

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).

1. Name of Property

Historic name Kansas City Power & Light Company Substation "A"

Other names/site number N/A

Name of related Multiple Property Listing N/A

2. Location

Street & number 2645 Madison Avenue N/A not for publication

City or town Kansas City N/A vicinity

State Missouri Code MO County Jackson Code 095 Zip code 64108

3. State/Federal Agency Certification

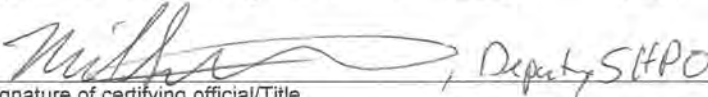
As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

national statewide local

Applicable National Register Criteria: A B C D

 Deputy SHPO
Signature of certifying official/Title Date DEC 07 2017
JP 12/06/17

Missouri Department of Natural Resources
State or Federal agency/bureau or Tribal Government

In my opinion, the property meets does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

entered in the National Register determined eligible for the National Register

determined not eligible for the National Register removed from the National Register

other (explain:)

Signature of the Keeper Date of Action

Kansas City Power & Light Company Substation "A"
Name of Property

Jackson County, Missouri
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

Category of Property
(Check only **one** box.)

Number of Resources within Property
(Do not include previously listed resources in the count.)

| | |
|-------------------------------------|------------------|
| <input checked="" type="checkbox"/> | private |
| <input type="checkbox"/> | public - Local |
| <input type="checkbox"/> | public - State |
| <input type="checkbox"/> | public - Federal |

| | |
|-------------------------------------|-------------|
| <input checked="" type="checkbox"/> | building(s) |
| <input type="checkbox"/> | district |
| <input type="checkbox"/> | site |
| <input type="checkbox"/> | structure |
| <input type="checkbox"/> | object |

| <u>Contributing</u> | <u>Noncontributing</u> | |
|---------------------|------------------------|--------------|
| <u>1</u> | | buildings |
| | | sites |
| | | structures |
| | | objects |
| <u>1</u> | <u>0</u> | Total |

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions

(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION: energy
facility

Current Functions

(Enter categories from instructions.)

VACANT/NOT IN USE

7. Description

Architectural Classification

(Enter categories from instructions.)

LATE 19TH AND EARLY 20TH CENTURY
AMERICAN MOVEMENTS

Materials

(Enter categories from instructions.)

foundation: CONCRETE

walls: BRICK

roof: RUBBER

other: _____

NARRATIVE DESCRIPTION ON CONTINUATION PAGES

Kansas City Power & Light Company Substation "A"
Name of Property

Jackson County, Missouri
County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A Owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years old or achieving significance within the past 50 years.

STATEMENT OF SIGNIFICANCE ON CONTINUATION PAGES

Areas of Significance

INDUSTRY

Period of Significance

1922 – 1954

Significant Dates

1922

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Harrison, H.F.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67 has been requested)
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: Missouri Valley Special Collections, KCPL

Historic Resources Survey Number (if assigned): N/A

Kansas City Power & Light Company Substation "A"
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10. Geographical Data

Acreeage of Property Less than one acre

Latitude/Longitude Coordinates

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

1 39.078777 -94.594901 3 _____
Latitude: Longitude: Latitude: Longitude:

2 _____ 4 _____
Latitude: Longitude: Latitude: Longitude:

UTM References

(Place additional UTM references on a continuation sheet.)

_____ NAD 1927 or _____ NAD 1983

1 _____ 3 _____
Zone Easting Northing Zone Easting Northing

2 _____ 4 _____
Zone Easting Northing Zone Easting Northing

Verbal Boundary Description (On continuation sheet)

Boundary Justification (On continuation sheet)

11. Form Prepared By

name/title Rachel Nugent, Senior Historic Preservation Specialist; Rachel Barnhart, Historic Preservation Specialist

organization Rosin Preservation, LLC date July 2017; September 2017

street & number 1712 Holmes telephone 816-472-4950

city or town Kansas City state MO zip code 64108

e-mail rachel@rosinpreservation.com

Additional Documentation

Submit the following items with the completed form:

- **Maps:**
 - A **USGS map** (7.5 or 15 minute series) indicating the property's location.
 - A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Continuation Sheets**
- **Photographs**
- **Owner Name and Contact Information**
- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Kansas City Power & Light Company Substation "A"
Name of Property

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Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log:

Name of Property: Kansas City Power & Light Company Substation "A"

City or Vicinity: Kansas City

County: Jackson State: Missouri

Photographer: Brad Finch, f-stop Photography

Date

Photographed: March 1, 2017; August 1, 2017

Description of Photograph(s) and number, include description of view indicating direction of camera:

- 1 of 12: West façade, view east
- 2 of 12: West façade and south elevation, view northeast
- 3 of 12: South and east elevations, view northwest
- 4 of 12: East and north elevations, view southwest
- 5 of 12: North elevation and west façade, view southeast
- 6 of 12: Interior view towards south and east walls, view southeast
- 7 of 12: Interior view towards west and north walls with mezzanine visible, view northwest
- 8 of 12: Interior view towards south and west walls with mezzanine visible, view southwest
- 9 of 12: Interior, bathroom and coal room, view northeast
- 10 of 12: Interior, coal room, view northeast
- 11 of 12: Garage addition with historic poured concrete wall visible, view southwest
- 12 of 12: Garage addition with historic poured concrete wall visible, view northwest

Figure Log:

Include figures on continuation pages at the end of the nomination.

Figure 1: Contextual map. *Source: Bing Maps. Accessed May 2017.*

Figure 2: Site map with National Register boundary. *Source: Google Earth. Accessed May 2017.*

Figure 3: Aerial of neighborhood in vicinity of Substation A (2645 Madison Avenue). *Source: Google Earth. Accessed May 2017.*

Figure 4: Sanborn Fire Insurance Map, 1909-1938, Volume 1, page 90. *Source: Missouri Valley Special Collections, Kansas City Public Library.*

Figure 5: 1940 Tax Assessor Photograph. *Source: Missouri Valley Special Collections, Kansas City Public Library.*

Figure 6: West Elevation. *Source: Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921.*

Figure 7: Current Floor Plan and Photo Key. *Source: Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921, modified by Rosin Preservation.*

Figure 8: Historic first floor plan. *Source: Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921.*

Figure 9: Newspaper article image of Forest Avenue substation (top) and Substation A (bottom). *Source: "No Hands, Yet they Serve: New Substations of Power Company Operate Automatically." Kansas City Star, July 16, 1922.*

Figure 10: Northeast Power Station, 1917-1921. *Source: Robert A. Olson, "Kansas City Power & Light Company: The First 90 Years."*

Figure 11: Substation "K", constructed in 1911. *Source: Google Street View. Accessed May 2017.*

Kansas City Power & Light Company Substation "A"

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Figure 12: Regulating panel and automatic reclosing panel, typical automatic machinery housed inside Substation A. *Source: Electrical World, Volume 80, No. 22, 1922, A.E. Bettis and C. W. Place, "Automatic Control of A.-C. Distribution: Operating Features of the Kansas City Power & Light Company's New Self-Operating Substation Recently Placed in Service in the Big Western Missouri City," 1153.*

Figure 13: Substation at 205 Holmes Street, constructed circa 1921. *Source: Google Street View. Accessed May 2017.*

Figure 14: Substation at 309 Lydia Avenue, constructed circa 1918. *Source: Google Street View. Accessed May 2017.*

Figure 15. Substation F (constructed 1928), 7109 E. 12th Street, 2017. *Source: Google Street View, 2017. Accessed September 2017.*

Figure 16. Substation H (constructed 1931), 4600 block of Broadway, 1940 Tax Assessor photograph. *Source: Missouri Valley Special Collections.*

Figure 17. Substation (constructed 1939), 4000 E. 43rd Street, 1940 Tax Assessor photograph. *Source: Missouri Valley Special Collections.*

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| Kansas City Power & Light Company Substation "A" |
| Name of Property Jackson County, Missouri |
| County and State N/A |
| Name of multiple listing (if applicable) |

SUMMARY

The Kansas City Power & Light Company Substation "A" at 2645 Madison Avenue in Kansas City, Jackson County, Missouri, is a one-story, rectangular industrial building with a concrete foundation, brick cladding, and a flat roof. It was designed as a fully-automatic electrical substation by H.F. Harrison and constructed for the Kansas City Power & Light Company in 1922. The industrial building is situated in an urban mixed-use neighborhood approximately 1.7 miles southwest of Kansas City's central business district. The substation faces west on Madison Avenue on a residential block with early-twentieth-century housing. Southwest Boulevard, a historic commercial thoroughfare, is located three blocks west of the substation. Reflecting influences of the American Commercial Style of the early twentieth century, the building incorporates decorative tapestry brick panels in a rhythmic pattern across its west (primary) façade and south elevation. The symmetrical primary façade features a segmented arch entryway with a stepped parapet above and reinforced concrete coping at the cornice. Small window openings on the west façade and south elevation were designed to ventilate the building. Since it was designed as a fully-automatic electrical substation without need for constant human monitoring, large windows for natural light were not needed.¹ A yard with two transformers was located directly north of the substation; two twelve-foot-tall poured concrete walls that separated the transformers have been incorporated into a non-historic garage addition that is diminutive in size to the substation. The interior of the substation was designed as an open space that housed electrical monitoring equipment. The equipment has been removed and the interior remains primarily open space; a non-historic wood mezzanine has been constructed along the west and north interior walls. Substation A retains integrity to communicate its significance as Kansas City's first extant fully-automatic substation associated with the expansion of electrical service in the city in the early twentieth century.

ELABORATION

SETTING

The Kansas City Power & Light Company Substation "A" (Substation A) is located at 2645 Madison Avenue in Kansas City, Jackson County, Missouri, approximately 1.7 miles southwest of the central business district (*Figure 1*). The substation occupies a square parcel at the northeast corner of the intersection of Madison Avenue and W. 27th Street (*Figure 2*). The blocks to the west and southwest are predominantly residential, with modest houses dating to the early twentieth century (*Figure 3*). Southwest Boulevard, an industrial and commercial corridor, is situated approximately three blocks west of Substation A; to the northwest of Southwest Boulevard is the Kansas City Terminal Railway Company's roundhouse, constructed in 1914 (NRHP listed 2001).² Interstate 35, constructed in the 1960s, runs north-south and is located directly to the east of the substation. Penn Valley Park is located beyond the interstate to the east.

An asphalt drive borders Substation A to the north and east (*Figure 2*). A concrete pedestrian sidewalk and concrete retaining wall abut the building to the south along W. 27th Street. The west side of the substation is abutted by a small asphalt parking area and a grass median strip with a concrete sidewalk along Madison Avenue. Interstate 35 is adjacent to the substation to the east and southeast. Modest early-

¹ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922.

² Sally F. Schwenk, National Register Nomination, "Kansas City Terminal Railway Company Roundhouse Historic District," December 18, 2001, 8-23.

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| Kansas City Power & Light Company Substation "A" |
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twentieth-century residences are located immediately to the west and north of the substation. The site containing the substation slopes slightly upward towards the east.

EXTERIOR

Kansas City Power & Light Company Substation "A" at 2645 Madison Avenue was designed as a fully automatic substation by H.F. Harrison and constructed in 1922.³ The one-story, rectangular industrial building has a concrete foundation and variegated tapestry brick cladding. The roof is flat with concrete coping at the parapet.⁴ A non-historic billboard with a steel structure attaches to the roof at the northeast corner of the building. The west (primary) façade and the south elevation exhibit a rhythmic fenestration pattern and decorative inlaid brick panels. Vehicular garages with concrete masonry unit front walls comprise the north elevation where the two transformers (non-extant) were historically located; the historic twelve-foot-tall poured concrete walls built to separate the transformers are extant within the garages (*Photos 11-12*). The east elevation features variegated tapestry brick and red brick cladding in a seven-course common bond.

The primary façade of Substation A faces west onto Madison Avenue (*Photo 1*). The symmetrical façade is organized into five bays. The central bay contains the primary entrance and is accessed via a historic concrete stoop with concrete steps. The entrance is framed within a segmental arch opening that has been infilled with red brick and contains metal double-leaf doors. Historically, the entrance contained wood paneled double-leaf doors topped with multi-light windows (*Figures 5-6*). Tall, rectangular tapestry brick panels with concrete trim and bases flank the entrance. An overhead light fixture extends from the concrete keystone of the segmented arch; the light fixture is a non-historic replacement, while the light outlet is a historic feature. An engraved terra cotta panel that reads "KANSAS CITY POWER AND LIGHT COMPANY" is affixed above the entrance. The central bay features a raised stepped parapet with decorative brick inlay. From north to south, bays 1 and 5 (the outermost bays) contain a rectangular opening near the base of the façade. Historically, the opening was filled with metal ventilator shutters and a steel grille, but have been infilled with concrete masonry units. Above the opening are two decorative brick panels framed with soldier and stretcher bricks. The square central panel contains a header brick outline, and the thin, rectangular top panel features brick laid in a basketweave pattern. Bays 2 and 4 each contain a rectangular opening near the base of the façade and another rectangular opening near the top. Each opening is infilled with concrete masonry units. The bottom openings historically contained metal shutters while the top openings were designed with ten-light casement windows. A decorative central panel between the two openings contains a header brick outline.

The south elevation faces W. 27th Street and is organized into seven evenly spaced bays that are nearly identical (*Photo 2*). The concrete coping at the parapet continues along this elevation. The exposed concrete foundation articulates the sloping grade of the site. Each bay has a rectangular opening near the base of the elevation, a central decorative brick panel, and another rectangular opening near the top of the wall. A continuous soldier brick sill course runs below the bottom openings in bays 1 through 6 (from west to east). A soldier brick sill course with interspersed concrete cornerstones runs below the central brick panel across all bays. A soldier brick lintel course with interspersed concrete cornerstones runs above the

³ "Kansas City Power & Light Co. Engineering Department Sub A Floor Plan," architectural drawings, 1921; "No Hands, Yet They Serve: New Substations of Power Company Operate Automatically," *Kansas City Star*, July 16, 1922.

⁴ The concrete trim used throughout the building's exterior was manufactured by the Trusswall Manufacturing Company of Kansas City, Missouri; "Kansas City Power & Light Co. Engineering Department Sub A Floor Plan," architectural drawings, 1921.

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rectangular openings at the top of the elevation across all bays. In bay 1, the bottom opening contains a historic steel grille. In bays 2 through 5, the bottom opening is infilled with concrete masonry units but retains a historic steel frame. The bottom opening in bays 6 and 7 are infilled with red brick. The top opening in bays 1 through 3 and 5 through 7 are infilled with concrete masonry units with a historic steel frame. The top opening in bay 4 contains concrete masonry until infill and a non-historic metal ventilation grille that extends below the sill. Historically, the bottom openings in all bays contained metal ventilator louvers and steel grilles, and the top openings contained ten-light casement windows. The central decorative brick panels all contain a header brick outline.

The east elevation is organized into four bays (*Photo 3*). The southernmost bay continues the bay design of the south elevation and features tapestry brick with a brick-infilled opening at the base of the wall, a central decorative panel containing a header brick outline, a rectangular opening near the top of the wall infilled with concrete masonry units, and concrete coping at the raised parapet. Bays two through four (from south to north) are clad with red brick in a common bond; this is a historic design feature. They also each contain a historic rectangular opening infilled with concrete masonry units near the top of the wall. Bay 2 contains a large non-historic opening filled with a metal overhead rolling door. Bay 3 contains a historic opening with a historic metal door; the historic door is not visible from the exterior because it has been boarded over, but is visible from the interior (*Photo 6*). Bay 4 contains a coal chute that corresponds with the interior coal room. The east elevation of a concrete masonry unit garage addition affixed to the north elevation is visible.

A non-historic garage addition, constructed of concrete masonry units in the 1970s, extends from the north elevation of the substation (*Photos 4-5*).⁵ The addition is subordinate in depth and height to the substation. It is situated where the transformer yard of the substation, which contained two transformers, was located (*Figure 4*). The north elevation of the addition has four bays. From west to east, the first, third, and fourth bays each contain one metal overhead rolling door for vehicle access. The second bay is slightly recessed from the other bays and contains two overhead metal rolling doors for vehicle access. The two historic twelve-foot-tall poured concrete walls that were historically part of the transformer yard have been incorporated into the shared east and west walls of the garage in the second bay (*Photos 11-12*).

INTERIOR

The Kansas City Power & Light Company Substation "A" retains its interior open floor plan with tall ceilings (*Photos 6-8*). The floors are poured concrete and the walls are painted brick. A non-historic wood mezzanine, used for storage, has been constructed in the west and northern portions of the interior; the mezzanine is diminutive in scale when compared to the retained open space (*Photos 7-8, Figure 7*). Historic reinforced concrete columns punctuate the space. Reinforced concrete beams bridge the columns at the ceiling. At the west entrance, a small non-historic foyer with an office has been constructed under the mezzanine. The concrete floors are retained. The foyer has an acoustical tile dropped ceiling and wood paneled walls. The office has a wood-framed transom over aluminum-framed sliding glass doors and a dropped tile ceiling. The mezzanine is accessed via a set of wood steps to the east of the office. The steps and mezzanine exhibit structural damage and water damage, making them unsafe to

⁵ A permit for the construction of the garage addition was not found. The decade of construction was determined by inspecting historic aerials and speaking with former owner Robert Shapiro, who owned the building from 1981 through 2017. The addition was not present in a 1970 aerial but was present when Mr. Shapiro purchased the building in 1981.

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| Kansas City Power & Light Company Substation "A" |
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fully inspect. Along the south portion of the building are five punched holes in the ceiling that are an original design feature used for ventilators; the punched holes remain visible from the interior but are covered with roofing materials and not visible from the exterior (*Photo 8, top left*). A battery room, store room, bathroom, and coal room originally occupied the northeast portion of the interior. The battery room and store room have been removed, while the bathroom (*Photo 9*) and coal room remain (*Photo 10*). A punched opening with a metal door is in the center of the north wall, allowing access to the garage addition attached to the north elevation. The garages have concrete floors, metal ceilings, and concrete masonry unit walls with punched openings allowing access between the garages. The poured concrete portion of the shared wall between the first and second (from the west) garage bays is a historic wall from the transformer yard (*Photo 11*) as is the poured concrete portion of the shared wall between the second and third (from the west) garage bays (*Photo 12*).

INTEGRITY

The Kansas City Power & Light Company Substation "A" retains integrity to communicate its significance under Criterion A in the area of INDUSTRY as a fully automatic electrical substation constructed in 1922 by the Kansas City Power & Light Company to service the expanding residential neighborhoods of Kansas City. The history, construction, and design of Substation A reflect the important broader patterns of the expansion of electrical service in Kansas City by the Kansas City Power & Light Company in the early twentieth century.

Substation A retains integrity of location, an important aspect related to its significance. The chosen location of Substation A reflected the growth patterns of the expanding city and an identified area of need. The setting of Substation A has been mildly compromised since its period of significance (1922-1954). The site to the west of the building, abutting the primary entrance, was originally a fenced grassy lawn (*Figure 5*) but is now a paved asphalt parking pad; this was done after the period of significance to accommodate the needs of subsequent owners. The retention of the grassy lawn is not paramount to the building's significance. The surrounding neighborhood has retained its historic qualities, particularly the modest early-twentieth-century residential neighborhood in which Substation A was constructed. Interstate 35 was constructed directly to the east of the building in the 1960s, which has also altered the immediate setting of the substation. This alteration of setting does not negatively impact the substation's ability to convey its significance because the immediate surroundings still feel residential in nature.

The historic design and building materials of Substation A that convey its character-defining features have been largely retained. The building was designed to have low fenestration openings, with the openings towards the ground having metal ventilation grilles and the upper openings having ten-light casement windows. This was an intentional design feature of the substation that reflected its fully automatic design; large amounts of exterior light were not needed since the building was not staffed. Thus, the infill of the windows within their original openings does not detract from the building's ability to convey its significance. The transformer yard, located to the north of the building, has been enclosed with a non-historic garage addition; the addition incorporates the two poured concrete walls that historically separated the transformers. The transformer equipment is no longer located at the site. A review of extant electrical substations in Kansas City has shown that the removal of transformer equipment once a substation has passed out of use is typical. The removal of transformers and interior electricity automation equipment is a common action allowing the building to facilitate new uses. The non-historic billboard on the roof of the building does not compromise integrity because it does not hinder the building's ability to communicate its

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| Kansas City Power & Light Company Substation "A" |
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significant role as an electrical substation; the billboard is removable and can be taken off the building without damage to the roof. The tapestry brick cladding with reinforced concrete trim and the interior reinforced concrete columns and beams have been retained. The interior retains most of the open space that characterized its historic function, as well as the historic bathroom and coal room. A non-historic wood mezzanine that has been constructed along the west and north walls can be removed without damaging the historic structure and is diminutive in size to the remaining open interior space. Workmanship in Substation A is evident in the tapestry brick exterior with alternating blind decorative brick panels and thin, rectangular fenestration openings conducive to the building's function as a fully automatic electrical substation, as well as in the stepped parapet and engraved terra cotta panel above the primary entrance. The substation's retention of its historic design and building materials allow it to communicate the feeling of an early-twentieth-century electrical substation. Substation A is directly associated with the expansion of electricity in Kansas City; when it was constructed in 1922 at the same time as a substation located at E. 61st Street and Forest Avenue (not extant), the two substations were touted in the *Kansas City Star* and *Electrical World* as the first fully automated electrical substations in the city that would expand electricity service in their respective residential areas and control streetlights (*Figure 9*).

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Kansas City Power & Light Company Substation "A"

Name of Property

Jackson County, Missouri

County and State

N/A

Name of multiple listing (if applicable)

SUMMARY

Constructed in 1922, the Kansas City Power & Light Company Substation "A" (Substation A) at 2645 Madison Avenue in Kansas City, Jackson County, Missouri, is locally significant under Criterion A in the area of INDUSTRY for the role it played in the expansion of the Kansas City Power & Light Company's electrical distribution grid and the resultant expansion of electrical service to consumers. Prior to the incorporation of the electricity company (as the Kansas City Light & Power Company) in 1917 as an entity separate from the street railway system, the electrical distribution industry in Kansas City was marked by competition in the late 1800s. After the electric company was consolidated with the street railway company under J. Ogden Armour's holding company in 1900, the distribution of electricity to commercial and residential consumers became secondary to the intense power needs of the street railway company; funds were scarce, much-needed maintenance was delayed, and power shortages were common. When the electric company reincorporated in 1917 and began constructing the Northeast Power Station, Kansas City entered a more efficient era of electrical distribution in which the electric company had its own source for electrical power and was less dependent on the street railway company. The construction of the Northeast Power Station and accompanying electrical substations enhanced electricity delivery for residential, commercial, and industrial consumers. Substation A, built in 1922 to service the western residential and commercial area of Kansas City, was particularly distinct among the existing electrical substations as an early example of a fully automatic electrical substation. The period of significance for the substation spans from 1922, the year of construction, to 1954 when the Kansas City Power & Light Company implemented a new master plan that included constructing new higher-capacity substations to meet increasing demand.

ELABORATION

EXPANSION OF ELECTRICAL SERVICE IN AMERICA

The generation of electricity for consumption in America developed primarily as a commercial endeavor rather than a social service. The American political system and dominant capitalist ideology supported the emergence of private electrical equipment manufacturers and utility companies in the 1880s.⁶ In its formative years, the industry was marked by fragmentation as a multitude of investors and businesses vied for profit. Initially, electricity was generated for street lighting, electric trolley systems, and factory production because these were the most profitable ventures. Early electrical distribution systems were not centralized and electrical generating plants were typically built for a specific purpose, such as supplying power for a trolley or servicing a specific factory, and operated for a set period of hours per day. Direct current technology also limited the distance that electricity could be transmitted. In the late 1800s, electrical service for the domestic market was not seen as a profitable venture, as the demands of non-domestic customers were already taxing resources and companies were unwilling to construct additional generating plants.⁷ Larger service areas and more centralized electrical distribution systems were possible

⁶ David E. Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940* (Cambridge, Massachusetts: The MIT Press, 1990), 139-140.

⁷ Nye, 260.

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N/A

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with the introduction of alternating current in 1890.⁸ The fragmentation that initially characterized the electricity industry changed as manufacturing and utility companies consolidated.⁹

From 1880 to about 1910, residential electricity service was installed primarily in the houses of the wealthy, as they were willing to pay the higher costs associated with the domestic electricity market during that time.¹⁰ The chief consumer goods were lighting fixtures and bulbs, followed by electrical fans and irons. Popular magazines published articles aimed at women in the household, describing the application of electricity for lighting and heating, but also for tasks such as cleaning and cooking using electrical appliances.¹¹ Over time, consumers and insurance companies found electric lighting to be safer and more efficient than gas.¹² Those in the building and construction trades also found electrical wiring simpler to install than gas pipes, and embraced the new technology. In 1910, one in ten households in America had electricity.¹³ By this time, service lines for commercial and industrial consumers extended into most parts of American cities, making the addition of transmission lines to residential consumers more profitable.¹⁴ Improved efficiency in electrical generating equipment and technology also facilitated the expansion of electrical service to domestic consumers. World War I briefly interrupted the spread of domestic electrification, but after the war's end in 1918, it increased rapidly. By 1924, two million new households in America were being electrified annually and by the end of the 1920s most urban households had electricity.¹⁵

KANSAS CITY POWER & LIGHT COMPANY

The Kansas City Power & Light Company began as the Kawsmouth Electric Light Company (Kawsmouth), incorporated in 1882 by Edwin Weeks and partners after Weeks witnessed an electric arc light demonstration and was inspired to invest in the new technology.¹⁶ The company built a power plant near the intersection of W. 8th and Santa Fe streets in the industrial West Bottoms neighborhood that year. They initially serviced thirteen commercial customers in downtown Kansas City using a Thomson-Houston regulator for the plant's dynamos, which balanced electricity output and made it possible to provide power to multiple locations.¹⁷ In 1885, Kawsmouth reincorporated as the Kansas City Electric Light Company, and by 1887 it had reached full service capacity. In the mid-1880s, Thomas Edison developed an incandescent lighting system that Weeks found suitable for providing residential electricity. Utilizing Edison's incandescent system, Weeks created the Edison Electric Light & Power Company (Edison Company) in 1887.¹⁸ Weeks directed operations of both the Edison Company and the Kansas City Electric

⁸ Nye, 139, 182.

⁹ For example, by 1893 General Electric and Westinghouse dominated the electrical generating equipment market, having bought out competing companies, and were the primary suppliers of transformers, meters, motors, and lighting equipment for utility companies. Nye, 170.

¹⁰ Nye, 242, 260.

¹¹ Nye, 259.

¹² Gas fixtures created soot and had to be cleaned daily. Asphyxiation or fire caused by leaking gas was also a concern. Nye, 243.

¹³ Nye, 239.

¹⁴ Nye, 260.

¹⁵ Nye, 265.

¹⁶ "Kansas City Power and Light Company," *Lehman Brothers Collection – Contemporary Business Archives*, accessed May 8, 2017, https://www.library.hbs.edu/hc/lehman/chrono.html?company=kansas_city_power_light_company.

¹⁷ A dynamo is a device that uses electromagnetism to convert mechanical rotation into electric power. The plant formerly located at 8th and Santa Fe streets is not extant; Philip Kealy, *Report on the Fair Value of the Property of the Kansas City Electric Light Company and Subsidiary Companies* (Kansas City, Missouri: The Smith-Grievess Company, 1914), 26.

¹⁸ Robert A. Olson, *Kansas City Power & Light Company: The First 90 Years* (Princeton, NJ: Newcomen Society of the United States, 1972), 11.

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Light Company, and the two corporations shared facilities and personnel.¹⁹ In 1887, a new five-story power plant was constructed for the companies in downtown Kansas City at 6th and Wall streets.²⁰ The power plant incorporated Edison-Hopkinson dynamos for the incandescent lighting system and provided steam heating to nearby businesses.²¹

The final years of the 1800s were marked by increased competition in Kansas City's electricity industry as several new companies were established via franchises granted by the city, and rate wars ensued.²² From 1886 to 1890, the city granted franchises for seven different companies to distribute electricity in the area.²³ Under intense competition and pressure from the financial panic of 1893, many of the electrical companies failed. In 1900, the financiers of the Kansas City Electric Light Company decided to sell the company and its assets (which included the Edison Company) to J. Ogden Armour.²⁴ Armour was a wealthy businessman, heir to the Armour meat-packing company, and owner of the Metropolitan Street Railway Company of Kansas City. As a result of the sale, Armour owned both the Metropolitan Street Railway Company and the Kansas City Electric Light Company under one holding company called the Kansas City Railway and Light Company.²⁵ Armour began purchasing the remaining competing electricity companies, and by 1903 Armour's holding company was the city's only source for the distribution of electrical power.

Since street railway operations required larger amounts of power than business and residential lighting, additional plants were needed to continue powering the street railway while also providing electricity to other consumers. In 1903, the Kansas City Electric Light Company division built a power plant adjacent to the Kansas River near the present-day Central Avenue Viaduct Bridge. Unfortunately, a massive flood occurred days after construction was completed and made the plant inoperable for nearly three months.²⁶ The Metropolitan Street Railway division began constructing a larger power plant that year at 2nd Street and Grand Avenue, north of Kansas City's central business district.²⁷ Ultimately, the magnitude of Armour's operations proved financially taxing, and in 1911 the Metropolitan Street Railway Company division went into receivership. By court order in 1916, the Metropolitan Street Railway Company and the Kansas City Electric Light Company became separate legal entities.²⁸ In 1917, the Kansas City Electric Light Company was reincorporated as the Kansas City Light & Power Company.²⁹ In this reorganization, ownership of the Grand Avenue plant was granted to the Metropolitan Street Railway Company.³⁰ The Kansas City Light & Power Company retained use of two power plants, but the equipment was aging and

¹⁹ Olson, *Kansas City Power & Light Company: The First 90 Years*, 11.

²⁰ This plant was located at the southeast corner of the present-day intersection of W. 6th and Wyandotte streets and is not extant. Kealy, *Report on the Fair Value*, 31.

²¹ Kealy, *Report on the Fair Value*, 39; Olson, *Kansas City Power & Light Company: The First 90 Years*, 11.

²² "Kansas City Power and Light Company," *Lehman Brothers Collection*.

²³ Kealy, *Report on the Fair Value*, 27.

²⁴ Olson, *Kansas City Power & Light Company: The First 90 Years*, 12.

²⁵ Olson, *Kansas City Power & Light Company: The First 90 Years*, 14.

²⁶ The Central Avenue plant is not extant. Olson, *Kansas City Power & Light Company: The First 90 Years*, 13.

²⁷ The Grand Avenue power plant is extant, and was purchased and remodeled by the Kansas City Power & Light Company in 1927. "Kansas City Power and Light Company," *Lehman Brothers Collection*; Kealy, *Report on the Fair Value*, 30; Olson, *Kansas City Power & Light Company: The First 90 Years*, 13.

²⁸ Cathy Ambler and Sally Schwenk, National Register Nomination, "Kansas City Power and Light Company Building," January 9, 2003, 8-6.

²⁹ "Kansas City Power and Light Company," *Lehman Brothers Collection*.

³⁰ Olson, *Kansas City Power & Light Company: The First 90 Years*, 15.

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had gone unmaintained during the receivership.³¹ The Kansas City Light & Power Company had to purchase power from the street railway to service its customers, an untenable situation in the long term.³² Kansas City's population was expanding, and along with it, demand for electricity for cooking, heating, lighting, and industrial uses was on the rise.³³

Under the direction of new company president Joseph F. Porter, the Kansas City Light & Power Company began constructing a new power plant in 1917 called the Northeast Power Station (*Figure 10*). The Northeast Power Station was designed to be modern and efficient for its time, and with the accompanying substations and power lines needed for operation, the construction bill amounted to \$13 million.³⁴ It was located on the southern bank of the Missouri River near the present-day intersection of Front and N. Olive streets.³⁵ By 1921, the main portions of the plant were complete.³⁶ The Northeast Power Plant generated 60,000 kilowatts per hour and operated at a streamlined system frequency, allowing the Kansas City Light & Power Company to increase its profits and service area while significantly decreasing its reliance on the street railway company for power.³⁷ In 1919, the company's net income was only \$8,558, but by 1925, its net income had soared to \$2.6 million.³⁸ In 1922, the company reincorporated as the Kansas City Power & Light Company (KCP&L), the name it retains today.

The establishment of the Northeast Power Station and its subsequent electrical substations brought KCP&L into an era of prosperity and upgraded Kansas City's electrical distribution system, providing more efficient delivery of electricity to commercial, residential, and industrial customers. Electrical substations are facilities that receive electric current from a power generating plant (such as the Northeast Power Station) and then transmit that current at a voltage level appropriate for the intended customer. Electrical substations were sometimes identified as transformer or converter stations on Sanborn Fire Insurance Maps, which reflects their function as a place where electricity was converted and transmitted to a consumer. Substations were typically located in the neighborhoods they served and contained equipment enclosed within a building to allow them to blend with the surrounding built environment.

Growth of Kansas City's electrical grid was slow in the 1930s due to the general economic downturn during that decade. Joseph F. Porter, president of KCP&L during the implementation of the Northeast Power Station and its substations in the 1920s, stepped down in 1938.³⁹ During the 1940s, new equipment for upgrading Kansas City's electrical power grid was generally unavailable due to the material

³¹ Olson, *Kansas City Power & Light Company: The First 90 Years*, 15; "Shortage of Power Raises a Problem," *Electrical World* 70, no. 8 (1917): 364-365. The two plants retained by the Kansas City Light & Power Company were the 1887 plant in downtown Kansas City (immediately south of W. 6th Street between Wyandotte Street and Baltimore Avenue) and the 1903 plant near the Central Avenue Viaduct Bridge. Neither plant is extant.

³² "Problem of Power in Kansas City, MO," *Electrical World* 70, no. 10 (1917): 491.

³³ "Kansas City Industries Relieve Power Shortage," *Electrical World* 70, no. 21 (1917): 1020.

³⁴ Olson, *Kansas City Power & Light Company: The First 90 Years*, 16. Research has not revealed a definitive number of substations that were constructed to operate in conjunction with the Northeast Power Station. At least four additional substations were constructed after Substations A and the Forest Avenue Substation, although it is unclear whether they were connected to the Northeast Power Station: 1924 (W. 6th Street and Pennsylvania Avenue), 1928 (7109 E. 12th Street), 1931 (4635 Broadway), and 1939 (4000 E. 43rd Street). Only the building at E. 12th Street is extant, and it looks similar to the substation at 309 Lydia Avenue (*Figure 14*).

³⁵ This plant is not extant. "Kansas City Power and Light Company," *Lehman Brothers Collection*; John M. Wylie II, "Ancient Power Plant Laid Lovingly to Rest," *Kansas City Star*, March 6, 1980.

³⁶ Ambler, "Kansas City Power and Light Company Building," 8-6.

³⁷ "Kansas City Power and Light Company," *Lehman Brothers Collection*; "Not Worried By Met.'s Act," *Kansas City Times*, February 21, 1921; "Big City Service for the Smaller Cities and Towns," *Kansas City Star*, August 7, 1921.

³⁸ Olson, *Kansas City Power & Light Company: The First 90 Years*, 16.

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and labor demands of World War II. In the postwar years, the increasing population and expanding suburban areas of Kansas City led to a higher demand for electricity, necessitating the construction of a new power station. The Hawthorn Power Station opened on the Missouri River, east of the Northeast Power Station at the edge of the city, in 1951.⁴⁰ Harry Munsell, president of KCP&L at the time, then commissioned a new master plan for the company to address the ever-increasing demands for electrical service. Prepared by a consulting engineering firm over two years, the new plan was adopted in 1954 and involved an overhaul of KCP&L's service approach to include the construction of new larger-capacity substations that could handle a higher amount of incoming voltage than those already in service.⁴¹ This eventually led to the closing of older substations in Kansas City, and the Northeast Power Station was decommissioned by 1980.⁴²

KANSAS CITY POWER & LIGHT COMPANY SUBSTATION "A"

Before the incorporation of the Kansas City Light & Power Company in 1917 and the subsequent establishment of the Northeast Power Station, which was largely complete by 1921, many of the electrical substations constructed in the city functioned primarily or partly to facilitate the electrification of the street railway.⁴³ An extant example is Substation "K", constructed in 1911 at State Line Road and W. 40th Street (*Figure 11*).⁴⁴ The substation was designed with Neoclassical Revival style ornament and had tall steel sash hopper windows, allowing natural light into the building. It housed frequency-changing and distribution equipment for the Kansas City Electric Light Company and 100 kilowatt rotary converters for the Metropolitan Street Railway Company. A spur track from the street railway extended into the substation.⁴⁵

However, in the first decades of the twentieth century, demand for electricity increased beyond the requirements of the streetcar system. The rising use of electrical appliances in residences and electrical heating and lighting in factories and businesses taxed the infrastructure of the electric company, leading to the construction of the Northeast Power Station. The Northeast Power Station, started in 1917 and completed in 1921, necessitated the construction of electrical substations across Kansas City, working in conjunction with the main plant to provide electricity to customers. High-voltage feeder cables were laid underground, connecting the plant to its substations.⁴⁶ The plant delivered alternating current to the substations, which then used transformers and interior regulating equipment to convert the electricity to the appropriate voltage for transmittal to consumers. To facilitate the distribution of electricity, the city was divided into geographic zones that would be serviced by a particular substation or stations; this process started concurrently with the construction of the Northeast Power Station.⁴⁷ The first substations built as part of this process were located closer to the central business district, were hand-operated and monitored (requiring human labor), and immediately reached load capacity.⁴⁸ KCP&L then began the process of

³⁹ Olson, *Kansas City Power & Light Company: The First 90 Years*, 19-20.

⁴⁰ Olson, *Kansas City Power & Light Company: The First 90 Years*, 20.

⁴¹ Olson, *Kansas City Power & Light Company: The First 90 Years*, 22.

⁴² Wylie II, "Ancient Power Plant Laid Lovingly to Rest."

⁴³ This is likely because the street railway and the electric company were under the same holding company.

⁴⁴ "New Substation for Kansas City Electric Light Company," *Electrical World* 58, no. 17 (1911): 1010.

⁴⁵ "New Substation for Kansas City Electric Light Company," 1011.

⁴⁶ "Power Company Closing Its Last DC Substation," *Kansas City Times*, June 12, 1967.

⁴⁷ A.E. Bettis and C. W. Place, "Automatic Control of A.-C. Distribution: Operating Features of the Kansas City Power & Light Company's New Self-Operating Substation Recently Placed in Service in the Big Western Missouri City," *Electrical World* 80, no. 22 (1922): 1151. There is not a map provided in the source that shows the geographic parameters of the service zones.

⁴⁸ Bettis and Place, "Automatic Control of A.-C. Distribution," 1151. A specific number of substations is not provided in the source.

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expanding service to areas surrounding the central business district.⁴⁹ The company decided to construct two additional substations that would not need to be constantly monitored:

After a careful analysis of the situation it was decided to install two additional stations and so to equip them that they would operate without attendants. Following out its policy of doing everything within reason to assure continuity of service, the Kansas City Power & Light Company decided that the natural step in operation was to do away with as many chances of human error and misunderstanding, or inattention to business, as possible.⁵⁰

Substation A, completed at 2645 Madison Avenue in 1922, was one of the two new self-automated substations constructed by KCP&L (*Figure 4*). The other was the Forest Avenue Substation, also completed in 1922 and located at the southwest corner of the intersection of Forest Avenue and E. 61st Street in south Kansas City (*Figure 9, top image*). The Forest Avenue Substation is not extant. A combination of technological advancement and business strategy drove the company's decision to construct the automatic substations in 1922.

Designed by H.F. Harrison, Substation A was fully automatic and did not require human labor to monitor equipment or process incoming and outgoing power.⁵¹ This was an innovative feature in substation technology at the time.⁵² Substation A transmitted power received from the Northeast Power Station to nearby businesses and residences and controlled area street lights. Two 6,000 kilovolt-amp transformers were in a fenced yard directly north of the building; the transformers adjusted the voltage of incoming electricity. Cables and grounding pipes were run through the floor to the machinery housed inside the building to assist in the substation's operation.⁵³ The interior of the building was characterized by a large, open room, with a small battery room, store room, bathroom, and coal room in the northeast corner of the building (*Figure 8*). The battery and store rooms are not extant, while the bathroom and coal room have been retained. The machinery housed in the open space of the building, such as regulating panels and automatic reclosing panels, monitored the use of current and adjusted transformer usage accordingly, cutting in or out lines as needed, to enhance efficiency (*Figure 12*).⁵⁴ Other housed machinery included a drum controller, which operated high-tension oil switches that controlled how electricity flowed along the transmission lines leaving the substation, allowing for changes among the lines without an interruption of service.⁵⁵ Substation A was designed to automatically respond to potential power outages; if a transmission line broke, equipment inside the substation would automatically switch the current to another line. A load dispatcher at another office would receive a flashing light signal, sent by the monitoring equipment at the automated substation, notifying them of the broken transmission line.⁵⁶ Automation meant that any potential outages would be of shorter duration than those typically encountered with human-monitored substations.⁵⁷

⁴⁹ Bettis and Place, "Automatic Control of A.-C. Distribution," 1151-1152.

⁵⁰ Bettis and Place, "Automatic Control of A.-C. Distribution," 1152.

⁵¹ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922.

⁵² "Automatic Substation Applied to Alternating-Current Service for First Time," *Electrical World* 80, no. 22 (1922): 1142.

⁵³ Physical evidence of the cables and grounding pipes was not observed during site inspections in 2017.

⁵⁴ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922.

⁵⁵ "Automatic Substation Applied to Alternating-Current Service for First Time," 1142.

⁵⁶ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922.

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Substation A reflected influences of the American Commercial Style of the early twentieth century, incorporating decorative tapestry brick panels in a rhythmic pattern across its main and south elevations and reinforced concrete coping and a stepped parapet above the entrance. The substation's design allowed it to blend with the streetscape of modest late-nineteenth and early-twentieth-century brick and frame houses in the west Kansas City neighborhood. Substation A's design incorporated minimal fenestration. This was likely a site-specific feature that was feasible because an abundance of natural light was not needed inside the building. From a 1922 article in the *Kansas City Star*, "Because there are no employees, the substation on Madison Avenue has no window glass to serve as chance targets for baseballs or rocks from a nearby school yard. There are only metal ventilator shutters."⁵⁸ Substation A functioned as an electrical substation until 1968, when KCP&L sold the building to Ray Evans.⁵⁹ In 1981, it was sold to Robert Shapiro.⁶⁰

The Forest Avenue substation, constructed concurrently with Substation A, featured Neoclassical Revival style ornamentation and outdoor transformers sheltered under a pergola. It distributed electricity to consumers in the south Kansas City area and controlled streetlights south of 47th Street.⁶¹ The building is not extant, although the site is still owned by KCP&L and now contains an outdoor transformer yard.

A review of Sanborn Fire Insurance Maps was conducted in April 2017 to locate extant historic electrical substations in Kansas City. In addition to Substation K, constructed in 1911 and built for the Metropolitan Railway Company, the review found an extant substation at 205 Holmes Street in the Columbus Park neighborhood of Kansas City (northeast of the central business district), constructed circa 1918 before Substation A (*Figure 13*). The construction date indicates it was one of the human-monitored substations connected to the Northeast Power Station. On its primary (west) elevation, the two-story utilitarian brick building has twenty-light steel sash windows on both floors of the outer bays. The building has a flat roof and lacks exterior ornamentation. It was sold by KCP&L to a manufacturing company in 1968.⁶² Another extant electrical substation is located at 309 Lydia Avenue in northeast Kansas City, also constructed circa 1918 (*Figure 14*). The two-story brick utilitarian building does not exhibit any architectural stylistic ornament, and has an exposed concrete frame. Second-story windows on the west elevation have been boarded, while the second-story multi-light steel sash windows on the side elevations have been retained. KCP&L sold this substation in 1981.⁶³ It can be concluded that these substations were not fully automatic, as they were constructed prior to Substation A and the Forest Avenue Substation, which were touted in *Electrical World* and *The Kansas City Star* as the first fully automatic electrical substations in the city. Four additional substations were identified as being constructed after Substation A and the Forest Avenue Substation. The substation at the northwest corner of W. 6th Street and Pennsylvania Avenue was constructed in 1924, roughly two miles north of the nominated property. No historic photographs of this building could be found and it is no longer extant. Substation F was constructed at 7109 E. 12th Street in 1928, about five miles northeast of the nominated property (*Figure 15*). The design of this extant building is highly utilitarian and is similar to the substation at 309 Lydia Avenue. Substation H was constructed

⁵⁷ Bettis and Place, "Automatic Control of A.-C. Distribution," 1153.

⁵⁸ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922. While Substation A was designed with minimal fenestration, this design characteristic was not a character-defining feature of fully-automatic electrical substations during the era, as other identified substations varied in architectural detailing and fenestration pattern.

⁵⁹ Warranty Deed, Book 69, Page 849, September 4, 1968, Register of Deeds of Jackson County, State of Missouri.

⁶⁰ Warranty Deed, Book 1052, Page 1665, January 5, 1981, Register of Deeds of Jackson County, State of Missouri.

⁶¹ "No Hands, Yet They Serve," *Kansas City Star*, July 16, 1922.

⁶² Warranty Deed, Book 80, Page 1701, November 21, 1968, Register of Deeds of Jackson County, State of Missouri.

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among the retail buildings of the Country Club Plaza in 1931, roughly two and a half miles south of the nominated property. While this substation is no longer extant, the 1940 Tax Assessor photograph shows a building with minimal fenestration (*Figure 16*). The substation at 4000 E. 43rd Street, about four miles southeast of the nominated property, was constructed in 1939. The 1940 Tax Assessor photograph shows a building without any fenestration (*Figure 17*). This substation is no longer extant.

CONCLUSION

Substation A at 2645 Madison Avenue is locally significant under Criterion A in the area of INDUSTRY for its important role as one of two of the first fully-automatic electrical substations constructed in 1922 by the Kansas City Power & Light Company to operate in conjunction with the Northeast Power Station. The other automatic substation, constructed at Forest Avenue in south Kansas City, is not extant, nor is the Northeast Power Station. Substation A was constructed to meet the growing residential and commercial demand for electricity in Kansas City. It reflects the evolution of the Kansas City Power & Light Company as it became less reliant on the street railway company's electrical plants for power. Substation A exhibits stylistic influences of the American Commercial style in its stepped parapet and decorative tapestry brick walls, allowing it to blend with the surrounding built environment. Its open interior space accommodated machinery that converted and monitored the flow of electrical power from the Northeast Power Station to various customers in the area. Substation A retains integrity to communicate its significance for INDUSTRY in the period from its construction date in 1922 through 1954, when the Kansas City Power & Light Company adopted a new master plan entailing the construction of updated substations to meet increasing electricity demands.

⁶³ Warranty Deed, Book 1085, Page 935, June 24, 1981, Register of Deeds of Jackson County, State of Missouri.

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VERBAL BOUNDARY DESCRIPTION

The nominated resource occupies Lots 5, 6, 7, and 8 of Block 1 in the Lincoln Park plat in Kansas City, Jackson County, Missouri.

BOUNDARY JUSTIFICATION

The National Register boundary of the nominated resource coincides with the parcel of land historically associated with the property during the period of significance.

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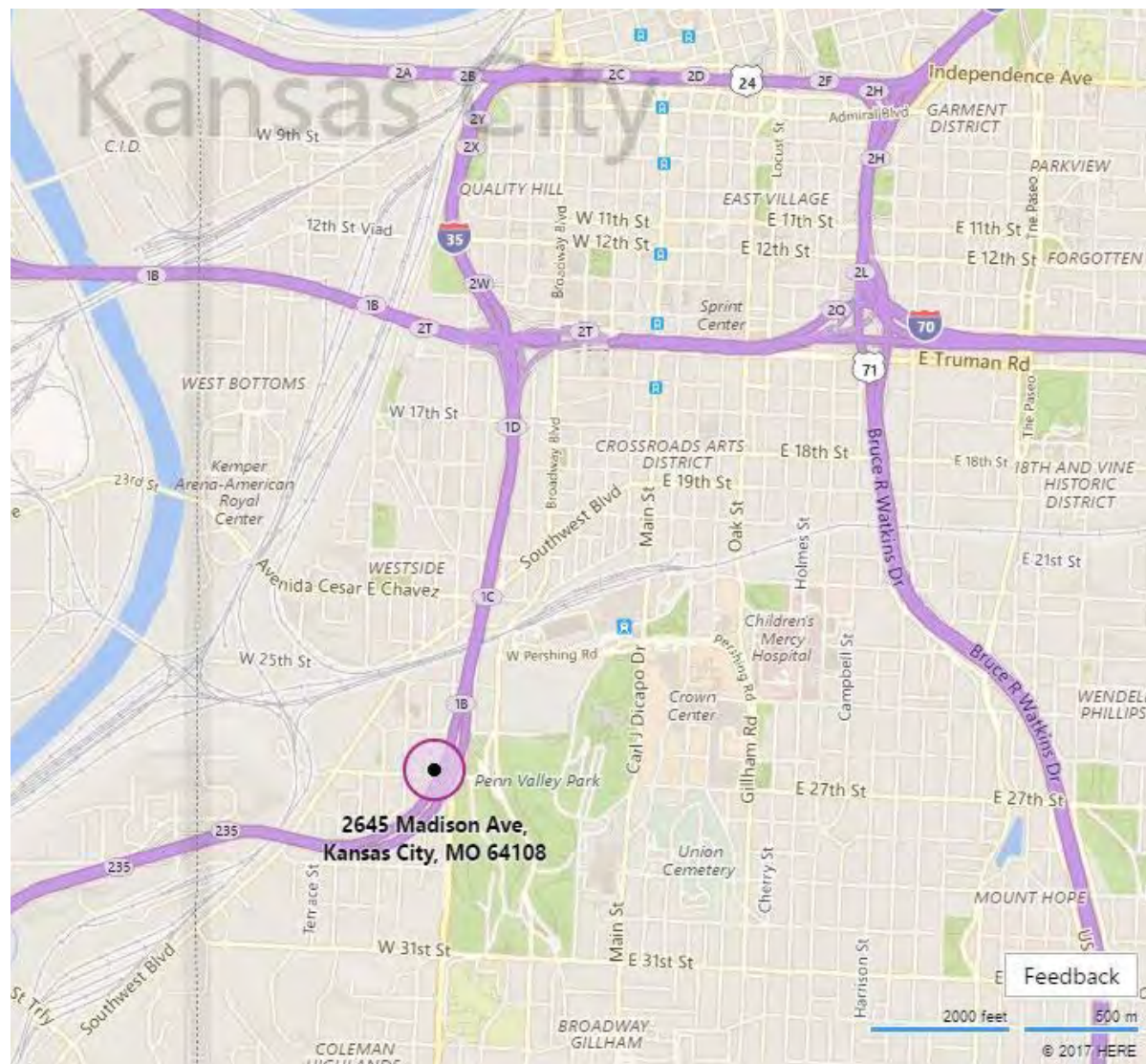
Jackson County, Missouri

County and State

N/A

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Figure 1: Contextual map. Source: Bing Maps. Accessed May 2017.



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Figure 2: Site map with National Register boundary. Source: Google Earth. Accessed May 2017.



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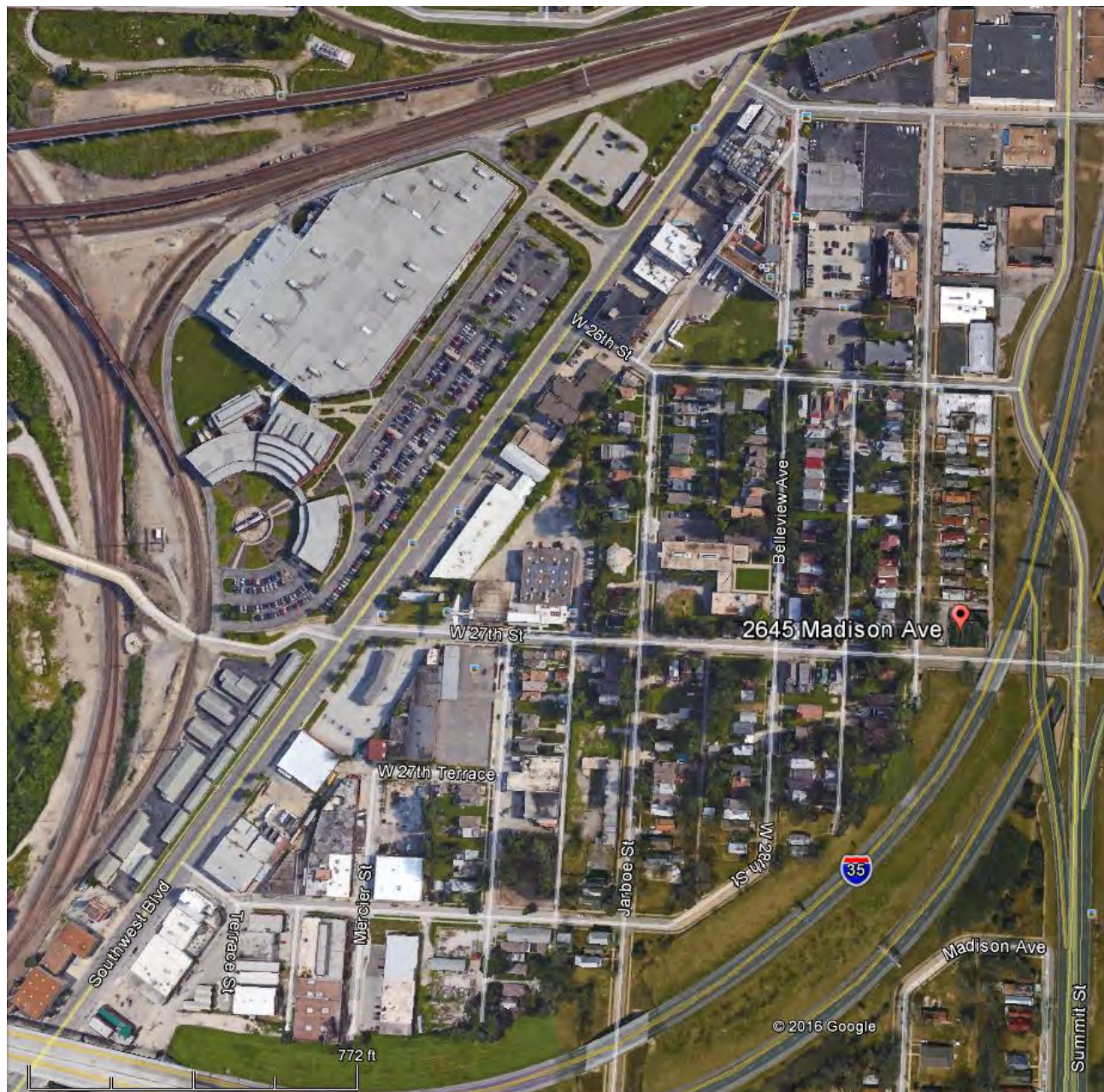
Jackson County, Missouri

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N/A

Name of multiple listing (if applicable)

Figure 3: Aerial of neighborhood in vicinity of Substation A (2645 Madison Avenue). *Source: Google Earth. Accessed May 2017.*

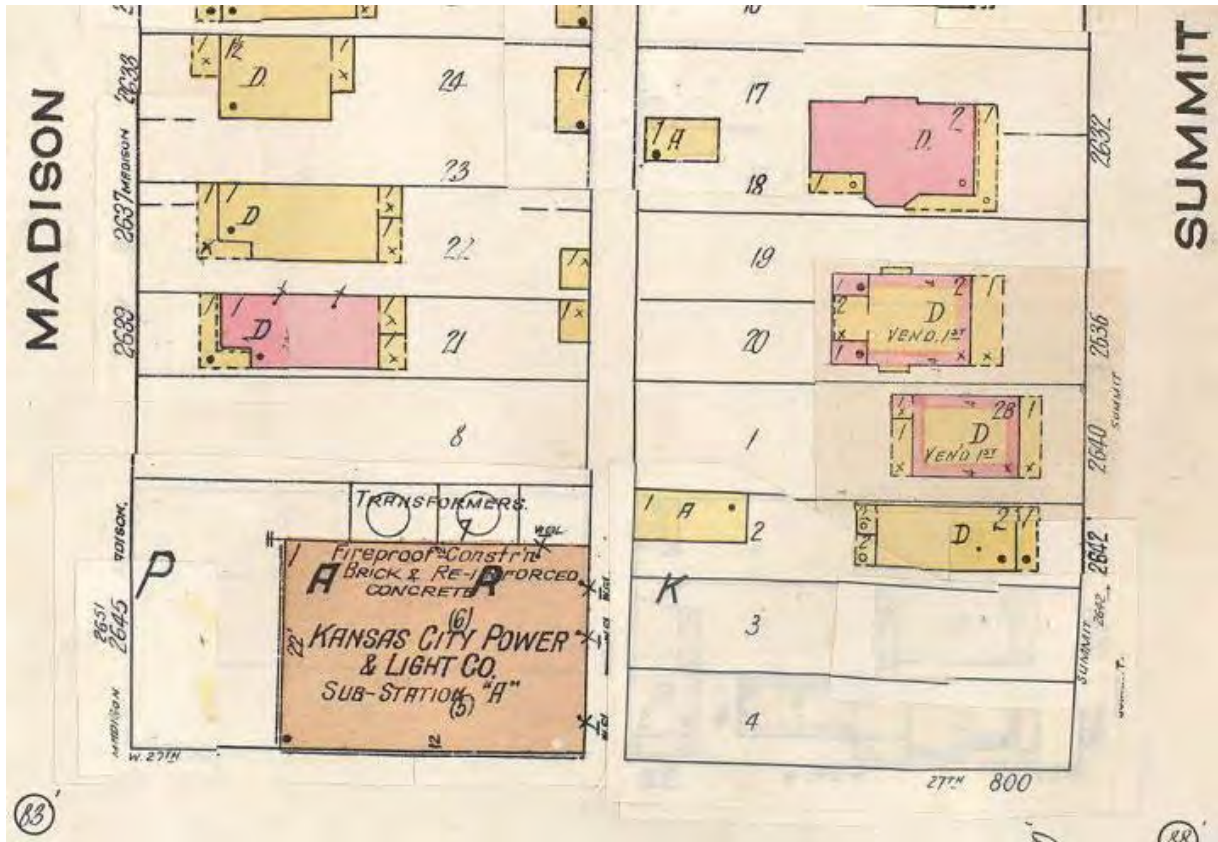


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| Kansas City Power & Light Company Substation "A" |
| Name of Property |
| Jackson County, Missouri |
| County and State |
| N/A |
| Name of multiple listing (if applicable) |

Figure 4: Sanborn Fire Insurance Map, 1909-1938, Volume 1, page 90. Source: Missouri Valley Special Collections, Kansas City Public Library.



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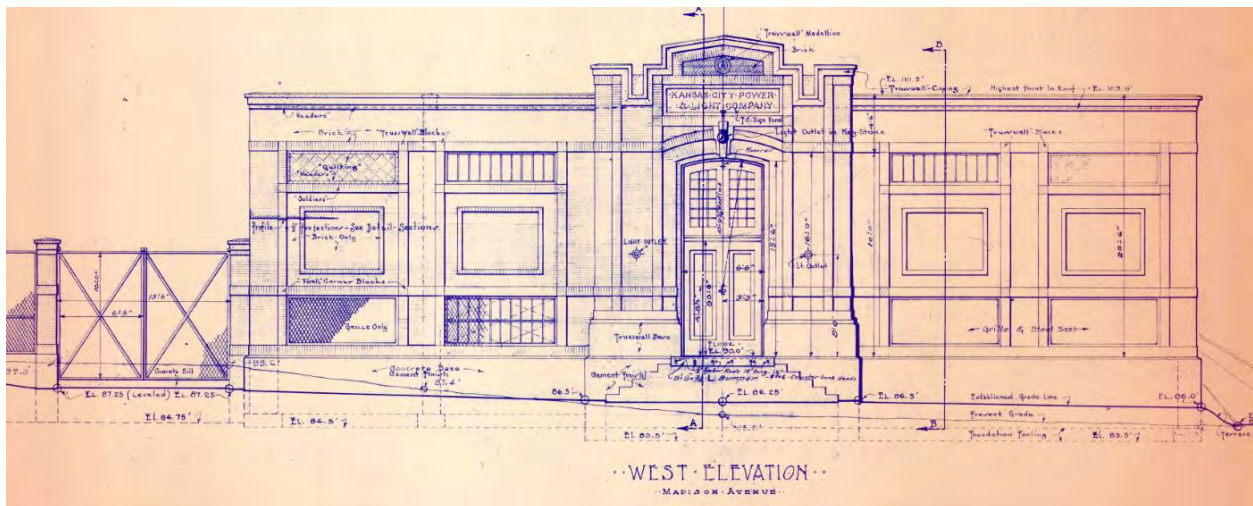
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| Kansas City Power & Light Company Substation "A" | |
| Name of Property | Jackson County, Missouri |
| County and State | N/A |
| Name of multiple listing (if applicable) | |

Figure 5: 1940 Tax Assessor Photograph. Source: *Missouri Valley Special Collections, Kansas City Public Library.*



Figure 6: West Elevation. Source: *Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921.*



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| Name of Property | Jackson County, Missouri |
| County and State | N/A |
| Name of multiple listing (if applicable) | |

Figure 7: Current Floor Plan and Photo Key. *Source: Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921, modified by Rosin Preservation.*

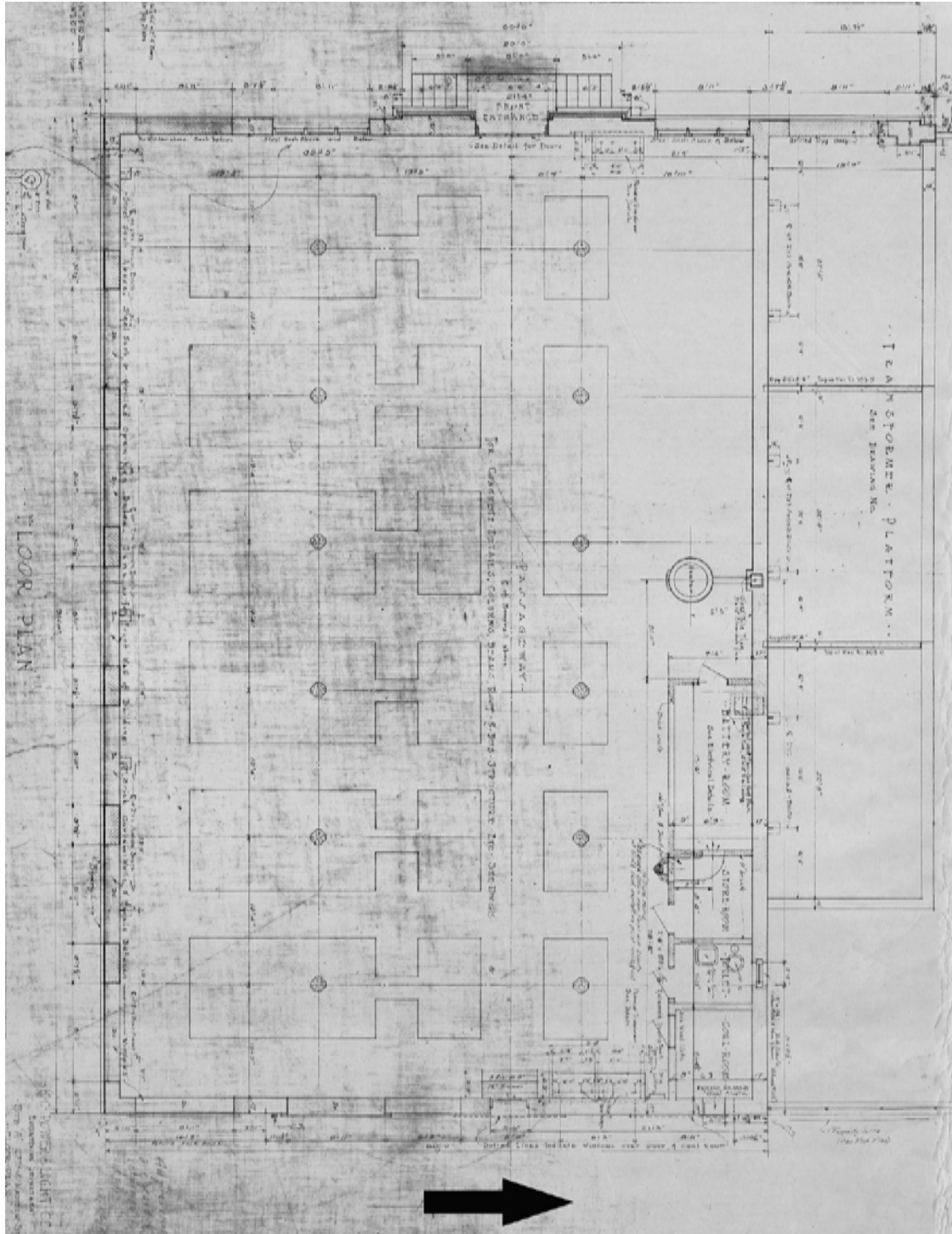


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| Name of Property |
| Jackson County, Missouri |
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| N/A |
| Name of multiple listing (if applicable) |

Figure 8: Historic first floor plan. Source: *Architectural Drawings, Kansas City Power & Light Co., Engineering Department, Substation A, 27th and Madison, 1921.*



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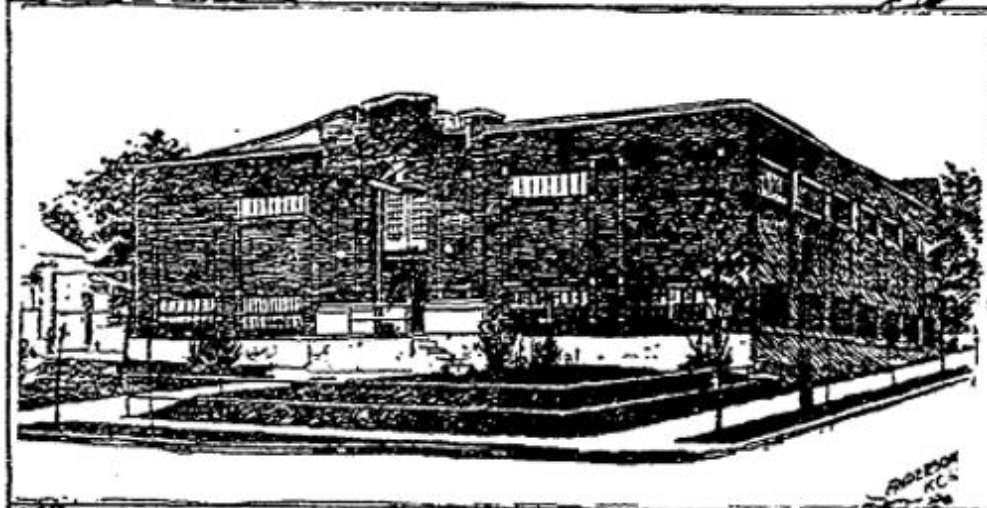
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| Kansas City Power & Light Company Substation "A" |
| Name of Property |
| Jackson County, Missouri |
| County and State |
| N/A |
| Name of multiple listing (if applicable) |

Figure 9: Newspaper article image of Forest Avenue substation (top) and Substation A (bottom). Source: "No Hands, Yet they Serve: New Substations of Power Company Operate Automatically." *Kansas City Star*, July 16, 1922.



AT 61ST AND FOREST, VINES GROWING ON A WIRE SCREEN BETWEEN THE PERGOLA COLUMNS WILL SOON HIDE THE TRANSFORMERS



A SUBSTATION AT 27th AND MADISON WITH VENTILATORS, BUT NO GLASS WINDOWS TO BE SHATTERED BY BASEBALLS FROM A NEARBY SCHOOL YARD

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| Kansas City Power & Light Company Substation "A" |
| Name of Property |
| Jackson County, Missouri |
| County and State |
| N/A |
| Name of multiple listing (if applicable) |

Figure 10: Northeast Power Station, 1917-1921. *Source: Robert A. Olson, "Kansas City Power & Light Company: The First 90 Years."*

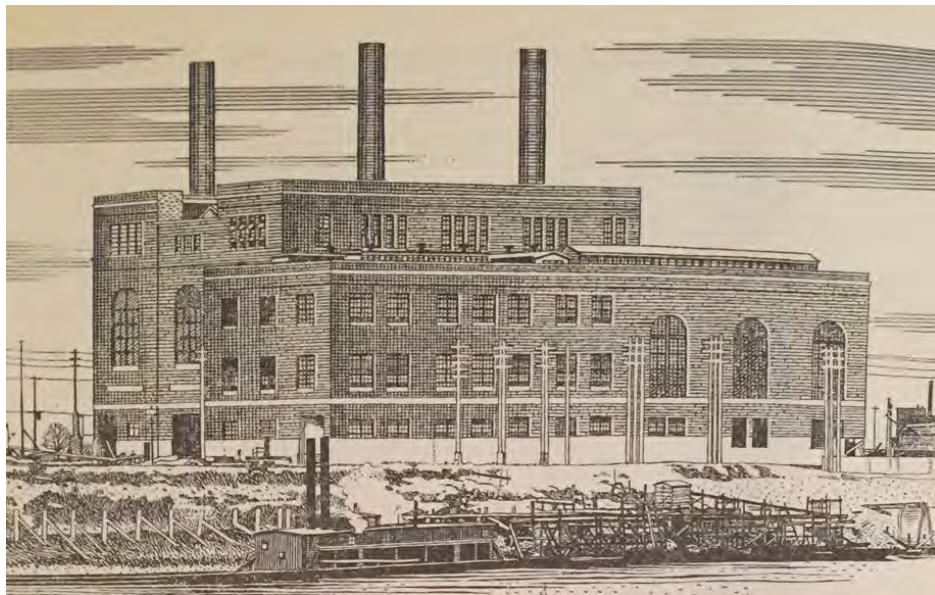


Figure 11: Substation "K", constructed in 1911. *Source: Google Street View. Accessed May 2017.*



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|--|--------------------------|
| Kansas City Power & Light Company Substation "A" | |
| Name of Property | Jackson County, Missouri |
| County and State | N/A |
| Name of multiple listing (if applicable) | |

Figure 12: Regulating panel and automatic reclosing panel, typical automatic machinery housed inside Substation A. *Source: Electrical World, Volume 80, No. 22, 1922, A.E. Bettis and C. W. Place, "Automatic Control of A.-C. Distribution: Operating Features of the Kansas City Power & Light Company's New Self-Operating Substation Recently Placed in Service in the Big Western Missouri City," 1153.*

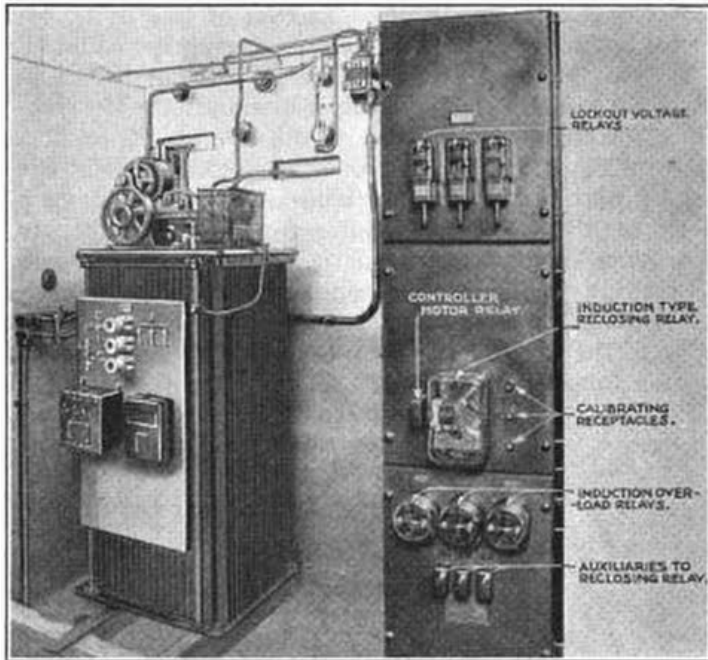


Figure 13: Substation at 205 Holmes Street, constructed circa 1921. *Source: Google Street View. Accessed May 2017.*



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| Name of Property | Jackson County, Missouri |
| County and State | N/A |
| Name of multiple listing (if applicable) | |

Figure 14: Substation at 309 Lydia Avenue, constructed circa 1918. *Source: Google Street View.*
Accessed May 2017.



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Kansas City Power & Light Company Substation "A"

Name of Property

Jackson County, Missouri

County and State

N/A

Name of multiple listing (if applicable)

Figure 15. Substation F (constructed 1928), 7109 E. 12th Street, 2017. *Source: Google Street View. Accessed September 2017.*



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Kansas City Power & Light Company Substation "A"

Name of Property

Jackson County, Missouri

County and State

N/A

Name of multiple listing (if applicable)

Figure 16. Substation H (constructed 1931), 4600 block of Broadway, 1940 Tax Assessor photograph. *Source: Missouri Valley Special Collections.*



Figure 17. Substation (constructed 1939), 4000 E. 43rd Street, 1940 Tax Assessor photograph. *Source: Missouri Valley Special Collections.*



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