

Location: 333 Hamilton Avenue
Borough of South Plainfield
Middlesex County
New Jersey

U.S. Geological Survey Plainfield Quadrangle
UTM Coordinates 18.549712.4491934

Dates of Construction: c1917-1923

Present Owners: DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, NJ 07105

Present Use: Demolished

Significance: The South Plainfield Works, originally developed by the Spicer Manufacturing Company beginning in 1910, was a nationally-significant center for the manufacture of universal joints and propeller shafts for automobiles and aircraft. The Maintenance and Millwright Building was most likely built to support expanded plant operations during or immediately after World War I.

Project Information: Surviving structures of the former South Plainfield Works were part of the Cornell-Dubilier Electronics Superfund Site, and were demolished in 2007-2008 as part of site remediation activities outlined in the September 2004 Record of Decision as administered by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Federal authority brought the project under the purview of federal acts and regulation protecting significant cultural resources from adverse project effects.* Prior to demolition, the Spicer Manufacturing Corporation structures were determined eligible for inclusion on the National Register of Historic Places by the New Jersey State Historic Preservation Office, because of the South Plainfield Works' significance in American transportation history. Documentation of the plant to standards of the Historic American Engineering Record was completed to mitigate the removal of the significant resources.

*

National Historic Preservation Act of 1966 (PL 89-655), the National Environmental Policy Act of 1969 (PL 91-190), the Archaeological and Historical Preservation Act (PL 93-291), Executive Order 11593, Procedures for the Protection of Historic and Cultural Properties (36 CFR Part 800).

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Historical maps and bird's-eye views indicate that expansion of the South Plainfield Works during or immediately following World War I included construction of the 102-by-50.3-foot Maintenance and Millwright Building to repair equipment, prepare tools for machining and other operations, and store materials for plumbing and other maintenance work. Unlike all other plant buildings surviving until 2007-2008 other than Building 15 (see HAER No. NJ-144-C), this one-story structure was timber framed and timber sided, reflecting a lack of fire risk in building functions. Twelve-inch-wide stone sills supported twelve 6-by-8-inch wood columns typically 14.5 feet high, on which six modified king-post trusses at approximately 20-foot centers defined a 26-foot-high gable roof. The northern corner of the building was angled to accommodate a rail spur installed before World War I. The four trusses between the end walls had 12-by-6-inch bottom chords, 10-by-6-inch top chords, 6-by-6-inch diagonals, and 1.5-inch-diameter vertical iron tie rods, with 12-by-3-inch diagonal braces between southwest truss ends and the timber columns. The diagonal braces may reflect reinforcements added after the Spicer Manufacturing Company left the site. End-wall trusses had smaller members and no tie rods. Cross braces between trusses consisted of 1.5-by-6-inch timbers. On the 5-inch-thick concrete floor, interior truss supports included double or single 3.5- or 5-inch-diameter steel columns on 14-by-18-inch concrete bases. Joists supporting the asphalt-shingled wood roof were 9-by-2-inch timbers at 14-to-17-inch centers. The exterior walls were framed with 1.5-by-3.5-inch studs and enclosed by 9-by-0.5-inch boards, covered in recent decades with false-brick asphalt and clapboard-style vinyl replacement siding. Original fenestration included 3-by-5-foot, 8-over-8-light wood double-hung windows on the long walls, and ten 6-foot-square timber-framed skylights. Most of these openings were covered or boarded over in 2006, and a 1923 bird's-eye view suggest there may have been more windows than the six visible during documentation, as well as end-wall windows providing light to mezzanine platforms described below. A ground-level wood sliding door under the peak of the northwest wall may have been original; a metal roll-up door in the opposite end wall and two man-doors may have been installed after the Spicer Manufacturing Corporation period of occupation. The nearby powerhouse (NJ-144-J) provided steam for radiators in Building 5 via pipe trenches 6 to 9 inches wide near the long walls (Figures 1-5; Dunham-Clarín Company 1917; Spicer Manufacturing Corporation 1923, 1926; Photographs HAER No. NJ-144-3; HAER Nos. NJ-144-I-1 through NJ-144-I-6).

At the northwest end of the building, 7-foot-high, typically 12-by-8-inch wood columns supported a 1365-square foot, ell-shaped mezzanine framed with 10-by-3.5-inch joists at 16-to-19-inch centers and 6-by-2-inch floor boards. A wood stair near the north corner of the building provided access in 2006. The square footage shown for the plumbing and maintenance/millwright departments in this building on a 1926 plan (1020 and 7850 feet, respectively) suggest that the short, 18.5-foot-wide arm of the mezzanine ell originally extended along the entire northeast wall, and that a mezzanine of the same width ran along the facing southwest wall to create a large U-shaped balcony. The plumbing department probably occupied the ground level of the northwest transverse bay, with maintenance and millwright storage and equipment in the remainder of the building including a small office at the south corner which was removed before 2006. The numerous skylights would have lit the balcony. A small office in the building's south corner was removed after the Spicer Manufacturing Corporation period of occupation. The location of this office suggests that the only surviving piece of industrial equipment in 2006 — a 43.5-foot long, 10.8-foot-high steel I-beam chain hoist on triangular legs near the building's southwest corner, capable of moving moderate-sized milling equipment — was added by Cornell-Dubilier Electronics. Other recent interior modifications included a wood-framed office enclosure at the western corner under the mezzanine, with pebble-faced interior siding (Figures 3 and 5; Spicer Manufacturing Corporation 1926; Photographs HAER Nos. NJ-144-I-3 through NJ-144-I-6).

SOURCES OF INFORMATION/BIBLIOGRAPHY

Except for sources noted below, no graphic or documentary material appears available on the Maintenance and Millwright Building.

Day, Joseph P.

- 1929 3 Factories for Sale Formerly Occupied by Spicer Mfg. Co. Joseph P. Day Real Estate Agent, New York, New York. Original in the collections of The History Factory, Chantilly, Virginia. Archive Number 11-0-0-8-4 (827).

Dunham-Clarín Company

- 1917 Map of Property Situated at South Plainfield, Middlesex County, New Jersey, Property of Spicer Manufacturing Corporation, July, 11, 1917. Original in the collections of The History Factory, Chantilly, Virginia. Archive Number 11-0-0-6-3942.

Oberg, Erik, and F. D. Jones

- 1945 *Machinery's Handbook for Machine Shop and Drafting-Room*. 12th edition. New York: The Industrial Press.

Spicer Manufacturing Corporation

- 1923 South Plainfield Works of the Spicer Manufacturing Corporation, South Plainfield, New Jersey. Copy in the collections of The History Factory, Chantilly, Virginia. Archive Number 05050000102021301.
- 1926 Department and Building Location Plan, Spicer Manufacturing Corporation, South Plainfield, New Jersey. Original in the collections of The History Factory, Chantilly, Virginia. Archive Number 5-4-0-0-(432).

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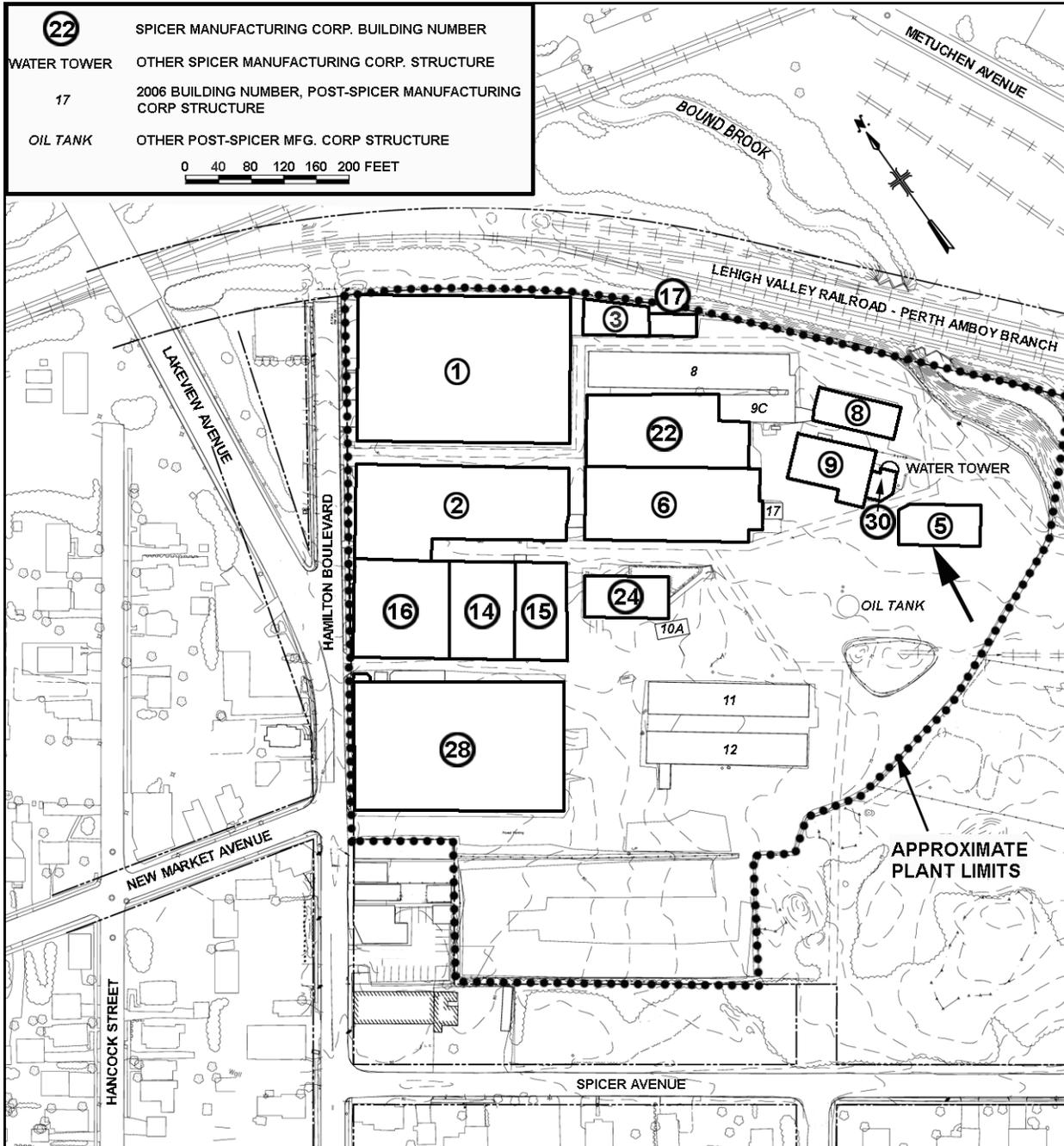


Figure 1. BUILDING 5 LOCATION AT FORMER SPICER MANUFACTURING CORP. PLANT



Figure 2. BUILDING 5 AND 1923 SOUTH PLAINFIELD WORKS
Source: Spicer Manufacturing Corporation 1923

Maintenance and Millwright Building is gable-roofed structure in background in this south-facing view, and is shown behind powerhouse and water tower. The large number of windows on the long wall and the two windows shown under the gable end do not match conditions documented in 2006, and suggests much reconstruction of exterior walls after the Spicer Manufacturing Corporation period of site occupation. The full gable end shown may also not be accurately represented, as the north corner of the building was angled to accommodate an existing rail spur (cf. Figures 3-4).

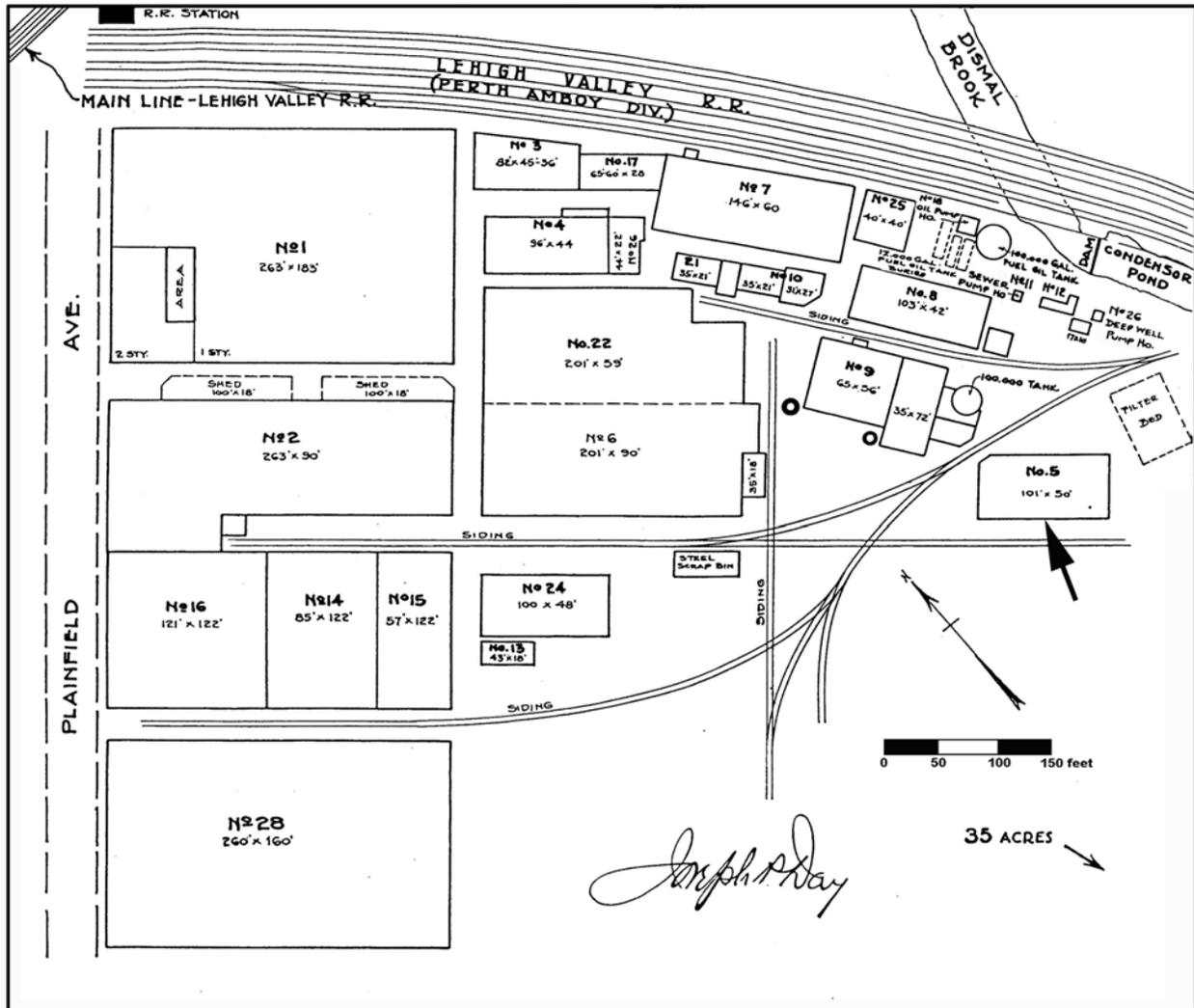


Figure 2. BUILDING 5 AND 1929 SOUTH PLAINFIELD WORKS
 Source: Day 1929

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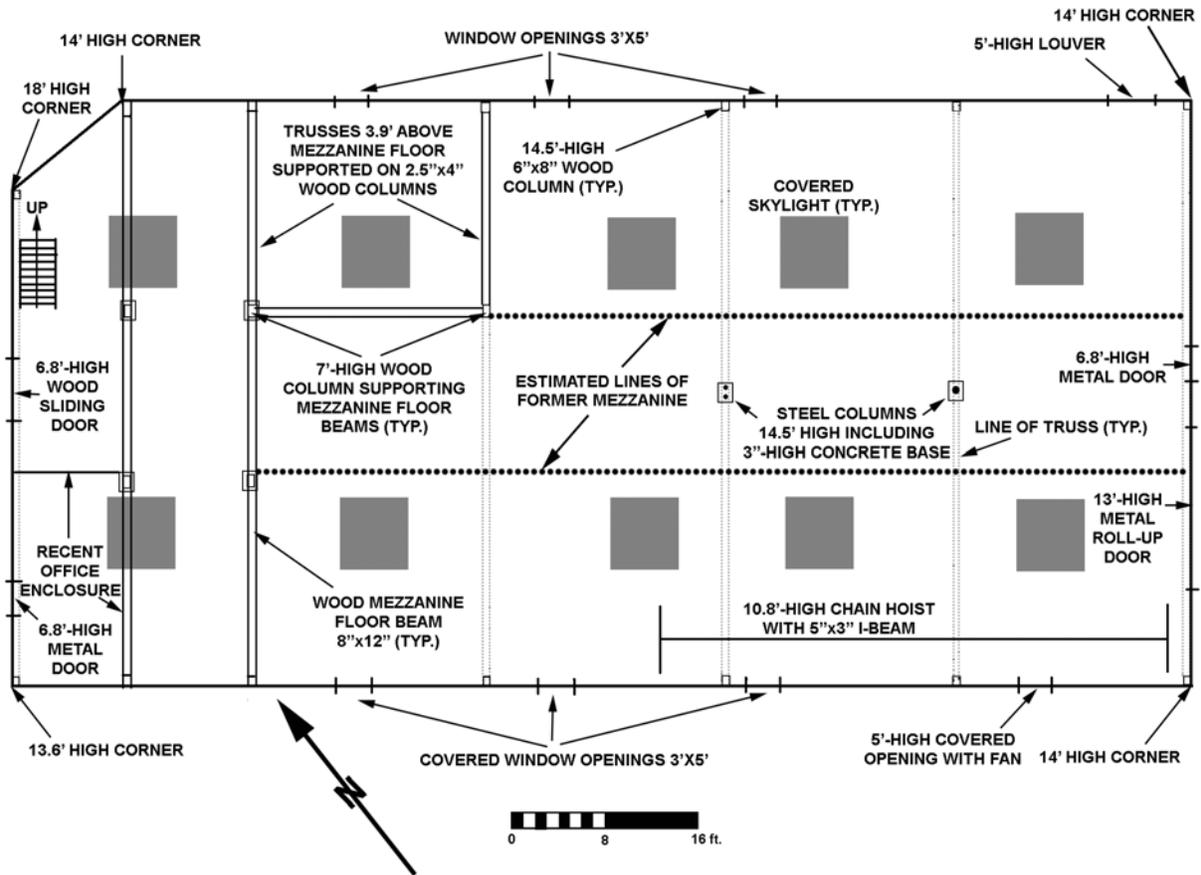


Figure 5. SKETCH PLAN