City of Madison Landmarks Commission
LANDMARKS AND LANDMARK SITES NOMINATION FORM (1)

Name of Building or Site

Common Name
Kupfer Center LLC

Historic Name (if applicable)
Steinle Turret Machine Company

Location

Street Address
149 Waubesa Street

Aldermanic District
Sixth (Ald. Marsha Rummel)

Classification

Type of Property (building, monument, park, etc.)
Building

Zoning District
M1

Present Use
Community Center

Current Owner of Property (available at City Assessor's Office)

Name(s)
Kupfer Center LLC c/o FCI

Street Address
211 S. Paterson Suite #160
Madison, WI 53703

Telephone Number

Legal Description (available at City Assessor's Office)

Parcel Number
0710-053-0501-8

Legal Description
FAIR OAKS, ALL OF BLKS 19 AND 20 AND OUTLOT 3, ALSO ALL OF VAC OAKWOOD AVE AND EAST ST ADJ TO SD BLKS, AND ALSO CLYDE A GALLAGHERS SUBD OF LOTS 106-108 FARWELLS ADD, OUTLOT D

Condition of Property

Physical Condition (excellent, good, fair, deteriorated, ruins)
Currently being renovated

Altered or Unaltered?
Altered

Moved or Original Site?
Original site

Wall Construction
Brick

City of Madison
LANDMARKS AND LANDMARK SITES NOMINATION FORM (2)

Historical Data

Original Owner
American Shredder Co.

Original Use
industrial

Architect or Builder
Unknown

Architectural Style
Astylistic Utilitarian

Date of Construction
1903; 1916-1918

Indigenous Materials Used
None

List of Bibliographical References Used

Bergeron, Louis, and Maria Teresa Mauiullari-Pontois. *Industry, Architecture, and Engineering.* New York: Harry N. Abrams, Inc., Publishers, 2000.

Bradley, Betsy Hunter. *The Works: The Industrial Architecture of the United States.* Oxford, England: Oxford University Press, 1999.

Breisch, Ken, Serge Hambourg and Noel Perrin. *Mills and Factories of New England.* New York: Harry N. Abrams, Inc., Publishers, 1988.

Capital Times. (Madison, Wisconsin). 1936; 1940; 1966; 1978.

Dane County Deeds.

Dane County Miscellaneous Papers.

Encyclopedia of American Biography. New series. New York: American Historical Society, 1942.

History of Dane County: Biographical and Genealogical. Madison: Western Historical Association, 1906.

Madison, Wisconsin. City of Madison Department of Planning and Development. Building Permits and Code Enforcement Records.

Madison, Wisconsin. Wisconsin Historical Society. Building Plans Correspondence of the Wisconsin Industrial Commission/Department of Labor and Human Resources (E Files).

Madison, Wisconsin. Wisconsin Historical Society. Dane County Tax Rolls.

Map of Madison, Wisconsin. Pelham, New York: Sanborn Publishing Company, 1908; and 1942.

Mollenhoff, David V. *Madison: A History of the Formative Years.* Dubuque, Iowa: Kendall/Hunt Publishing Company, 1982.

Nesbit, Robert C. *Wisconsin: A History.* Madison: University of Wisconsin Press, 1970.

Rankin, Katherine H. "Madison Intensive Survey: Historic Themes." Report Prepared for the City of Madison, Wisconsin, 1994.

Wisconsin State Journal. (Madison, Wisconsin). 1895; 1906; 1909; 1913; 1914; 1939; 1943; 1979.

Wright's Madison City Directory. Milwaukee: Wright Directory Company, 1927; 1931; 1933; 1935; and 1937.

Wyatt, Barbara, ed. *Cultural Resource Management in Wisconsin.* Madison: State Historical Society of Wisconsin, 1986.

Form Prepared By
Name and Title
Elizabeth L. Miller and Katherine H. Rankin

Organization Represented (if any)
Kupfer Center LLC and City of Madison

Address
2215 Martin Luther King Jr. Blvd.
Madison WI 53709

Telephone Number
608-266-6552

Date Nomination Form Was Prepared
April 5, 2007 and November 28, 2007

City of Madison
LANDMARKS AND LANDMARK SITES NOMINATION FORM (3 Description – page 1)

Describe Present and Original Physical Construction and Appearance.

The Steinle Turret Machine Company is a long, one-story, astylistic utilitarian building. It is composed of five sections. The original section was erected in 1903 for the American Shredder Company. The Steinle Turret Machine Company, which acquired the property in 1909, constructed the small addition at the north end of the structure in 1911, perhaps to serve, in part, as an office. A large addition was appended to the south end of the building in 1916-17, and a free-standing office building erected ten feet south of the main block in 1917-18. Circa 1920, a narrow addition was built to connect the office building with the main block.[1] The American Shredder Company/Steinle Turret Machine Company is of masonry construction, finished with brick and resting on a concrete slab foundation. Timber-framing (original) and steel-framing (installed c. 1942) combine to support the building. The original and 1916-17 sections comprised the factory floor and have monitor roofs, while the 1911 and 1917-18 office sections possess gable roofs. All the roofs are covered with a bituminous membrane.

DESCRIPTION

The American Shredder Company/Steinle Turret Machine Company (hereafter, Steinle Building) is located at 149 Waubesa Street, at what was the junction of the Chicago & North Western Railway and the Chicago, Milwaukee and St. Paul Railroad. The tracks of the Chicago & North Western Railway, running northeast of the Steinle Building, remain in place. To the southeast, the Chicago, Milwaukee and St. Paul Railroad bed has been converted into a bicycle trail. Early twentieth century factory complexes are located in the rail corridor south and west of the Steinle Building. Modest, single-family houses dating from the early twentieth century surround the industrial buildings. A narrow sidewalk separates the Steinle Building from Waubesa Street. As late as 1973, a rail spur or "loop track" ran behind the building, passing through the exterior gantry, and providing access to both rail lines.

Until 2007, the Steinle Building sat on a 2.9-acre parcel, which included five resources. These were the Steinle Building; a steel gantry (c. 1942), partially sheltered by a steel structure (1998); a shed (c. 1950); a garage (1948); and a warehouse (1970).[2] All lie east of (behind) the principal building. The steel gantry and all of the other associated resources have been under separate ownership since 2007 and are not included in this nomination. The gantry will be retained, but the other resources will be demolished.

The Steinle Building is generally rectangular in plan, with the long axis oriented north-south, parallel to Waubesa Street. The overall footprint of the structure measures approximately 416 feet (north-south) by 102 feet. The south end of the building is triangular, adding 49 feet to the total length. Many of the windows and doors in the Steinle Building are metal replacements, set within the brick surround and retaining the brick rowlocks that make up the segmental-arched lintels. These windows likely

---

[1] Dane County tax rolls (City of Madison and Village of Fair Oaks), on file, Wisconsin Historical Society, Madison, Wisconsin.
[2] Building permits, City of Madison Department of Planning and Development, Madison, Wisconsin; and *Map of Madison*, (Pelham, New York: Sanborn Publishing Company, 1908 and 1942).

were installed in 1980, when the brick walls were coated with "insulcrete," a mixture of concrete and pebbles (removed 2007).[3] Some of these windows have been boarded up. Many other window openings were covered in 1980, leaving the original wooden, double-hung sash, 6/6 windows in place. The rehabilitation will restore the original fenestration pattern, with wooden, 6/6 sash windows.

The public entrance into the office is located on the west face of the south-facing façade. The entrance consists of a metal-framed, glass door (not original). East of the door, four metal replacement windows in 1/1 configuration appear. On the east face of the south-facing façade, four more metal, 1/1 replacement windows are irregularly spaced.

The north-facing façade is also irregularly shaped, to accommodate the rail spur that curved behind the Steinle Building. The north face of this facade displays a metal garage door, and a garage door opening reduced with concrete block. A metal garage door (east) and a window opening (west) appear on the northeast face.

The long, west-facing façade overlooks Waubesa Street. All five sections of the building can be seen on this façade. Most of the window openings are boarded up. At the north end, the 1911 addition displays five window openings, and a pair of wooden doors in a wooden surround on this façade. The 1911 addition attaches to the 1903 section, which exhibits, north-to-south, two window openings, a covered door (which opened into the original office), eight window openings, a metal garage door, a metal door, and six more window openings. Original cast iron fire alarm bells and sprinkler hose connections are found at the south end of the 1903 section. The 1916-17 addition is next, with eleven window openings. The 1903 and 1916-17 sections each possess a monitor roof, which creates a tall, central bay on the interior. Three groups of four window openings (which probably held single-pane awnings originally) appear in the monitor roof of the 1903 section, while two groups of four window openings can be seen in the 1916-17 monitor roof. The narrow 1920 connection is enclosed with a metal panel. At the south end of the west-facing facade, the office section reveals metal, 1/1 replacement windows.

All five sections comprise the east-facing (rear) façade. At the north end, the east-facing façade of the 1911 section is canted, facing northeast. It displays one metal door (east) and one window opening (west). Next south is the 1903 section, which exhibits three window openings followed by one broad doorway, six more window openings, and a garage door through which a rail stub exits. The rail stub previously connected with the loop track that passed behind the Steinle Building, and likely dates from c. 1942, when Theodore Kupfer Iron Works was producing steel skeletons for submarine engines. South of this garage door, a metal door appears, followed by five more window openings. A small, shed-roofed addition projects from the east-facing façade at the north end of the 1916-17 section. This addition was erected in 1971, and possesses one metal door and one metal awning window (north face), and one metal casement window (east face).[4] South of the 1971 addition, one narrow metal door and another garage door

---

[3] Code Enforcement Records, 5 August 1980, on file, City of Madison Department of Planning and Development, Madison, Wisconsin.
[4] Building permit, dated 22 September 1971.

through which a rail stub extends can be seen on the north end of the 1916-17 section. To the south, the 1916-17 section exhibits yet another garage door that accommodated a rail stub, flanked by two window openings. The rail stubs in the 1916-17 section also likely date from c. 1942. The c. 1920 connecting section is enclosed with concrete block and displays one small window, one large metal vent stack, and one metal door. The office section exhibits a pair of metal doors labeled "stock room," with one window on either side. At the south end of the office section, a door labeled "office" appears. A cream brick chimney with a corbelled stack rises through the roof of this section.

On the interior, the 1903 section has an open floor plan, with a tall, central "crane" bay(so called because it permitted the use of traveling overhead cranes) and side "lean to" bays. The original office was located in the northwest corner of the 1903 section. The office door, surmounted by a transom, can be seen in the interior west wall (this door is covered on the exterior). Three-quarters of the north exterior wall of the 1903 section survives, separating this section from the 1911 addition. The north exterior wall has paired and single window openings (now all bricked in), and a broad, central doorway. The west half of the south exterior wall of the 1903 section remains. It exhibits three window openings (bricked in) and a large doorway holding a vertical board door (probably original).

In the 1911 addition, a full-height concrete block wall (c. 1950) with a steel-clad door encloses the boiler room in the northeast corner of the plan. Four skylights (covered over) lit the west half of the 1911 section; the office was probably moved into this section when it was completed.

The 1916-17 addition is attached to the south end of the 1903 section, and displays the production shed form, with its tall, central crane bay and side lean to bays. The plan of the 1916-17 addition is mostly open, except for a small, concrete block structure that houses two bathrooms. The bathrooms are located near the northwest corner of the 1916-17 addition, and appear to have been installed c. 1950. The 1916-17 section possesses a tall, central bay, flanked by side aisles. The south exterior wall of the 1916-17 section is intact, and displays a large, central doorway holding a pair of wooden doors (probably original). On either side of the doorway, a window opening appears. Five window openings, bricked in, are visible in the south exterior wall of each side aisle.

From the central doorway in the south wall of the 1916-17 section, a hallway runs south through the c. 1920 section and into the 1917-18 office section (south). This hallway is formed by wooden partition walls, finished with horizontal boards. In the c. 1920 section, a concrete block wall with a steel-clad door closes off another boiler room east of the hallway. To the west, the hallway opens into what was part of the locker room for Kupfer employees. The connection originally had four skylights (covered).

Most of the north exterior wall of the 1917-18 office section survives. It matches the configuration of the south exterior wall of the 1916-17 addition, with a large central doorway flanked by windows. The plan consists of a large storeroom (northeast), two small bathrooms (c. 1950, south of the storeroom) a large restroom with an immense gang sink (northwest; it had nine toilets and later became a part of the locker room),[5] another storeroom (south of the large restroom), a bank of seven office cubicles with a

[5] "Theo. Kupfer Foundry & Iron Co.," Industrial Commission of Wisconsin, Safety and Sanitary Department, Regular Inspection Report, 11 March 1943, Building Plans Correspondence of the Wisconsin Industrial Commission/Department of Labor and

reception area (south), and a vault (southeast). The appearance of the office cubicles and reception area suggests an update of the finishes c. 1990, although the configuration could be original.

The Steinle Building was originally a load-bearing brick facility, with timber posts and beams, a configuration it retained until at least 1934.[6] Circa 1942, some of the timber posts were removed, and the building was reinforced with a steel frame.[7] The clerestory in the 1916-17 section was likely widened at the same time, to accommodate new traveling cranes for the Theodore Kupfer Iron Works, which had acquired the property in October 1940. There are two traveling cranes in the 1903 section, and two more in the 1916-17 section. All four likely date from the Kupfer period, although the Steinle Turret Machine Company probably used traveling cranes as well. Finishes in the Steinle Building include: concrete floors, and exposed walls and ceilings (most of the structure); carpet, vertical board wall cladding and acoustical tile ceiling (office cubicles and reception area); and plasterboard walls and ceilings, and mosaic tile floors (bathrooms).

ALTERATIONS

On the interior, structural alterations to the Steinle Building have been minor, and include the installation of concrete block around the boilers (c. 1950), the concrete block bathroom structure (c. 1950), the conversion of the large restroom into a locker room (c. 1950), and the construction of bathrooms in the office section (c. 1950). The tall, central crane bay with lean-to side-bay form is intact, and the factory floor remains open, with exposed finishes and traveling cranes, clearly convey the Steinle Building's historical function as an industrial production shed.

Exterior alterations to the Steinle Building primarily date from the 1980 remodeling, at which time many window openings were covered, metal replacements were installed in other window openings, and a coating of "insulcrete" was applied to the brick walls. Other exterior alterations were confined to the east-facing (rear) or north-facing façades, such as the garage-type doorways cut into the 1916-17 section (two), the 1903 section (one), and the 1911 section (two). These openings probably date from c. 1942, when the Kupfer Iron Works was producing steel frames for submarine engines, and the rail stubs that pass through three of the doorways likely date from the same time. A tiny addition on the east-facing (rear) façade was erected in 1971. The insulcrete has been removed, and the Steinle Building currently displays good integrity. Although replacement windows remain and do detract from the building's appearance, rehabilitation plans call for the restoration of the window openings, and the installation of wooden, 6/6 sash windows. The Waubesa Street exterior will be returned as close to the original appearance as possible, given the limited availability of historical documentation. The diminutive rear addition will be removed, as will most of the garage-type openings on the east- and north-facing facades. When the restoration is complete, the Steinle Building will present a good

---

Human Resources, E File Number 5519, Wisconsin Historical Society, Madison, Wisconsin.

[6] "Steinle Machine Co.," Dane County Property Appraisal Cards, Dane Series 48, Box 39, 1934, Wisconsin Historical Society, Madison, Wisconsin.

[7] *Map of Madison*, (Pelham, New York: Sanborn Publishing Company, 1942). Microfilm P86-1818 (not pasted over), Wisconsin Historical Society, Madison, Wisconsin.

example of a twentieth century industrial production shed. The original timber framing reflects its use for agricultural and machine tool production, and its c. 1942 steel framing and clerestory widening, the only alterations needed to accommodate iron foundry manufacturing, represent the continued utility of the industrial production shed building form and the flexibility that is characteristic of that building type. The Steinle Building retains good integrity.

City of Madison
LANDMARKS AND LANDMARKS SITE NOMINATION FORM (4 Significance – page 1)

Significance of Nominated Property and Conformance to Designation Criteria.

The Steinle Turret Machine Company is architecturally significant as a good example of the industrial building type called the "production shed." It conforms to Designation Criteria 3. in that it "embod[ies] the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style, method of construction, or of indigenous materials or craftsmanship" (MGO 33.19(4)(a)3). The period of significance extends from 1903 to 1942, encompassing the dates of construction of the original section and the four additions to the building, as well as the installation of the steel framing that made it possible to continue using the building as a manufacturing facility. The Steinle Turret Machine Company retains good integrity.

HISTORICAL CONTEXT

Brief History of Madison
The original plat of Madison was surveyed for James Duane Doty in 1836. Doty, a real estate speculator, hoped to have Madison made the capital of newly-organized Wisconsin Territory, even though no European-Americans had yet settled in the area. Doty named his paper city in honor of the fourth president of the United States. Madison grew slowly during its first decade. It was incorporated as a village in 1846 with a population of 626. In 1848, Wisconsin became the thirtieth state and Madison was named the capital. The same year, the University of Wisconsin was founded: Tremendous growth followed, not only in government and at the university, but in the population in general. When Madison was chartered as a city in 1856, its population was 6,864. By that time, the city's character as a center for government and as a college town was well established. Growth stalled during the Civil War, but boomed during the 1870s as excellent train service help the city to become a regional commercial center. [8]

In the 1880s, Madison added another dimension, becoming a manufacturing center. Agricultural implement production was the leading industrial enterprise of the period, with such companies as the Madison Plow Company, the Mendota Agricultural Works, and the McCormick Harvesting Machine Company. The largest and most successful was (M. E.) Fuller and (John A.) Johnson, manufacturers of sod breakers, plows, cultivators, corn planters, harrows, hay rakes, and transplanters. John A. Johnson also led Madison's expansion into a new type of manufacturing, the production of machine tools, for making parts for other machines. His new enterprise, the Gisholt Machine Tools Company, produced turret lathes, vertical boring mills, and tool grinders. Madison's industrial sector continued to diversify in the early twentieth century with the establishment of the French Battery Company (later known as Ray-o-Vac); the meat-processing plant, Oscar Mayer and Company; the Mason-Kipp Company (later the Madison-Kipp Corporation), manufacturers of machine lubricators; the Scanlan-Morris Company, makers of hospital equipment; and many other smaller concerns. The development of a vigorous manufacturing sector and the quadrupling of the student body at the University of Wisconsin between 1900 and 1925 were major factors spurring Madison's growth from the seventh largest city in the state in 1910 to the third largest by 1930.[9]

---

[8] David V. Mollenhoff, *Madison: A History of the Formative Years*, (Dubuque: Kendall/Hunt Publishing Company, 1982), excerpted from entire book; and Robert C. Nesbit, *Wisconsin: A History*, (Madison: University of Wisconsin Press, 1973), p. 549.
[9] Ibid.

Histories of the American Shredder Corporation, the Steinle Turret Machine Company, and the Kupfer Foundry

The American Shredder Corporation organized in March 1903, with a capital stock worth $100,000. J. J. Power, John Aylward, and J.C. Harper directed the company. The purpose of this firm was to manufacture and sell "corn self-feeders, corn huskers and other machinery and supplies."[10] In May 1903, the American Shredder Corporation signed a contract to purchase what is now the site of 149 Waubesa Street, legally described as Outlot 1 in Block 19, and all of Block 20, in the Fair Oaks plat. The original section of the building likely was erected in the summer or fall of 1903. The sale of the property was finalized in February 1904, in the amount of $5,000.[11] The seller was the East Side Land Company.

The East Side Land Company, established in 1901, developed the 45-acre Fair Oaks plat. Fair Oaks opened in December 1901, with 322 lots. The East Side Land Company actively recruited manufacturers to Fair Oaks, so that there would be job opportunities in the development, which would in turn attract home-buyers. In 1903, the East Side Land Company induced the Mason-Kipp Company, which was considering moving to LaCrosse or Milwaukee, to relocate to Fair Oaks by providing a bonus and a free site.[12] One of the directors of the East Side Land Company was John Aylward, who also served on the board of the American Shredder Corporation, so that American Shredder may have been established in part to support the growth of Fair Oaks. The East Side Land Company's strategy was very successful. Fair Oaks grew so rapidly that it incorporated as a village in 1906. By 1910, Fair Oaks would have a population of about 1,000 and four notable industrial enterprises: the Madison Plow Company (a spin-off of Fuller and Johnson); the Madison-Kipp Company; the Steinle Turret Machine Company, and the U.S. Sugar Company (processing beets into sugar). The village of Fair Oaks would be annexed by the city of Madison in May 1913.[13]

The American Shredder Corporation, however, appears not to have been very successful. By July 1906, the firm had granted George A. Steinle an option to lease the plant for his new enterprise, the Steinle Turret Machine Company.[14] Steinle (1865-1939) had been born in Madison, the son of Joseph A. and Dorothea Steinle, German immigrants. George Steinle had been employed as a telegraph operator, and then a mail carrier, before learning to design machine tools while working at Ball Brothers Foundry. Steinle subsequently worked for Gisholt Machine Tools Company for 14 years, traveling in Europe representing the company, and becoming a stockholder. In 1906, Steinle formed the Steinle Turret Machine Company to produce a "full swing" turret lathe of his own design. The production of this apparatus, used for cutting metal machine parts, placed him in direct competition with his former employer, which also produced turret lathes, as well as other machine tools. The Steinle Turret Machine Company was incorporated in August 1906, with a capital stock of $60,000. The stated purpose was to "manufacture, buy, and sell turret lathes, tools and machines for working in iron, steel and other metals." The new firm had three directors: George A. Steinle, his father Joseph A. Steinle, and William R.

---

[10] Dane County Miscellaneous Papers, 18:11, 14 March 1903.
[11] Dane County Deeds, 185:400, 1 February 1904.
[12] Mollenhoff, p. 261.
[13] Ibid., p. 342.
[14] "Gisholt Company to Have a Rival," *Wisconsin State* Journal, 10 July 1906, p. 1; and Dane County Miscellaneous Papers, 23:164, 13 August 1906.

Bagley.[15] Joseph A. Steinle (1838-1913) had been born in Germany and immigrated with his parents to the United States in 1840. The family settled in Ohio, relocating to Milwaukee in 1846. Joseph Steinle settled in Madison in 1856, working as a butcher until 1879, and then keeping a saloon until his retirement. He also served in the city fire department in the 1870s, and later represented the third ward on the city council.[16] His involvement in the Steinle Turret Lathe Company appears to have been primarily as an investor.

The Steinle Turret Machine Company prospered, purchasing the current site from the American Shredder Corporation in October 1909 at a price of $9,500.[17] The same year, Steinle and adjacent property owners petitioned the village of Fair Oaks to vacate parts of St. Paul and East streets, and Oakwood Avenue, to allow the company to enlarge its boundaries.[18] The building was expanded in 1911, and by 1913, the firm employed about 100 men.[19]

In 1914, the Steinle Turret Machine Company received a large order for machinery from a "belligerent" nation (likely Germany).[20] Business boomed during World War I, leading the Steinle Turret Machine Company to add on to the south end of the building, and erect a separate, free-standing office building about ten feet south of the south addition, in 1917-18.[21]

During World War I, the federal government pressured George Steinle to manufacture ordnance. In 1917, he organized the Four Lakes Ordnance Company and erected a plant at 2824 Atwood Avenue (extant but altered). The firm hired 600 men to produce five-inch naval guns, using machinery Steinle designed. The ordnance plant closed at the end of World War I.[22] Steinle further supported the war effort by sponsoring the Steinle Drum and Bugle Corps, providing uniforms and instruments. He also funded one of the two trains that regularly brought veterans home from Rockford after returning from overseas, with dinner on board the train for the servicemen and their families.[23]

Circa 1920, a narrow addition was constructed connecting the 1917-18 office building with the main block. The Steinle Turret Machine Company prospered through the 1920s, maintaining a workforce of 400. During the early 1930s, the firm faltered, and was conducting only limited business by 1934.[24] Steinle, inspired by a series of airplane disasters, spent his last years attempting to develop a crash-proof airplane.[25] From at least 1939 until 1948, the Kleenaire Corporation, which sold air conditioning

---

[15] Dane County Miscellaneous Papers, 18:101, 1 August 1906; and "G. A. Steinle, Manufacturer, Dies," *Wisconsin State Journal*, 11 October 1939.
[16] *History of Dane County: Biographical and Genealogical*, (Madison: Western Historical Association, 1906), pp. 843-44.
[17] Dane County Deeds, 218:126, 30 October 1909.
[18] "Property Owners in Fair Oaks Cooperate to Aid Steinle Plant," *Wisconsin State Journal*, 25 August 1909.
[19] *Wisconsin State Journal*, Sunday Supplement, 1 June 1913, p. 1.
[20] *Wisconsin State Journal*, 14 October 1914.
[21] City of Madison Tax Rolls, on file, Wisconsin Historical Society, Madison, Wisconsin.
[22] Katherine H. Rankin, "Madison Intensive Survey: Historic Themes," Report Prepared for the City of Madison and the Historic Preservation Division, State Historical Society of Wisconsin, 1994, no page numbers.
[23] "G. A. Steinle, Manufacturer, Dies."
[24] *Wright's Madison City Directory*, (Milwaukee: Wright Directory Company, 1927; 1931; 1933; and 1937); and "G. A. Steinle, Manufacturer, Dies."
[25] *Encyclopedia of American Biography*, new series, (New York: American Historical

equipment, occupied the 1911 section of the Steinle Building (135 Waubesa Street).[26]

On 12 October 1940, the Theodore Kupfer Iron Works acquired the property at 149 Waubesa Street. That firm had been established by Theodore Kupfer, Sr., in November 1894 at 629-31 East Mifflin Street. Prior to opening his own firm, Kupfer had been employed for fifteen years at the M. H. Ball Foundry, acting as foreman of that plant for ten years. The Kupfer Iron Works originally produced feed cookers and steamers, sugar kettles, cauldrons, and ornamental ironwork, including the decorative iron details of the Mount Horeb Opera House (Mount Horeb, Wisconsin, extant, NRHP).[27] In the early twentieth century, the firm became a machine shop, and then gradually converted to fabricating structural steel after World War I.[28]

Theodore Kupfer, Sr., (1861-1936) was born in New Jersey and relocated to Madison with his parents in 1872. Kupfer, Sr., served as president of the company until his death.[29] His son, Theodore Kupfer, Jr., (1884-1966) succeeded him as president of the firm, while Kupfer Sr.'s son-in-law, Jacob J. Gerhardt, then became general manager of the company. When the East Mifflin Street plant was severely damaged by fire in May 1940, the company began looking for a new production facility.[30] Kupfer purchased the Steinle Building in October 1940, and was operating in the building by 1941. Circa 1942, the gantry that stands behind (east of) the building was erected to enable the loading of skeletons of welded steel plates onto a truck or a railroad flat car. The steel plates were then shipped to the Fairbanks Morse Company in Beloit. Each skeleton, weighing several tons, would form the base for a submarine engine, completed in Beloit.[31] In addition to submarine engine bases, Kupfer Iron Works also produced gun mounts for the army, and welded steel girders and cast ornamental ironwork for use in building construction. At the time, the Kupfer company had 75 employees.[32] In 1946, Theodore Kupfer, Jr., retired, selling his interest in the firm to his brother-in-law, Jacob Gerhardt (1895-1978).[33]

After World War II, Kupfer Iron Works continued to fabricate steel for building and bridge construction. The company boomed through the 1970s, producing steel members for highway bridges and overpasses throughout the Midwest, and for structures in Madison such as the award-winning pedestrian bridge in Tenney Park, the Dane County Coliseum (1919 Alliant Energy Center Way), United Bank (222 West Washington Avenue), the Concourse Hotel (1 West Dayton Street), the Wisconsin Telephone Company (302 West Washington Avenue), and a number of buildings on the University of Wisconsin campus. In 1978 alone, the firm processed an estimated 5,000 tons of steel for 250 projects, mostly bridges.[34] At 149 Waubesa Street during the post-war period, Kupfer Iron Works added a concrete block garage (1948), a

---

Society, 1942), 15:437-438.
[26] *Wright's Madison City Directory*, (Milwaukee: Wright Directory Company, 1937; 1939; 1947; and 1950); and photograph dated 24 June 1940, Photo Copy Service (Angus McVicar) Collection, on file, Wisconsin Historical Society, Madison, Wisconsin.
[27] *Wisconsin State Journal*, 11 July 1895.
[28] "Jacob J. Gerhardt," Obituary, *Capital Times*, 9 June 1978.
[29] "Theodore Kupfer, Sr.," Obituary, *Capital Times*, 12 October 1936.
[30] "Throng Sees $25,000 Blaze at Kupfer Co.," *Capital Times*, 14 May 1940, p. 1.
[31] "Subs Sail from Doors of Kupfer Co.," *Wisconsin State Journal*, 13 June 1943.
[32] "Theo. Kupfer Foundry & Iron Co.," Industrial Commission of Wisconsin, Safety and Sanitary Department, Regular Inspection Report, 11 March 1943.
[33] "Theodore Kupfer Dies at Age 82; Was Industrialist," *Capital Times*, 7 May 1966.
[34] "Heavy Work by 'Men of Iron,'" *Wisconsin State Journal*, Economic Report, 21 January 1979, p. 20.

small shed (c. 1950), and a steel warehouse (1970).[35] (These structures were sold, along with the c. 1942 gantry and the eastern end of the original parcel, in 2007.) Jacob Gerhardt served as president until his

[35] Building permits.

death. His son, Lee Gerhardt, then took over the company. However, by the early 1980s, the widespread use of prefabricated steel had reduced the demand for custom steel fabrication such as Kupfer produced. In 1983, the company's workforce was cut from 200 to 40. Kupfer Iron Works closed in 1985.[36]

The Steinle Building remained vacant until Durline Scales and Manufacturing purchased the property in 1990. This firm produced large truck scales in the building until November 2003, when the operation relocated to Rockford, Illinois. The metal structure sheltering the north end of the exterior gantry was erected for Durline in 1998.[37] In 2001, Ironworks Development, LLC acquired the building. Ownership transferred to the Atwood Community Center at the end of 2005, which then sold the Steinle Building and a small amount of land to Kupfer Center, LLC, while retaining the rest of the site. When the rehabilitation is finished, the Steinle Building will become the new home of the Atwood Community Center.

STATEMENT OF SIGNIFICANCE: THE PRODUCTION SHED INDUSTRIAL BUILDING TYPE

The Steinle Turret Machine Company Building is eligible for Landmark designation as a good example of the production shed industrial building type. The production shed succeeded the textile mill as the preferred industrial building type in the early twentieth century. The textile mill form had evolved from textile mills of the late eighteenth and early nineteenth centuries. Technical improvements in weaving and spinning developed in England in the 1760s allowed the use of a mechanical system of pulleys and belts, rotating shafts and gears, linked together and driven by steam or water power. The size and shape of the mechanized textile mill was determined by the limitations of this mechanical power distribution system. This resulted in a long, narrow, multistory building with open floors and high ceilings to accommodate the machinery and "millwork" (the belts, shafts, pulleys and gears), and to provide sufficient light and ventilation. Typically, a single, rotating wooden shaft operated the textile machinery on each floor. Belts, pulleys and shafts running through the floors connected the horizontal shafts to the source of power. The first mechanized textile mill in the United States was erected in Pawtucket, Rhode Island in 1790. Conditions in New England proved ideal for mechanized textile manufacturing, and the textile industry flourished, especially in Massachusetts, into the late nineteenth century. The long, narrow, multistory building form that had developed for textile mills was adopted by many other mechanized industries in the United States during the mid-to-late nineteenth century. The use of this form continued into the 1920s.[38]

Toward the close of the nineteenth century, technological advances in power generation (electricity) and materials handling (traveling cranes and continuous process operations) revolutionized the form and layout of industrial buildings. Electric drive eliminated the need for millwork, allowing the efficient arrangement of production to dictate the layout. In many industries, this would soon lead to continuous process production (such as the assembly line). Eliminating the millwork also freed space overhead, making the use of traveling cranes possible. The traveling crane had been developed in Great Britain during the 1840s, but was not employed in the United States until around 1890. The first electric-powered traveling crane was installed at the E. P. Allis Company in Milwaukee in 1899. Within two years, this

---

[36] "93-year-old Kupfer Iron Works to Close," *Capital Times*, 24 April 1985; and "Kupfer Iron Works to Close," *Wisconsin State Journal*, 25 April 1985.
[37] Building permit.
[38] Ken Breisch, Serge Hambourg and Noel Perrin, *Mills and Factories of New England*, (New York: Harry N. Abrams, Inc., Publishers, 1988), pp. 24-26.

mechanism was widely available in the United States.[39]

At first, new machinery and continuous process operations were accommodated in textile mill industrial buildings, but the production shed building type soon emerged. Erected between 1900 and 1950, the production shed was one story tall, allowing all of the heavy, high-speed machinery to be installed on the ground floor. It was typically longer than the textile mill building, and could be built to any length the production process required. Defining characteristics of the production shed were brick construction; the three-bay form, consisting of the tall, central "crane bay" (for the traveling crane), and wide, side "lean-to" bays; an open factory floor plan; and a monitor roof, which extended most of the length of the main roof, providing ventilation and lighting the interior. Early production sheds were often timber-framed, because of the expense and limited availability of steel. Steel framing provided better, more flexible support for the varying loads traveling cranes carried. It was frequently incorporated in production sheds erected after World War I, as steel prices fell and availability increased. The post World War I production shed might also have a sawtooth roof, rather than a monitor. A concrete floor was typical of production sheds throughout the period, but especially after 1920, when the electric forklift truck became standard equipment. Concrete flooring also provided a measure of fire resistance. Other elements of fire resistive construction typical of production sheds were the brick and timber- or steel-frame construction; the elimination of ceiling finishes, attics, and combustible interior furnishings such as shelving; the isolation of offices and boiler rooms apart from the factory floor by placement in adjacent buildings or enclosed in masonry walls; plank doors clad with sheet metal; steel-framed, wire-glass windows, which were shatter-proof; and sprinklers. The ceiling height of the lean-to bays was a minimum of twelve feet, while the central crane bay was typically five or more feet taller.[40]

The location of the production shed was also critical; it was set adjacent to a rail line, with a spur or a loop track passing through the site, delivering raw materials and picking up finished products. Often, this track connected to the traveling cranes that moved components through the shop. These elements inspired industrial engineers to hail the production shed as the "master machine of industry."[41]

The exterior appearance of the production shed, generally termed "astylistic utilitarian," reflected the engineer's concept of beauty, which was based on function and utility rather than the formality or picturesqueness that architects of the day found beautiful. Industrial buildings were detailed to imply strength, stability and efficient manufacturing organization. This was achieved through simple, functional designs that showcased the quality of the materials used and expressed the construction on the exterior. Engineers emphasized the structure by placing ornament at load-bearing locations, such as window lintels, and embellishing pilasters with decorative capitals and bases. In contrast, architects recommended enriching industrial buildings around prominent features, such as entrances and towers.[42]

---

[39] Betsy Hunter Bradley, *The Works: The Industrial Architecture of the United States*, (Oxford, England: Oxford University Press, 1999), pp. 27, 75, 87, 88, 95, 99, 101, and 189.
[40] Ibid., pp. 27, 30-33, 113, 125-35.
[41] Ibid.
[42] Louis Bergeron, and Maria Teresa Mauiullari-Pontois, *Industry, Architecture, and Engineering*, (New York: Harry N. Abrams, Inc., Publishers, 2000), pp. 187 and 202; and Bradley, pp. 202-232.

The production shed building type was erected as late as the 1950s. However, improvements in artificial lighting, such as the introduction of fluorescents in 1938, and the increasing efficiency of air-conditioning, led to the development of the "controlled conditions plant." A one-story, steel-reinforced concrete structure, the controlled conditions plant had glass-block or other fixed windows, or was windowless. This was the preferred type of industrial plant after 1945.[43]

The American Shredder Corporation/Steinle Turret Machine Company (Steinle Building) is a good example of a production shed industrial building, incorporating and retaining many of the features described above. It is an astylistic utilitarian building of functional design without ornamentation. It is a long, one-story building of fire resistive brick construction with both timber and steel framing. The factory floor (1903 and 1916-17) sections possess the classic three-bay form of the industrial production shed, composed of a central crane bay (18 feet high) with flanking lean-to bays (12 feet tall), and capped with a monitor roof. Brick walls separate the 1911 office section from the factory floor, and the 1917-18 office section was originally free standing. Although the 1917-18 office was connected to the main block c. 1920, brick walls continued to isolate it from the factory floor. The boiler is likewise enclosed in masonry walls, separating it from the factory floor. Other fire resistive elements include concrete floors, and exposed interiors with no built-in furnishings (except in the office section).

The location of the Steinle Building is also characteristic of production shed industrial buildings: two rail lines cross just east of the property. A loop track ran from one rail line to the other just behind the building, from at least 1908 until at least 1973. The alterations made to the Steinle property for Kupfer Iron Works circa 1942, installing steel framing and widening the clerestory in the 1916-17 section of the building, erecting an exterior steel gantry over the loop track behind the building, and constructing rail stubs from the loop track into the building, integrated the Steinle Building with these rail lines. As a 1943 article in the *Wisconsin State Journal* explained

> ...Every so often the doors of the Theodore Kupfer Foundry and Iron Company at 149 Waubesa St. roll back and out comes a strange skeleton of heavy steel plates weighing several tons, swinging through the air beneath an electric crane. It is the steel base of a Diesel submarine engine which will be completed by the Fairbanks Morse Co. at Beloit. Shaped and welded on a jig nearly 30 feet long, each completed base is lifted by the crane, sails through the air at the end of a stout cable, and is loaded outside onto a flat car which whisks it away for further processing...[44]

The alterations made for Kupfer not only extended the use of the Steinle building, and reflected the adaptability of the industrial production shed to different manufacturing processes, they also transformed the building into the "master machine of industry" that industrial engineers had envisioned a production shed could become.

A review of the Architecture/History Inventory (AHI) database in the Wisconsin Office of Historic Buildings identified 33 industrial buildings in the city of Madison that date from the early-to-mid-twentieth century. Of these, only four, including the Steinle Building, conform to the industrial production shed building type. The others are the Four Lakes Ordnance Plant at 2824 Atwood Avenue

---

[43] Bradley, pp. 161-63.
[44] "Subs Sail from Doors of Kupfer Co.," *WSJ*, 13 June 1943.

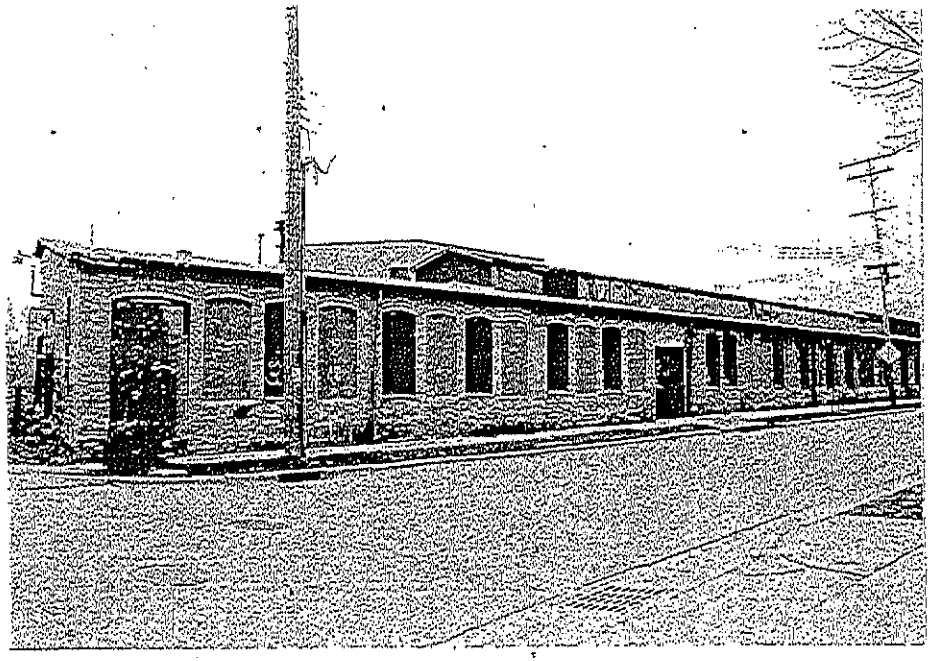
(1918, erected for George Steinle); one building that is a part of the Gisholt Machine Tools Company

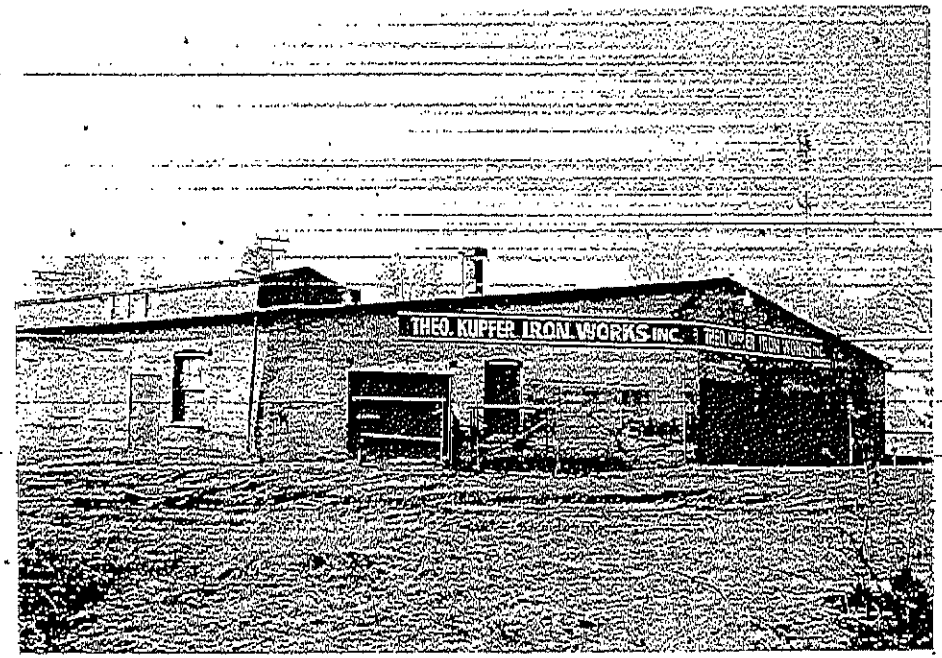
complex at 1301 East Washington Avenue (1899); and the Burgess Battery Company Plant No. 5 at 1011-15 East Main Street (1925).

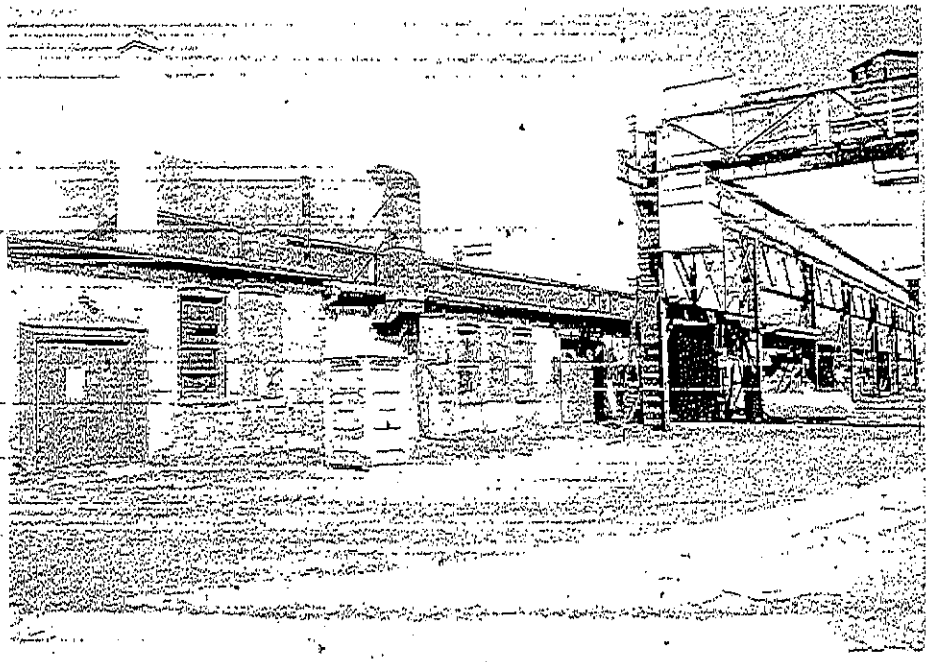
The Four Lakes Ordnance Plant and the building at the Gisholt Machine Company are both astylistic utilitarian structures, featuring the three-bay form characteristic of the industrial production shed, with a tall central bay and lean-to side bays. However, apart from the three-bay form, the Four Lakes Ordnance Plant retains poor integrity. It has few windows, and all are metal replacements. In addition, stucco covers the exterior. In contrast, the Gisholt Machine Tools Company production shed retains its original brick finish and fenestration pattern. While the windows are fixed replacements, and a few openings have been filled with concrete block, the segmental-arched surrounds are intact. The windows in the monitor roof have been covered with metal roofing, but could be present underneath. The Burgess Battery Company Plant No. 5 is also a one-story, astylistic utilitarian building. It is finished with brick and capped with a sawtooth roof. Pilasters on the front and side facades express the interior framing, reflecting the engineering aesthetic characteristic of industrial production sheds. The openings on the front-facing façade have been reduced with stucco and applied half-timbering, and fitted with metal replacement windows. The side facades display metal replacement windows as well. The Burgess Battery Company Plant No. 5 retains fair to good integrity. In comparison, the Steinle Building is as good an example of an industrial production shed as any of the other three such buildings in Madison, with integrity that is as good or better than that of any of the others.

In conclusion, the Steinle Turret Machine Company Building a good example of the industrial production shed building type retaining good integrity. When the rehabilitation is complete, restoring it to an historic appearance, the Steinle Building will present an even better example of the industrial production shed.


THEO. KUPFER IRON WORKS INC




THEO. KUPFER IRON WORKS INC



149 Waubesa Street