NPS Form 10-900 OMB No. 10024-0018

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 determination for individual properties and districts. See instruction in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an 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 entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Southwestern Bell Repeater Station, Wright City

other names/site number AT&T Repeater Station, Reliance Automotive

2. Location

street & number northeast corner of North Service Road and Bell Road [N/A] not for publication

city or town Wright City [N/A] vicinity

state Missouri code MO county Warren code 219 zip code 63390

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 ☐ nationally ☐ statewide ☒ locally. (☐ See continuation sheet for additional comments.)

Mark A. Miles 27 DECEMBER 2006

Mark A. Miles/ Deputy SHPO — Date

Missouri Department of Natural Resources

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria.
(☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is: — Signature of the Keeper — Date of Action

- ☐ entered in the National Register
  - ☐ See continuation sheet.
- ☐ determined eligible for the National Register
  - ☐ See continuation sheet.
- ☐ determined not eligible for the National Register.
- ☐ removed from the National Register
  - ☐ See continuation sheet.
- ☐ other, explain
  - ☐ See continuation sheet.

5. Classification

Ownership of Property
(Check as many boxes as apply)

[X] private
[ ] public-local
[ ] public-State
[ ] public-Federal

Category of Property
(Check only one box)

[X] building(s)
[ ] district
[ ] site
[ ] structure
[ ] object

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

Contributing	Noncontributing	
1	0	buildings
0	0	sites
0	0	structures
0	0	objects
1	0	Total

Name of related multiple property listing.
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register.

0

6. Function or Use

Historic Function
(Enter categories from instructions)

INDUSTRY/communications facility;
telephone company facility

Current Functions
(Enter categories from instructions)

VACANT

7. Description

Architectural Classification
(Enter categories from instructions)

LATE 19TH & 20TH CENTURY REVIVALS/
Tudor Revival

Materials
(Enter categories from instructions)

foundation Concrete
walls Brick
Terra Cotta
roof Asphalt
other Limestone
Concrete

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

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.)

[X] **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.

[X] **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 of age or achieved significance within the past 50 years.

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

Areas of Significance
(Enter categories from instructions)

COMMUNICATIONS
ARCHITECTURE

Periods of Significance
1930-1956

Significant Dates
1930

Significant Person(s)
(Complete if Criterion B is marked above).

N/A

Cultural Affiliation
N/A

Architect/Builder
Timlin, Irving R. (architect)
Knight, W. J. & Co. (structural engineer)
Rinehart, C. F. (contractor)

9. Major Bibliographical References

Bibliography
(Cite the books, articles and other sources used in preparing this form on one or more continuation sheets.)

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

#_____

Primary location of additional data:

☒ State Historic Preservation Office
☐ Other State Agency
☐ Federal Agency
☐ Local Government
☒ University
☒ Other

Name of repository:
Landmarks Association of St. Louis, Missouri Historical Society, AT&T Archives

10. Geographical Data

Acreage of Property 1.02 acres

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing	
1.	15	669739	4299571	(NAD27)
2.				
3.				
4.				

[ ] See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Matthew S. Bivens, Assoc. AIA

organization SCI Engineering, Inc. date August 28, 2006

street & number 130 Point West Boulevard telephone 314-713-6363

city or town St. Charles state MO zip code 63301

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

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.

Photographs
Representative **black and white photographs** of the property.

Additional Items
(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name The Epstein Family Partnership c/o Ed Epstein

street & number 2307 North Geyer Road telephone not available

city or town St. Louis state MO. zip code 63131

DESCRIPTION

Summary

The Southwestern Bell Repeater Station located at the northeast corner of the North Service Road and Bell Road in Wright City, Warren County, Missouri is a one-story (with raised basement) variegated brick industrial building. A good representative example of the wider category of the Late 19th and Early 20th Century Revival, the building was executed in the Tudor Revival style and retains characteristic architectural terra cotta detailing. The mostly square shape building has a south-facing primary facade with the main entrance situated at the southwest corner; decorative quoins, an entrance and window surrounds are accented by terra cotta. The east and west-facing elevations that comprise the sides of the building also contain similar decorative quoins and window surrounds. A rear elevation at the north is simpler and includes a rear entrance reached by a concrete loading dock with steps. A Tudor Revival-inspired main entrance, original to the building, is intact. In 1930 Southwestern Bell staff architect and St. Louisan, Irving R. Timlin designed the building in conjunction with W. J. Knight & Company structural engineers. C. F. Rinehart was the contractor. Remarkably, the building appears virtually unchanged as it was originally designed and constructed in 1930 with no exterior alterations and minimal interior changes. The building retains excellent integrity of location, design, setting, materials, workmanship, feeling, and association.

Site

The Southwestern Bell Repeater Station located due west of the North Service Road just east of Bell Road in Wright City, Warren County, Missouri occupies a site approximately 222 feet north and south and 200 feet east and west. The building measures 85 feet and 9 ½ inches by 67 feet 8 ¾ inches. The North Service Road bounds the property to the south, an adjacent field bounds the property to the east, an adjacent field bounds the property to the north, and Bell Road bounds the property to the west. A loose gravel lot is at the south, a concrete drive is to the west, and a partial concrete and gravel lot is to the north.

Exterior

This one-story variegated brick building faces south on the North Service Road just east of Bell Road in Wright City, Warren County, Missouri (see all photos; photo 1). The exterior variegated brickwork was executed in a Flemish bond accented by off-white/buff color terra cotta accents on three elevations. The primary entrance, located on the south-facing elevation and reached by limestone steps (photo 2), is situated on the southwest corner of the building (photo 3). Surrounded by a flat Tudor arch in recessed levels of terra cotta, the double door entrance has a transom above that is currently filled-in (photo 4). Terra cotta quoins surround the bay and terminate above the door in a squared lintel with ornamental friezes in the corners (photo 4). The entrance bay projects slightly from the elevation and is framed in terra cotta quoins at its sides; a similar bay with a single six-over-six window framed in terra cotta is located at the southeast corner of the building (photo 5). In-between, three paired windows with six-over-six lights are also framed with similar terra cotta quoins, sills and lintels (photo 1). A polished limestone block water table wraps around the building; below, a raised basement level has similar limestone block at ground level (photo 1). In-between are four cut windows. An ornamental terra cotta belt course wraps around the building just below a simple terra cotta cornice (photo 6). "RELIANCE AUTOMOTIVE" lettering is mounted on the wall and reflects the last owner.

The west elevation contains three single six-over-six light windows and a doubled window with six-over-six lights framed with similar terra cotta quoins, sills and lintels (photo 1). A brick chimneystack extends above the roofline at the northwest corner of the building (photo 7). The polished limestone block water table continues around the building on this elevation; below, a raised basement level has

similar limestone block at ground level. In-between are four cut windows. A coal shoot is located nearest the southwest edge of the elevation. A vent with an ornamental iron screen is situated below the doubled window. The ornamental terra cotta belt course continues around the building to this elevation just below a simple terra cotta cornice (photo 1).

The east elevation is similar to the west elevation except that it has three doubled and a single six-over-six light window framed with similar terra cotta quoins, sills and lintels (photo 8). The elevation contains a continuation of the polished limestone block water table that extends around the building; below, a raised basement level has similar limestone block at ground level. There are no basement windows. The ornamental terra cotta belt course continues around the building to this elevation just below a simple terra cotta cornice (photo 8). Similar "RELIANCE AUTOMOTIVE" lettering is mounted on the wall.

The north facing or rear elevation is a mostly solid, unadorned brick wall (photo 9). An entrance is reached by a concrete porch with steps nearest the northeast edge of the building. Four sets of paired six-over-six light windows complete the elevation; one such set is nearest the northeast edge of the building. Four windows are cut at basement level. A basement entrance is reached via a set of concrete steps at the northwest edge of the building. A metal railing protects the innocents from falling into the sub-terrainian space; a concrete ramp is adjacent the steps. Terra cotta quoins from both the west and east elevation corners are visible on the north wall. There is no belt course. A simple terra cotta cap crowns the roofline (photo 9).

Interior

The interior of the Wright City Southwestern Bell Repeater Station appears much as it was originally designed and constructed in 1930 (see all interior photos). The building contains brick bearing walls, interior concrete columns, and reinforced concrete floors. After entering the main entrance, one enters a small interior space that leads down a set of stairs into the basement (photo 10) or into an open room on the first floor via an opening. Inside this main entrance space, the floor is framed with green marble with inset terra cotta tile (photo 11). A small, private recess that formerly held a single telephone has a glass door complete with a logo decal that includes the text "AMERICAN TELEPHONE & TELEGRAPH CO. LONG LINES DEPARTMENT" (photo 12).

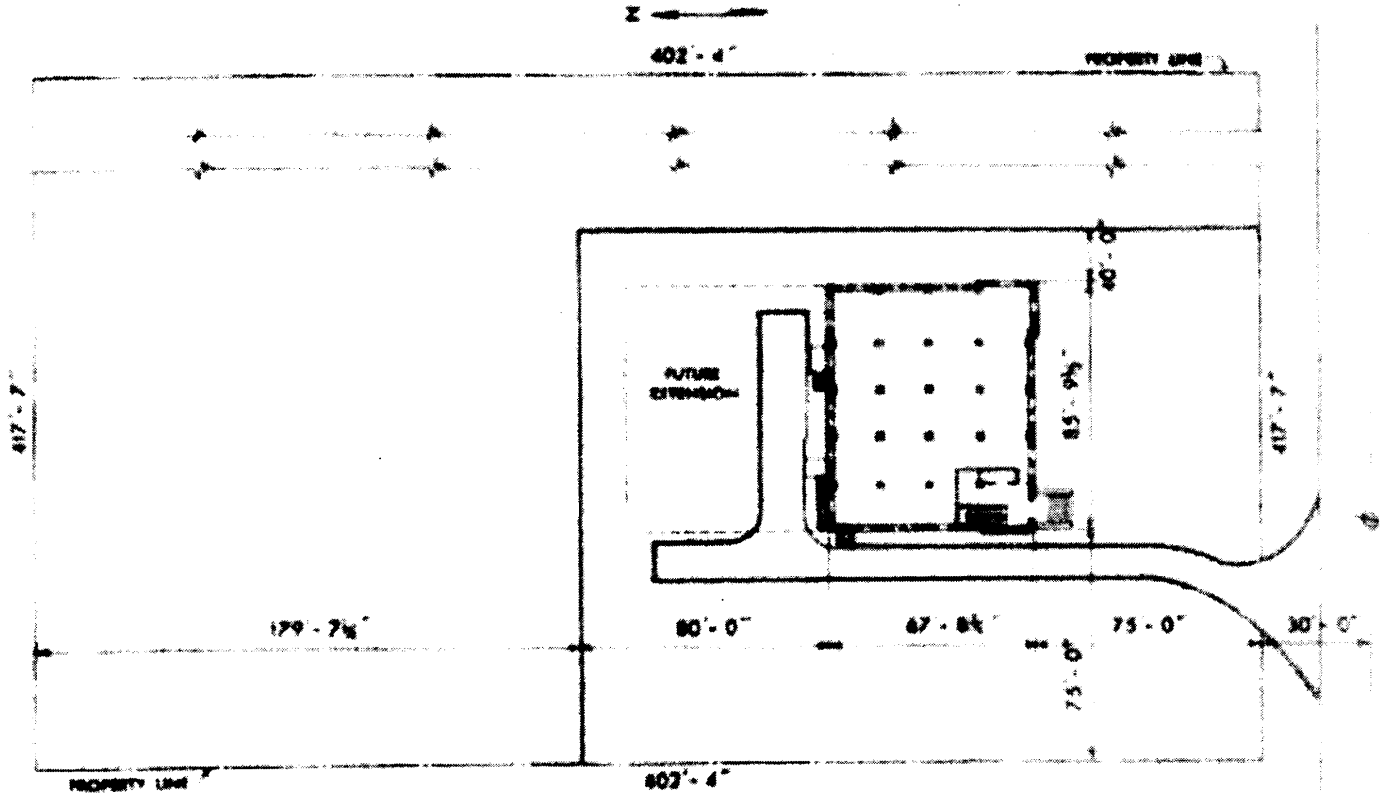
Beyond the opening, a number of square concrete columns occupy the open interior space (photo 13). A single male and female restroom is located along the wall nearest the entrance; it is currently unknown what period these restrooms date from but they are at least early. Minor alterations within the main interior space appear to be limited to contemporary furred-out walls with plasterboard. Masonite flooring covers the entirety of the space. The restrooms contain ceramic tile that may be historic. Some modern shelving is contained within the open floor space.

The steps that lead into the basement retain the original handrail and simple balusters. The basement space is mostly open with distinct areas separated for mechanical equipment and safety concerns (photo 14). It appears that the building was originally designed with a fall-out shelter purpose; some spaces in the basement seem to reflect this design. A separate room appears to have been a storage area for large batteries or engines that would have been grounded to the floor via steel plates protruding from the floor (photo 15). Another room contains an open space that would have held coal for furnace heat; an adjacent room would have held the furnace, now removed. A number of small closets are also located in the basement space. An entrance located at the north or rear elevation allows access to the ground above via a set of steps (photo 9). The foundation is reinforced concrete with spread footings.

Integrity

The Wright City Southwestern Bell Repeater Station is in excellent condition. Besides minor interior alterations in the form of furred-out walls and recent drywall construction on the interior, the building appears virtually unchanged since its original design and construction in 1930. The loss of the original repeater equipment in the course of technological advances that replaced that initial equipment over the period of significance does not affect the building's integrity- similarly as brewery complexes or shoe factories remain eligible under Criterion A once equipment is stripped from relative National Register of Historic Places eligible or listed buildings. Again, it is currently unknown what period the two first-story restrooms in the Repeater Station date from but they are at least early. The building retains superior integrity of location, design, setting, materials, workmanship, feeling, and association.

Figure 1: Site Plan of the Wright City Southwestern Bell Repeater Station. Source: AT&T Archives and History Center, San Antonio, Texas. General Building Data Sheets (4 pages), 1930. This site plan shows the property as it appeared in 1930; the site was reduced during the period of significance to comprise the present site boundary bound by the darker rectangle below.



SIGNIFICANCE

Summary

The Southwestern Bell Repeater Station located at the northeast corner of the North Service Road and Bell Road in Wright City, Warren County, Missouri is locally significant and is eligible for listing in the National Register of Historic Places (NRHP) under Criterion A in the area of COMMUNICATIONS and under Criterion C in the area of ARCHITECTURE. COMMUNICATIONS is an area of significance because of the building's association with the developing technology of the telephone industry. Repeater stations first appeared in the late 1920s and 1930s and initially contained equipment that allowed sound messages to be amplified and carried over long distance lines via other repeater stations between main telephone exchanges. All telephone companies had to implement this new technology in order to remain competitive in the market as well as keep up with emerging technology in communications capability. This property type represents a short-lived model however the buildings remained in use by telephone companies with updates in equipment installation and thus personify the emerging technological advances of the telephone industry. The Southwestern Bell Telephone Company completed the nominated building in 1930 as one of four repeater stations constructed along the original Highway 40 (now Interstate 70) enabling clear long distance between St. Louis and Kansas City and thence to points in the Midwest region. The American Telephone and Telegraph Company (AT&T) retained the building for communications purposes. ARCHITECTURE is an additional area of significance because the building is a representative and intact example of the Tudor Revival style. Designed by Southwestern Bell's staff architect Irving R. Timlin in 1930, the Wright City Repeater Station was a model for two virtually identical company repeater stations constructed in Kingdom City and Aullville, Missouri. The period of significance begins in 1930, the year of the building's design, construction, and opening as a repeater station and continues through its historic use in telephone communications in 1956 in respect to the arbitrary 50-year cut-off for NRHP eligibility; the building however continued to be used as a telephone communications building as technology changed through the 1970s. The building was finally retired in 1981.

Background

Brief History of the Development of Rapid Communications Technology in the United States

The history of communication in the United States begins of course with personal verbal interaction or hand-written correspondence. Quick transport of messages was developed as a response but depended solely on the speed of the individual person or the animal delivering the actual message. Railroads naturally became involved and not only large amounts of messages could now be delivered, they could be delivered with greater speeds and reliability. Because time became the overall concern, scientific experimentation immediately addressed the issue and thus the development of rapid communications technology in the United States relied most heavily on the telegraph system prior to 1878. Telegraph wires were typically strung from one community center to another spanning westward along railroad right-of-ways and provided at least a timely message.[1] In 1844, the earliest known American telegraph line was built between Washington, D.C. and Baltimore, Maryland using Samuel F. B. Morse's recently redesigned telegraph key and receiver; first designed by Morse in 1835, it also used his invented system of dots and dashes to transmit letters and numbers.[2] Over the next few decades, evolution of the electric telegraph progressed swiftly, with numerous private and public

[1] AT&T Archives & History Center, San Antonio, Texas. "History of the Southwestern Bell Telephone Co." Undated.

[2] Kenneth P. Todd, Jr., editor. "A Capsule History of the Bell System." AT&T archives and also website below http://www.bellsystemmemorial.com/capsule_bell_system.html#The%20Early%20Days%20of%20Mechanical%20Communication,%20or%20a%20Shout%20Is%20Not%20Enough September 22, 2006.

companies taking the lead. Finally, all telegraph lines in the United States were merged into the newly incorporated Western Union Telegraph Company in 1856.[3]

Western Union became so powerful that in 1872 a new telegraph company was proposed and accepted by the government; Andrew Carnegie and Gardner G. Hubbard backed the company.[4] Hubbard later financed Alexander Graham Bell, later the inventor of the telephone, with his early experiments to improve the message-bearing capacity of the electric telegraph. There was at an early stage a competitor to the telegraph, an invention that allowed the clear transmission of voice over wires later known as the telephone. Credited with this vital creation was Alexander Graham Bell, an inventor who experimented for years previous before patenting the first true model (patent number 174,465) then identified as an "Improvement in Telegraphy" during the American Centennial year of 1876.[5] Exhibited at the Centennial Exposition in Philadelphia, visitors and entrepreneurs alike were amazed at Bell's talking device. Bell enhanced the model over the next few years, improving the clarity of voice transmissions and simplification of associative equipment, but the telephone remained relatively the same in concept. In 1877, the Bell Telephone Company was formed. Under a decade later in 1885, the Bell Telephone Company formed a new subsidiary known as the American Telephone and Telegraph Company (AT&T).

Background

Early Communications Technology in St. Louis, Missouri and George Freeland Durant

In the state of Missouri the telegraph provided the only dependable means of rapid communication until at least 1878. It was in that year that the Bell Telephone Company of Missouri was organized and telephone lines began to be constructed there. But the story of local telephone service begins a few years prior with a man named George Freeland Durant.

George Freeland Durant came to St. Louis in 1874 to fill the position of district manager for the American District Telegraph Company (ADTC). Established prior to 1874, the ADTC system was an improved telegraph message service.[6] In St. Louis, the ADTC system maintained a central office with telegraph lines running from it to a number of subscribers' homes and offices; since voice transmission was not yet available, code signals were interpreted instead.[7] In 1876, Durant heard about Bell's telephone invention exhibited at the Centennial Exposition and it is reported that he contacted Bell and purchased a number of his telephones; intensely interested in technological experimentation, Durant even constructed some of his own.[8] It is recorded that Durant ended up with a total of 41 bought or hand-made telephones that he installed at the subscriber end of the St. Louis ADTC telegraph lines in

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[3] Ibid. Western Union, eleven years after its formation, had by 1867 increased its capital by eleven thousand per cent and was valued that year at $41,000,000. Western Union had become a highly influential corporation, with a virtual monopoly on the rapid transmission of information in the United States. This included the news flowing to the nation's newspapers because Western Union also controlled the Associated Press.

[4] Ibid.

[5] Ibid. According to the source, an Elisha Gray filed a caveat for a patent on a similar device just three hours after Bell. Bell and Gray apparently had considerable correspondence regarding the invention.

[6] AT&T Archives & History Center, San Antonio, Texas. "History of the Southwestern Bell Telephone Co." Undated.

[7] David G. Park Jr. *Good Connections: A Century of Service by the Men & Women of Southwestern Bell.* (St. Louis: Southwestern Bell Telephone Company, 1984). P. 4.

[8] *St. Louis Globe-Democrat.* "The Telephone's First 100 Years in St. Louis." In Sunday Magazine. July 10, 1977, pp. 16-20.

1877.[9] Apparently the experiment worked.
Meanwhile, Durant partnered with a Julius C. Birge in 1877 and the first official telephone line in St. Louis was established.[10] An agent with the newly created Bell Telephone Company H. H. Eldred was interested in Durant's telephone service scheme and personally visited him in St. Louis and ultimately supported Durant's efforts to solicit subscribers for the new service. Towards the end of that year, Durant obtained a license from the Bell Telephone Company to sell phone service in St. Louis through ADTC and by 1878 he had officially opened the first telephone exchange in the state.[11] The exchange became the area serviced by the Southwestern Bell Telephone Company, a territory that eventually stretched over Missouri, Kansas, Oklahoma, Arkansas, and Texas.[12] Early success was great because the service grew from only twelve initial subscribers in 1878 to 600 by 1880; by 1890 that number increased to 2,885 subscribers.[13]

The Gold and Stock Telephone Company, a close competitor and a subsidiary of the nationally known Western Union Telegraph Company, provided Durant's only known competition for the rights of a local exchange. This rivalry continued until settlement of the Western Union case in 1879 when Western Union agreed not to participate in the telephone business; Durant then bought the competing telephones.[14] By the end of that year, additional exchanges were established in Kansas City, Missouri; in Little Rock, Arkansas; Houston and Galveston, Texas; and Topeka, Kansas. Through 1894, a number of supplementary telephone exchange buildings were erected in St. Louis, Kansas City, Springfield, St. Joseph, Sedalia, Hannibal, as well as in smaller Missouri cities that helped to extend telephone service across the state.

By 1885, four main mid-western communications companies emerged in co-operative business to provide Missouri, Kansas, Texas, Arkansas, and Oklahoma with telephone service. These were the Missouri and Kansas Telephone Company (operating in western Missouri and Kansas), the Southwestern Telegraph and Telephone Company (operating in Texas and Arkansas), the Pioneer Telephone and Telegraph Company of Oklahoma, and Durant's own Bell Telephone Company of Missouri with headquarters in the City of St. Louis; these four independent companies joined in 1912 to form the Southwestern Bell Telephone System.[15]

During the early 1900s, more than 30,000 Bell telephones were in use in the City of St. Louis with a growing number of communities in St. Louis County linking into that system, a system ruled by telephone operators.[16] Between 1912 and 1920, a period of consolidation finalized the newly formed and renamed Southwestern Bell Telephone Company (SBTC). It was reported that a number of nearly 590,000 telephones were in operation at the close of consolidation in 1920; that number increased to over 1,365,000 by 1930.[17] It would not be until the 1920s that Bell would set up the first dial office in the City of St. Louis thus enabling a caller to make his or her own connections versus using an operator to complete the task.

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[9] David G. Park Jr. p. 4. The source states that a musical concert was "broadcast" along the lines.
[10] *St. Louis Globe-Democrat.* p. 16.
[11] Ibid. Sources dispute the name as the St. Louis Telephonic Exchange or the Missouri Telephone Company.
[12] AT&T.
[13] *St. Louis Globe-Democrat.* p. 16.
[14] AT&T.
[15] Ibid.
[16] *St. Louis Globe-Democrat.* p. 19.
[17] AT&T.

Background

Advances in Communications Technology

Essential to the delivery of early telephone messages was the telephone exchange building; constructed not only by the Southwestern Bell Telephone System, the technology was required by all telephone companies. Telephone exchanges were the physical buildings that housed the equipment necessary to interconnect telephone lines between portions of cities. During the initial days of the telephone one would first contact a human operator at a local exchange, then the operator would contact the exchange relative to the individual to be reached. After the local call went through a series of steps, it finally reached the actual recipient and a conversation was born. Few of these buildings still exist in St. Louis and other points in Missouri as well as nationwide.

Long-distance telephone calling was becoming a bigger part of the system at the end of the 19th Century and beginning of the 20th Century. Perhaps the first official long-distance line was set up in 1892 between Chicago and New York but the connection took some time to make and the reception was less than desirable. In St. Louis, a retired Bell operator reflected on the early 1900s:

> "A customer would call in, ask for long distance, and he would get us. We would take his call, then tell him the operator will call back. Next a message with the call request was carried by a messenger girl [later on a roller-skating girl] to the appropriate long-distance operator in another part of the room. When the call was put through, the operator would call back the customer and tell him the call was ready."[18]

The operator speaking above suggested that a typical long-distance call set up took at a minimum ten minutes time before the parties were able to converse. Actual voice messages required higher frequencies and as a result, they tended to fade as they traveled along the wire. Continued efforts to improve such long-distance calls after 1900 included expanding physical range, clarifying transmission, and shortening waiting time for calls. Such innovations required new advances in communications technology and resulted in the invention of loading coils to boost voice transmission volume, vacuum tubes to enhance the same, and improvement in the wire used to transmit the voice messages.

By the mid-1920s long-distance lines connected most parts of the country and associative paraphernalia necessary to boost and process voice messages was often installed in telephone exchanges along with switchboards and other essential communications equipment. In order to continue uninterrupted transmission to other parts of telephone company territories throughout the country, such specialized equipment would soon require additional and specialized building facilities along company telephone lines.

Elaboration

In 1929, the Southwestern Bell Telephone Company (SBTC) initiated a five-year program to expand and improve its long-distance telephone service throughout the Midwest. As part of this vital project, SBTC constructed a 2,500-mile cable network linking the five states it served at the time: Missouri, Kansas, Oklahoma, Arkansas, and Texas.[19] The equipment that was then demonstrated to provide

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[18] *St. Louis Globe-Democrat.* p. 19. Interview with Miss Eda Gustafson, a Bell operator between 1910 and 1959.

[19] Thomas Gubbles, historian. Missouri Department of Transportation. "Interstate 70 - Repeater Station Overview." Undated document.

and maintain contemporary long-distance service was until that time installed in citywide telephone exchange buildings. In order to make the long-distance cables work efficiently as designed (i.e. to reach other cities at a rapid pace and with audible voice), SBTC implemented a relatively new building type known as the repeater station, and placed them in strategic locations along Highway 40 (now Interstate 70) from St. Louis to Kansas City.[20] All telephone companies had to implement the repeater station in order to continue to be competitive in the market. In addition, telephone companies had to keep up with emerging technology in communications development. The repeater station provided not only the specialized building form to house such equipment and later subsequent improved equipment, but also the buildings were constructed in tactical places as needed to provide the most proficient service to date.

The job of the repeater station was essential to the development and improvement of long-distance technology. With the early use of copper wire to transmit voice messages, short distance calls were normally not an issue. It was the use of the same wire when implemented over longer distances that caused serious concern. As the sound traveled along the line it would weaken in volume and clarity, and at the same time the natural static associated with the use of the wire often muffled out the voice. Each repeater station housed enhanced telecommunication equipment that allowed voice messages initially sent from telephone exchanges to be amplified, clarified, and then carried over long-distance cables to other repeater stations. Originally unmanned, the repeater station sent messages to additional repeater stations along the cable route, being amplified at each station, before arrival at another telephone exchange and thence to the receiver of the call. This property type represents the first telecommunications building form with a sole purpose to house specialized equipment to improve long-distance technology. Although a short-lived model, such buildings remained in use by telephone companies to house subsequent updates in communications equipment along existing long-distance cable lines. The repeater station as a building type epitomizes the emerging and subsequent technological advances of the telephone industry itself.

Only four repeater stations were built by SBTC in Missouri; these included building sites in Wright City (the nominated building), Kingdom City, Boonville, and Aullville. An unknown amount of similar repeater stations were proposed by SBTC along the cable route in the company's other state territories. Between 1929 and 1931, SBTC built three stations in Kansas, Texas, and Oklahoma.[21] These repeater stations differed in design from the Missouri examples, reflecting the new Art Deco scheme instead of the more traditional Revival styles. SBTC purchased the land for the four Missouri repeater stations in 1930 with plans for immediate construction along this essential long-distance cable route.

In early 1930 Southwestern Bell Telephone Company staff architect, Irving R. Timlin presented a Tudor Revival design, quite stylish at the time, for a Wright City repeater station to the company Directors (figure 2A-B). The design included a one-story variegated brick building with a flat roof and off-white/buff color terra cotta ornament. The main entrance was to be situated at the side of the building rather than at the center and was to have a terra cotta Tudor (flattened pointed) arch surround. The handsome and functional design was copied in the Kingdom City and Aullville repeater stations to the west of Wright City. The fourth SBTC repeater station in Boonville was designed by a Kansas City architect and reflected the popular Classical Revival style. Not surprising however because both styles were fashionable, and rivaled each other into the early 1930s.

[20] David G. Park, Jr.

[21] Thomas Gubbles, historian.

Figure 2A: Historic photo of the Wright City Southwestern Bell Repeater Station. Primary south elevation (right side) and west elevation (left side). Source: AT&T Archives and History Center, San Antonio, Texas. General Building Data Sheets (page 1930-3), 1930.

Figure 2B: Historic photo of the Wright City Southwestern Bell Repeater Station. Rear or north elevation (right side) and east elevation (left side). Source: AT&T Archives and History Center, San Antonio, Texas. General Building Data Sheets (page 1930-3), 1930.

Wright City Repeater Station Design

The architect of the Wright City Southwestern Bell Repeater Station, Irving R. Timlin studied architecture and engineering at St. Louis' Washington University and began his professional career with the Southwestern Bell Telephone Company in 1904 as a draftsman in Kansas City.[22] Timlin was promoted within three years in 1907 as an assistant equipment engineer, and by 1911 was awarded the coveted title of staff architect for the company.[23] Timlin went to work at the main office in St. Louis in 1912. At his official retirement in 1945, Timlin was credited with the design of over 140 telephone buildings in various Southwestern Bell Telephone territory cities in the Midwest; Timlin also designed a number of other buildings for private clients.[24] A second source suggests that Timlin designed at least 150 new buildings as well as at least 125 recorded additions to pre-existing buildings by 1945.[25]

In early 1930, Timlin's design for the first Missouri Southwestern Bell Telephone Company repeater station was manifested in physical form just outside of Wright City. The design was so popular that it was copied in at least in two other extant repeater stations west of Wright City: in Kingdom City and Aullville, Missouri. The nominated building appears today much as it was originally constructed with very minimal alterations.

Construction of the Wright City Southwestern Bell Repeater Station included W. J. Knight & Company as structural engineers and C. F. Rinehart as project contractor. The AT&T Archives & History Center Collection in San Antonio, Texas retains the original building information on file. Such detailed construction history includes technical specifications on the building. The building was constructed

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[22] AT&T Archives & History Center Collection. News Release 12-29-1944.

[23] Ibid. And *St. Louis Globe-Democrat.* "Irving Timlin Dies. Retired Architect for Telephone Co." October 18, 1955, page 11A.

[24] AT&T. News Release 12-29-1944.

[25] AT&T. "Six Who Retired Recently." In *Southwestern Telephone News.* Volume 34, number 1, January 1945, page 33.

with interior concrete columns and a bearing exterior wall. The floor system consisted of concrete beams between columns with a slab of solid concrete. The building was designed to hold excessive weight not only to support the heavy repeater equipment but also to provide potential for a second story to be added in the future; the second story was never added. Additional land was purchased to the north of the building for a future extension if needed. Land for the building was acquired at a cost of $901.00; the building was reported to cost $72,974.00 in total and was the most expensive of the repeater stations built in Missouri.[26] The productive area of the building was 8,622 square feet. A total of 600 "through toll lines" were planned in 1930.[27]

Of note is a Plant Extension Engineer development study from the Aullville repeater station conducted in 1934. It suggests that at least Timlin's three virtually identical stations (including the Wright City, Aullville, and Kingdom City stations) were designed with the future of communications and the expanded use of the telephone in mind. The study states:

> This is a one-story building housing cable repeater station equipment for the Kansas City-St. Louis toll cable. It is estimated no additional equipment will be required until about 1938, at which time it is estimated that the second Kansas City-St. Louis toll cable will be placed. This will require additional building space which will be provided by extending the building to the rear approximately 40 feet. At about 1945 additional building space will be needed for additional equipment and this will be provided by a second extension to the rear approximately 40 feet. In 1960 a third toll cable is estimated which will require another building addition. This will be provided by placing a second floor over the first two bays of the building. In 1970 it is estimated that a fourth toll cable will require an extension of the partial second floor for two additional bays. Final retirement of the building is estimated in 1981.[28]

No known records have been found to suggest exactly what occurred in the Wright City Repeater Station over the years it was in service. Based on physical evidence, a second story was never added nor was the building footprint enlarged at any time.

Irving R. Timlin died at his home, one of his architectural designs, at 6814 Pershing Avenue in University City in October of 1955. A company news release memorializing his life stated that Timlin was an active member of the American Institute of Architects and acted as vice president for two years as well as treasurer for seven years.[29] The release also suggested that Timlin was heavily involved with a special commission to revise the St. Louis Building Code and was active on the Smoke Abatement Commission for the city of St. Louis.

Telephone Technology from the 1930s Onward

Between the period of consolidation and creation of the Southwestern Bell Telephone Company in 1920 and the beginning of the Great Depression, the number of telephones in operation more-than-doubled. Then telephone growth slowed and was reported to regress as much as 10%

[26] AT&T. General Building Data, 1930. Boonville cost $68,352; Kingdom City cost $62,843; Aullville cost $61,485.
[27] Ibid.
[28] Plant Extension Engineer. "Development Study of Aullville, Missouri Cable Repeater Station." March 1934.
[29] AT&T. News Release 12-29-1944.

during the Depression years.[30] In 1930, AT&T perfected a higher quality insulated wire which enabled clearer communications. By 1933 a number of small private automatic exchanges (versus the manned facilities) were introduced. In 1934 the Federal Communications Commission (FCC) was founded and as a task, required the subsidization of residential subscribers to speed the availability of nationwide telephone service.[31]

In 1937, the number of telephones was on the rise and by the time the United States entered World War II in 1941, the Southwestern Bell Telephone Company had over 1,700,000 telephones in operation.[32] During the war, company-wide activities focused on new construction mostly on defense projects for the war effort. Actual wartime conditions were reported to increase both local and long-distance telephone use so much that by 1945, long-distance volumes were 75% greater than just before the war.[33] This undoubtedly caused a strain on the system and would eventually require a solution to high demand. Perhaps timely, Arthur C. Clarke proposed communications satellites in 1945.

After World War II, the Southwestern Bell Telephone Company experienced tremendous growth and acquisitioned a reported $246,000,000 for the construction of future plants. At the same time the telephone industry as a whole was changing rapidly and a number of new services were introduced. Of note in 1946, experimental mobile radiotelephone service was opened; by the end of the year mobile telephone service was placed into commercial use.[34] Bell Telephone Laboratories invented a 96-chanel PCM experimental system along the east coast and is reported to have used repeater stations to enhance the message capability.[35]

In 1952, the first microwave radio relay system was opened in the southwest region; this communication was relayed via radio signals beamed across the country from radio towers.[36] By 1955, a new era began for the Southwestern Bell Telephone Company: "Direct Distance Dialing," the earliest company effort for personal long-distance calls direct from a home phone.[37] The 1950s were filled with various other improvements in telecommunications technology and the early 1960s saw the launch of Telstar I, the first active communications satellite. Touchtone telephone service was also introduced in the early 1960s, with a keypad replacing the rotary dial.

The 1960s also saw both Texas and Missouri divided into multiple operating areas for the Southwestern Bell Telephone Company. As the population increased in Southwestern Bell territory by about 3 million, the number of phones was reported to grow by almost 4 million; by 1969, the 10,000,000th telephone was installed.[38] In March of 1977, the Southwestern Bell Telephone Company transferred the nominated building to the American Telephone and Telegraph Company (AT&T) in consideration of a sum of ten dollars. Until January 1984, Southwestern Bell Telephone Company was a wholly owned subsidiary of AT&T; in that year it was divested with 21 other local Bell operating

[30] AT&T. "History of the Southwestern Bell Telephone Co."
[31] Telephone Tribute. "Timeline of Telecommunications: A Compilation of Various Timeline and Historical Date References/Sources." http://www.telephonetribute.com/timeline.html September 29, 2006
[32] AT&T. "History of the Southwestern Bell Telephone Co."
[33] Ibid.
[34] Telephone Tribute.
[35] Ibid.
[36] AT&T. "History of the Southwestern Bell Telephone Co."
[37] Ibid.
[38] Ibid.

companies as part of the break-up of the Bell System.[39]

Overview of the Historic Use of the Subject Property

The southwest corner of the southwest quarter of the southeast quarter of Section 17, Township 47 north, Range 1 west of Warren County, Missouri appears on the *Illustrated Atlas of Warren County, Missouri* in 1877 as a portion of a 40-acre property in then ownership of W. L. Gilkey. At that time no buildings were documented as being on the site; a schoolhouse (known as Locust Grove, now demolished) was however located to the west on property of J. W. Kennedy. By 1901, documented on the *Standard Atlas of Warren County, Missouri*, the subject property was owned by Mary Kennedy, perhaps a daughter of the eastern landowner of 1877; still no buildings appear on the site.

Unfortunately there is a lack of consistent legal/historical records over the following decades relative to the subject property; these records are retained at the office of the Warren County Assessor in Warrenton, Missouri. What is known is that the property was acquired in 1930 by the Southwestern Bell Telephone Company (SBTC). In 1946, a portion of the south half of SBTC's property was conveyed to the state of Missouri relative to the construction of improvements to Highway 40. The American Telephone and Telegraph Company (AT&T) acquired the property via a quitclaim deed from the SBTC dated March 25, 1979. Sometime after 1979 the property appears to have belonged to the Hunt family. A short-lived holding, the property was transferred to the present owner by 1981. This transaction appears in a general warranty deed dated June 30, 1981 located in the office of the shows a land transfer between the Hunt family and the current owner Epstein. Epstein set up his Reliance automotive parts business in the building. The building is currently vacant.

Conclusion

The story of the Wright City Southwestern Bell Repeater Station is a story that includes a history of the development of the Southwestern Bell Telephone Company, the development of long-distance technology, and the physical company expansion across the state of Missouri, only possible in the period due to the construction of similar repeater stations. The story also fits into the development of the telecommunications industry itself. Placement of the nominated repeater station just west of Wright City had little to do with the development or history of the actual town of Wright City but rather with long-distance specifications for statewide telecommunications technology in the late 1920s and early 1930s.

The Wright City Southwestern Bell Repeater Station was recently assessed for a Missouri State Historic Preservation Office (SHPO) review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) under SHPO Project Number 001-WN-05 for a proposed 500,000-gallon water tower to be located just south of the subject building. In a letter dated February 4, 2005 to the City of Wright City, the SHPO determined that the subject building (then referred to as "building 2") was eligible for listing on the NRHP and that the undertaking would have no adverse affect on the building. A proposed new owner/developer is considering an adaptive reuse of the Wright City Southwestern Bell Repeater Station that will include a much needed new banking facility.

[39] William D. Caughlin, archivist. AT&T Archives & History Center, San Antonio, Texas.

Appendix

The Repeater Station as an Instrument of Communications Technology

As described earlier, repeater stations were originally established as unmanned facilities that held the equipment that was necessary to receive telephone signals, amplify the signals, and then clarify the signals; telephone signals were then retransmitted along extended lines.[40] A rare 1937 publication entitled "A Camera Trip Through A Repeater Station" shows in pictorial and text detail the form and function of this important building type in respect to communications in the 1930s; one may suspect today if these men actually wore four-piece suits while handling the equipment.[41] An elaboration in the document states, "views of a repeater station, showing the equipment required to maintain satisfactory and dependable service over long-distance telephone lines." It is suspected that the same equipment corresponds directly to equipment that would have been originally located at the nominated Wright City Southwestern Bell Repeater Station (figures appear starting on page 15).

The first piece of equipment necessary to the repeater station was the "toll test board," a device utilized to locate general trouble on long-distance lines; in common application at least 1900 individual pairs of wires lead to the test board (figure 3). Second, telephone vacuum tube amplifiers would renew voice currents to their original strength and quality and then send them along to the next repeater station (figure 4). Third, two-wire repeaters would amplify voice currents on shorter circuits; some 500 plus amplifiers were commonly utilized in this step (figure 5). Fourth, quality control relative to the transmission test board would be gauged via a measuring set based on the electrical length of the individual circuits (figure 6). Fifth, the broadcasting control office is activated and utilities would be controlled via patching boards (figure 7). In this step, telegraph instruments (center of image) are used for communicating with additional repeater stations in the same network. A tele-typewriter (right corner) was used for sending and receiving program schedules. The figure below illustrates how

[40] Thomas Gubbles.

[41] AT&T. "A Camera Trip Through A Repeater Station." 1937.

repeater stations would fit into long-distance telephone service and how the stations would boost the voice current (figure 8). The sixth step consisted of additional telegraph and telephone transmission test board activity that included testing of tele-typewriter service (figure 9). Seventh, the simultaneous sending of several telegraph messages would be executed over a single pair of wires (figure 10). Eighth, the main distributing frame is challenged to terminate or interconnect repeater station equipment as well as toll lines (figure 11). And finally, but perhaps more importantly, the power room provided the generators and control board necessary to implement the entire repeater station process (figure 12).

"A Camera Trip Through A Repeater Station."
Figure 3: "A Camera Trip Through A Repeater Station." August through September 1937. Step one. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

Figure 4: "A Camera Trip through a Repeater Station." August through September 1937. Step two. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

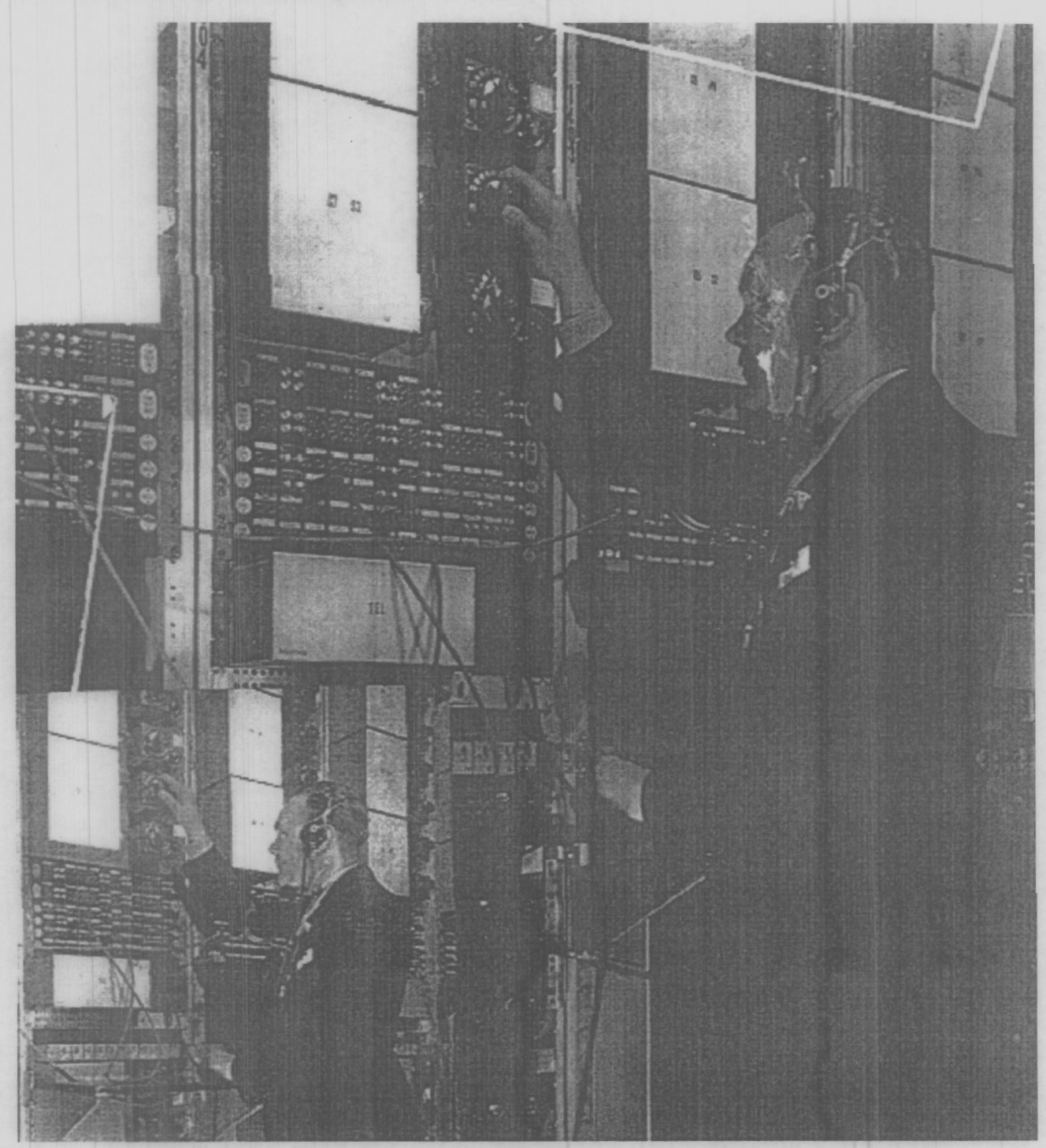


Figure 5: "A Camera Trip through a Repeater Station." August through September 1937. Step three. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

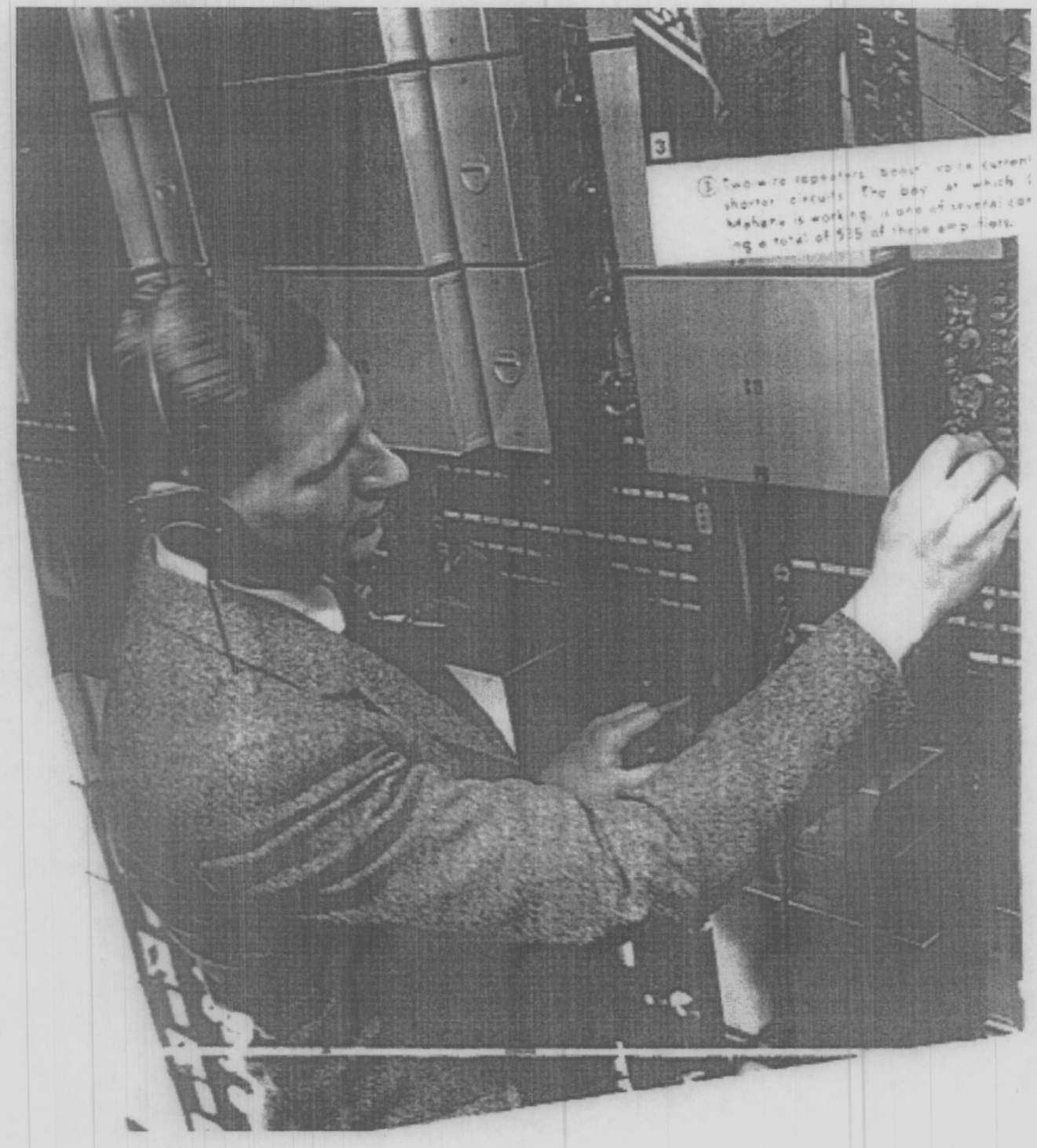


Figure 6: "A Camera Trip through a Repeater Station." August through September 1937. Step four. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

Figure 7: "A Camera Trip through a Repeater Station." August through September 1937. Step five. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

Figure 8: "A Camera Trip through a Repeater Station." August through September 1937. How repeater stations fit into long-distance service and boost voice currents. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

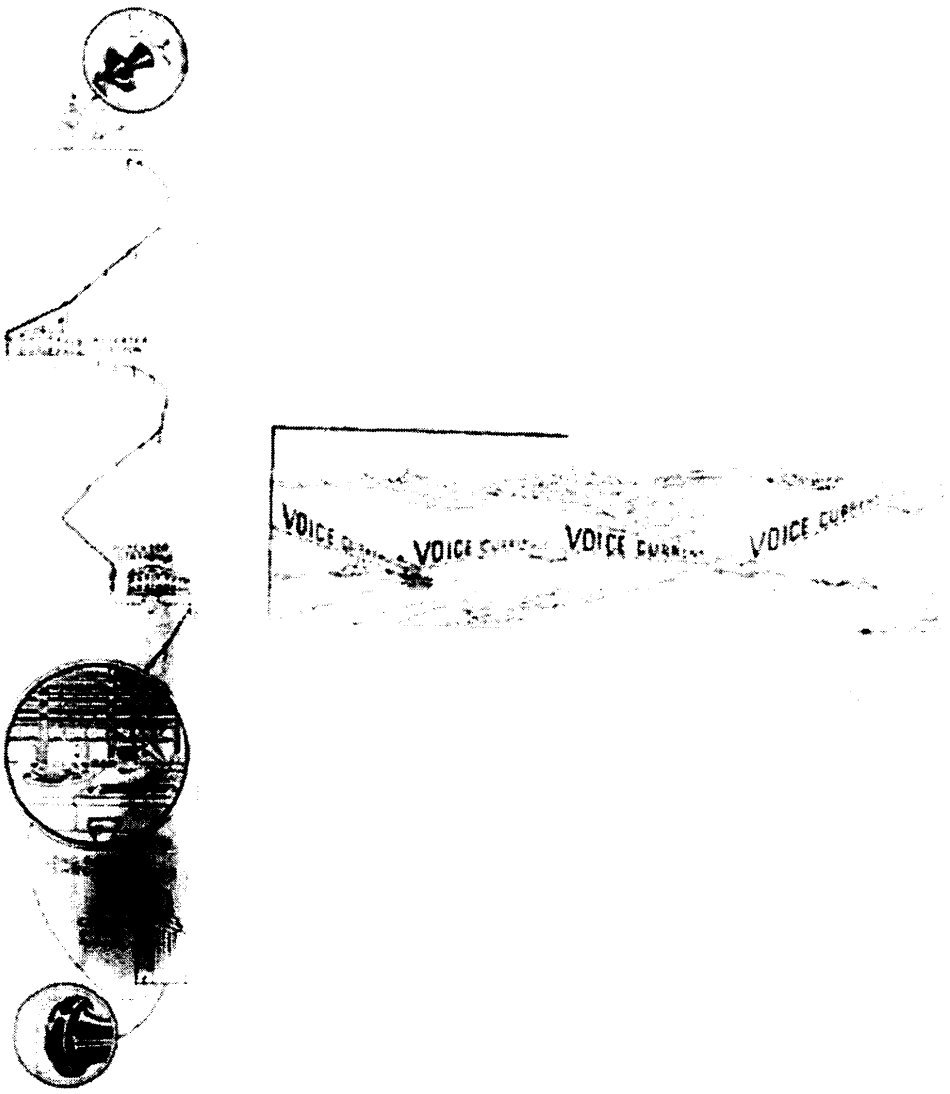


Figure 9: "A Camera Trip through a Repeater Station." August through September 1937. Step six. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

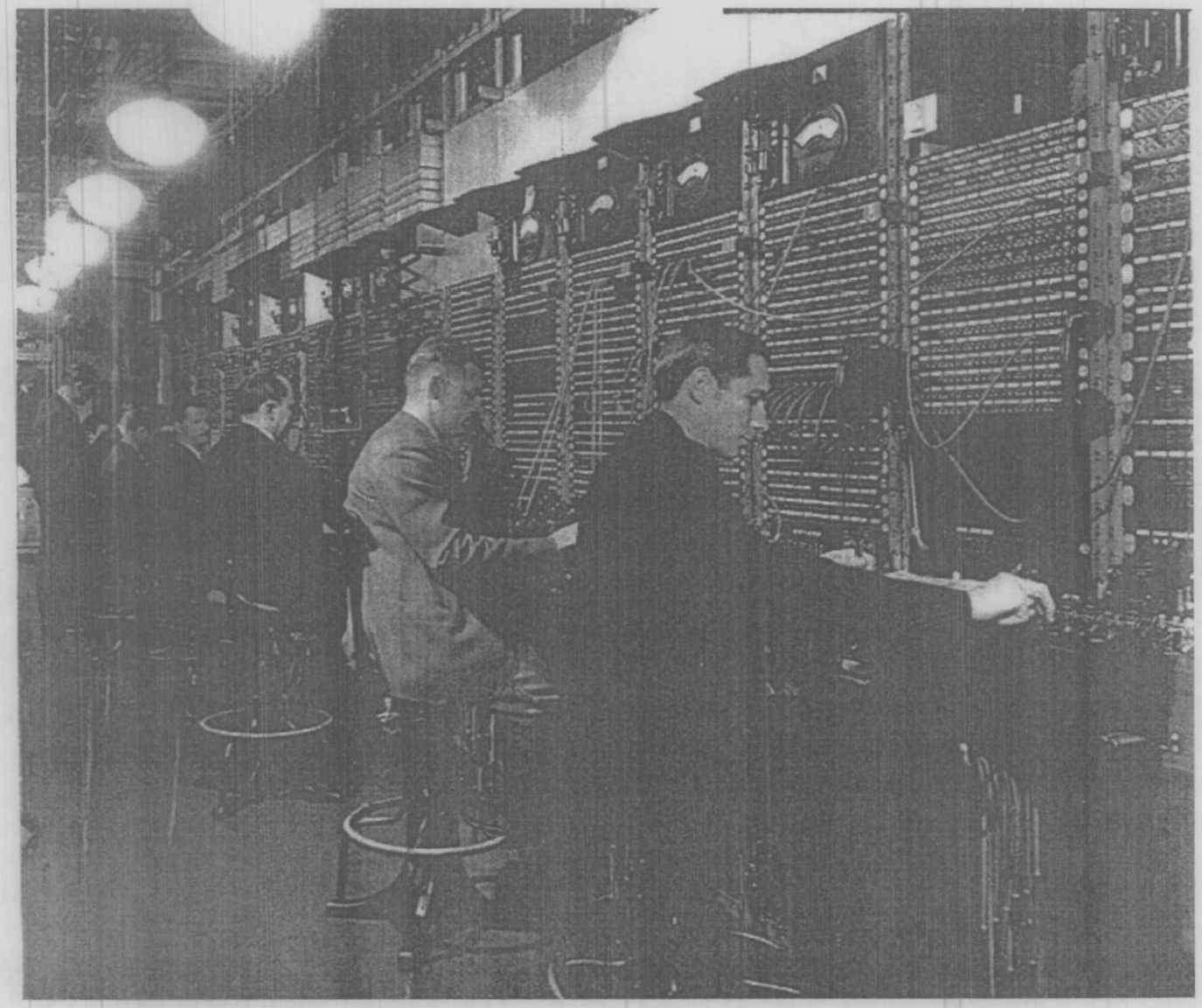


Figure 10: "A Camera Trip through a Repeater Station." August through September 1937. Step seven. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

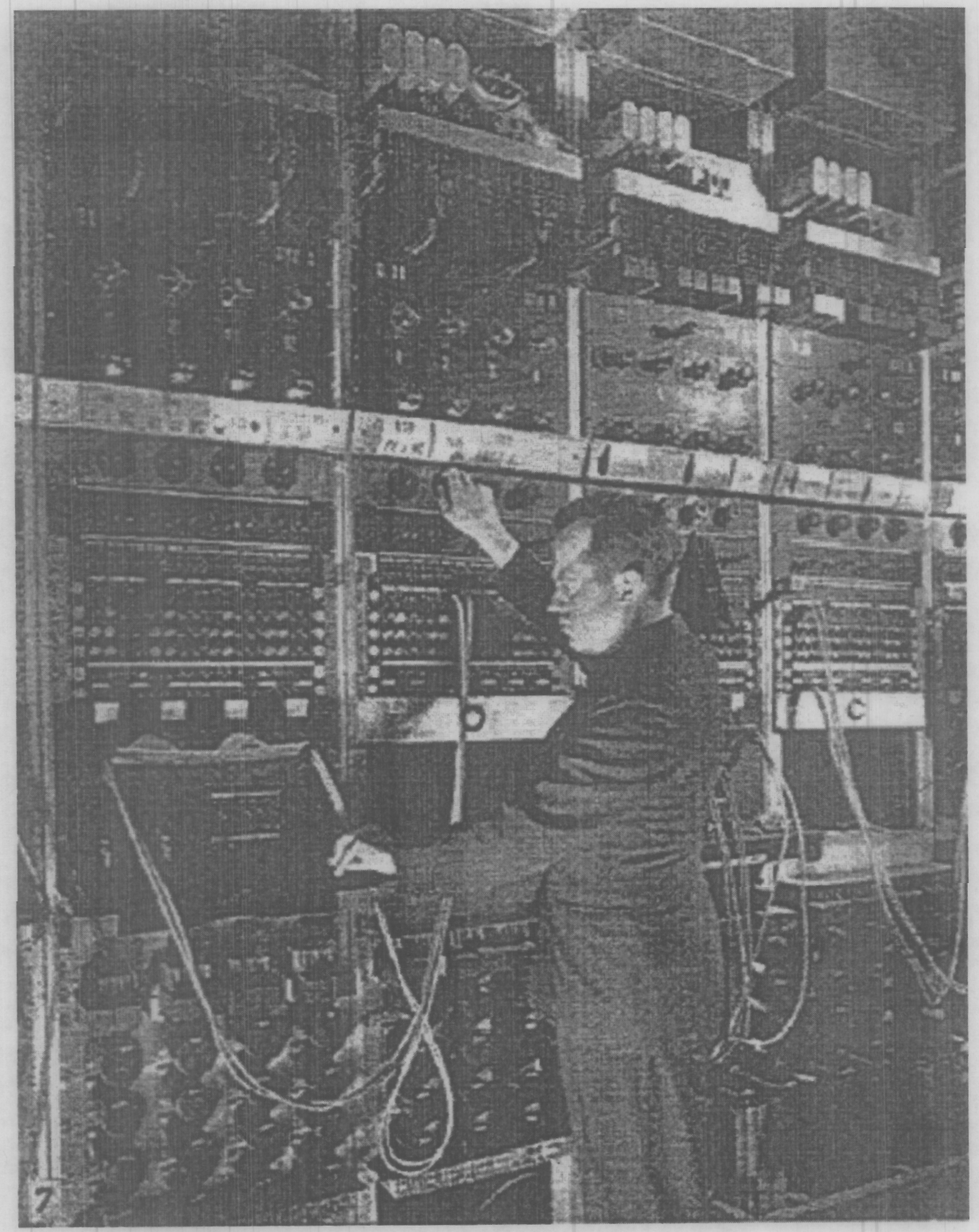
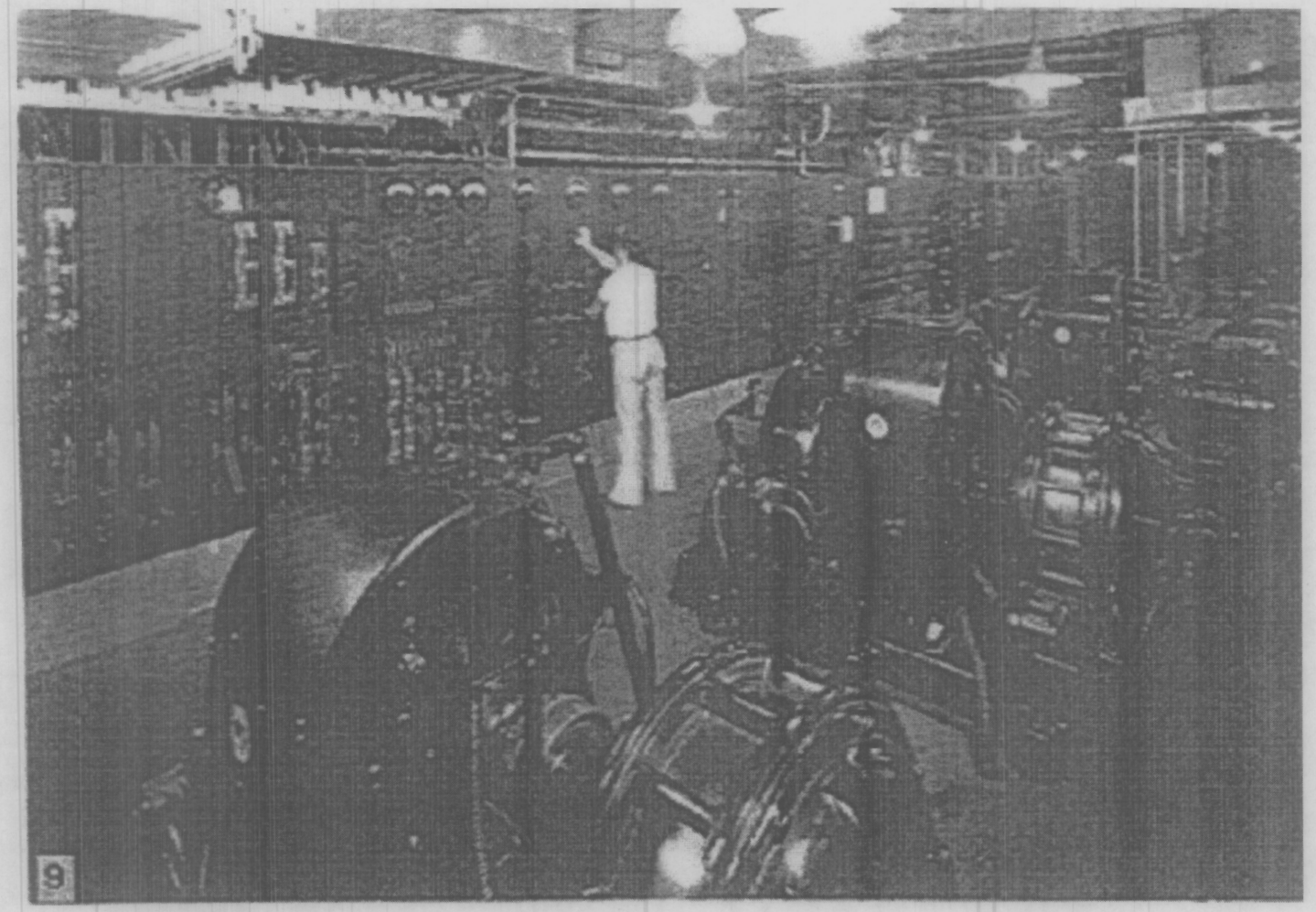


Figure 11: "A Camera Trip through a Repeater Station." August through September 1937. Step eight. Source: AT&T Archives & History Center Collection, San Antonio, Texas.

Figure 12: "A Camera Trip through a Repeater Station." August through September 1937. Step nine. Source: AT&T Archives & History Center Collection, San Antonio, Texas.



BIBLIOGRAPHY

American Telephone and Telegraph Company Archives & History Center Collection, San Antonio, Texas. William D. Caughlin, archivist extraordinaire. "History of the Southwestern Bell Telephone Company," Undated.

_____ "A Camera Trip through A Repeater Station," 1937.

_____ Company News Release December 29, 1944.

_____ General Building Data Sheets on Repeater Stations. 1930.

_____ *Long Lines: The Bell System Unit for Nationwide and Worldwide Communications*. (New York: American Telephone & Telegraph Co., 1969).

_____ "Six Who Retired Recently," In *Southwestern Telephone News*, Volume 34, number 1, January 1945, page 33.

Assessor Office of Warren County, Warrenton, Missouri. Deeds, building files, general archives.

Bell Telephone Companies. "At Expositions," "The Bell Telephone Companies," "Three World's Fairs Mark the Progress of the Greatest American Invention." All 1904. Pamphlet. Louisiana Purchase Exposition, St. Louis. "Operating. The Bell Telephone Companies. Behind the Scenes in a Telephone Exchange." 1904. Pamphlet. Louisiana Purchase Exposition, St. Louis. "Switchboards. The Bell Telephone Companies. Development of the Switchboard." 1904. Pamphlet. Louisiana Purchase Exposition, St. Louis. Pamphlet. All from AT&T Archives and History Center, San Antonio, Texas.

Bell Telephone Company of Missouri. *The Pulse of a Metropolis*. 1909.

City of St. Louis building permit records. St. Louis City Hall, Office of the Assessor.

City of St. Louis deed abstracts. St. Louis City Hall, Office of the Assessor.

Edwards Brothers. *An Illustrated Historical Atlas of Warren County, Missouri*. (Philadelphia & St. Louis: Edwards Brothers, 1877).

Gubbles, Thomas. Missouri Department of Transportation. "Interstate 70 - Repeater Station Overview." Undated document.

Harrison, James. *History of the Kinloch Telephone Company*. July, 1933. AT&T Archives and History Center, San Antonio, Texas.

Johnson, Doug. Landmarks Association of St. Louis. National Register nomination for Beaumont Telephone Exchange Building at 2654 Locust Street in St. Louis. August 4, 2005.

Josse, Lynn. Landmarks Association of St. Louis. National Register nomination for Bell Telephone Building at 902 Olive Street in St. Louis. April 1999.

Missouri Department of Natural Resources. SHPO Project Number: 001-WN-05. Proposed 500,000-gallon water tower, Wright City, Warren County, Missouri. Letter dated February 4, 2005.

Missouri Historical Society. *The Telephone Comes to St. Louis.* October, 1953. Missouri Historical Society, St. Louis.

Moredock, Minter C. *History of Webster Groves, Missouri (Telephone).* ca. 1934. AT&T Archives and History Center, San Antonio, Texas.

Ogle, George A. & Company. *Standard Atlas of Warren County.* (Chicago: George A. Ogle & Company, 1901).

Park, David G. Jr. *Good Connections: A Century of Service by the Men and Women of Southwestern Bell.* (St. Louis: Southwestern Bell Telephone Company, 1984).

Plant Extension Engineer, Southwestern Bell Telephone Company. "Development Study of Aullville, Missouri Cable Repeater Station." March 1934.

St. Louis Daily Record. St. Louis Public Library, microfilm department.

St. Louis Globe-Democrat. "Irving Timlin Dies. Retired Architect for Telephone Co." October 18, 1955, page 11A. "The Telephone's First 100 Years in St. Louis." In Sunday Magazine. July 10, 1977.

St. Louis Republic. "Switchboard Telephone System First Operated in St. Louis." 1903. Clipping Files, AT&T Archives and History Center, San Antonio, Texas.

Southwestern Bell Telephone Company. *Historical Data: St. Louis-Forest Office.* "Southwestern Bell Telephone Company General Building Data: Wright City, [and Aullville, Kingdom City, Boonville, Missouri] Missouri, Repeater Office." AT&T Archives and History Center, San Antonio, Texas.

Telephone Pioneers of America, comp. *History of the Telephone, St. Louis Metropolitan Area.* 1934. George F. Durant chapter. AT&T Archives and History Center, San Antonio, Texas.

The Growth of a Service: History of the Bell Telephone Company. AT&T Archives and History Center, San Antonio, Texas.

GEOGRAPHICAL DATA

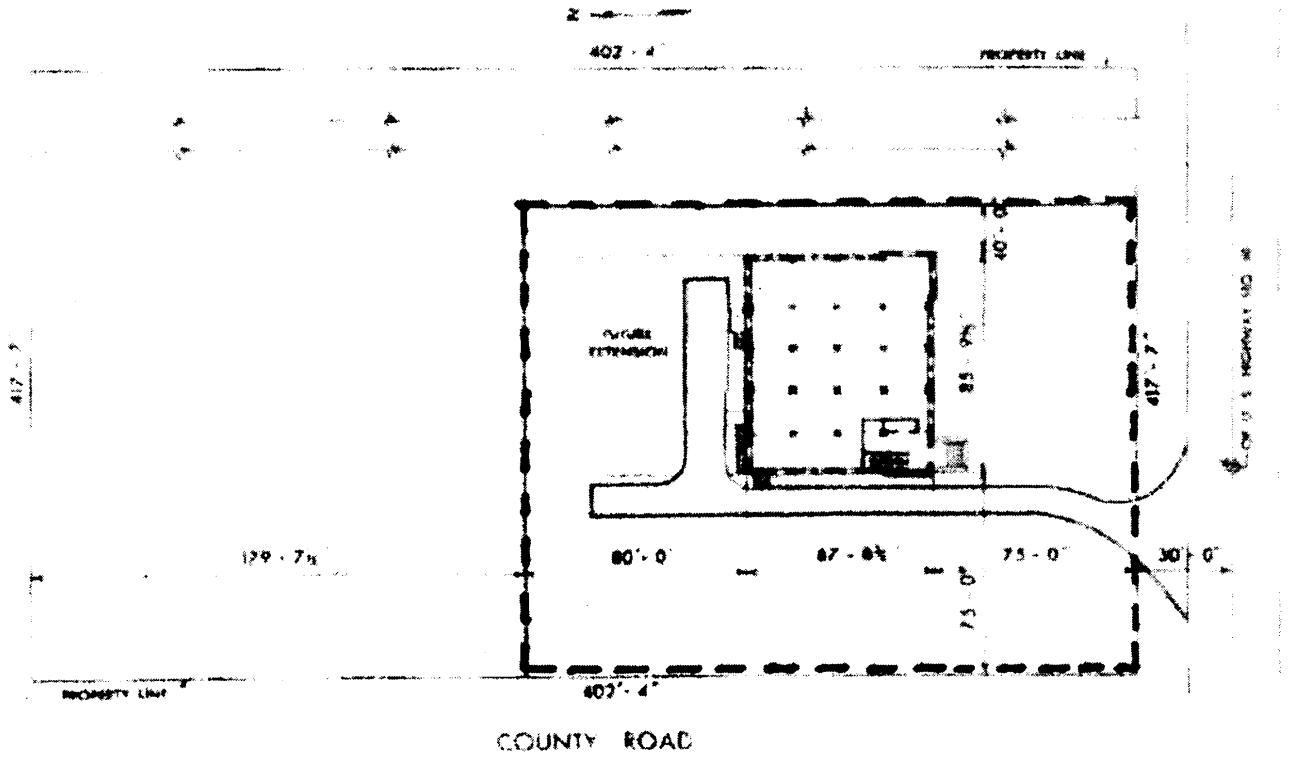
VERBAL BOUNDARY DESCRIPTION

The Wright City Southwestern Bell Repeater Station located due West of the North Service Road just east of Bell Road in Wright City, Warren County, Missouri occupies a site approximately 222 feet north and south and 200 feet east and west in the southwest corner of the southwest quarter of the southeast quarter of Section 17, Township 47 north, Range 1 west. The original parcel extended 402 feet by 417 feet but was historically reduced to the present site boundary. The property is legally identified in the Warren County Assessor's Office with tax id# 04-17.0-0-00-015.000.000 and is parcel number 15. The building measures 85 feet and 9 ½ inches by 67 feet 8 ¾ inches. The North Service Road bounds the property to the south, an adjacent field bounds the property to the east, an adjacent field bounds the property to the north, and Bell Road bounds the property to the west. The nominated building is indicated by a dashed line on the accompanying map entitled "Wright City Southwestern Bell Repeater Station Boundary Map."

BOUNDARY JUSTIFICATION

The nominated parcel includes all of the property historically (and lastly) associated with the Wright City Southwestern Bell Repeater Station. The heavily disturbed site around the building retains no integrity and will not be adversely affected by future site improvements.

Wright City Southwestern Bell Repeater Station Boundary Map
Source: AT&T Archives & History Center Collection, San Antonio, Texas. General Building data Sheets, 1930. This site plan shows the original parcel as it appeared in 1930; the parcel was reduced during the period of significance to reflect the current boundary as shown below.

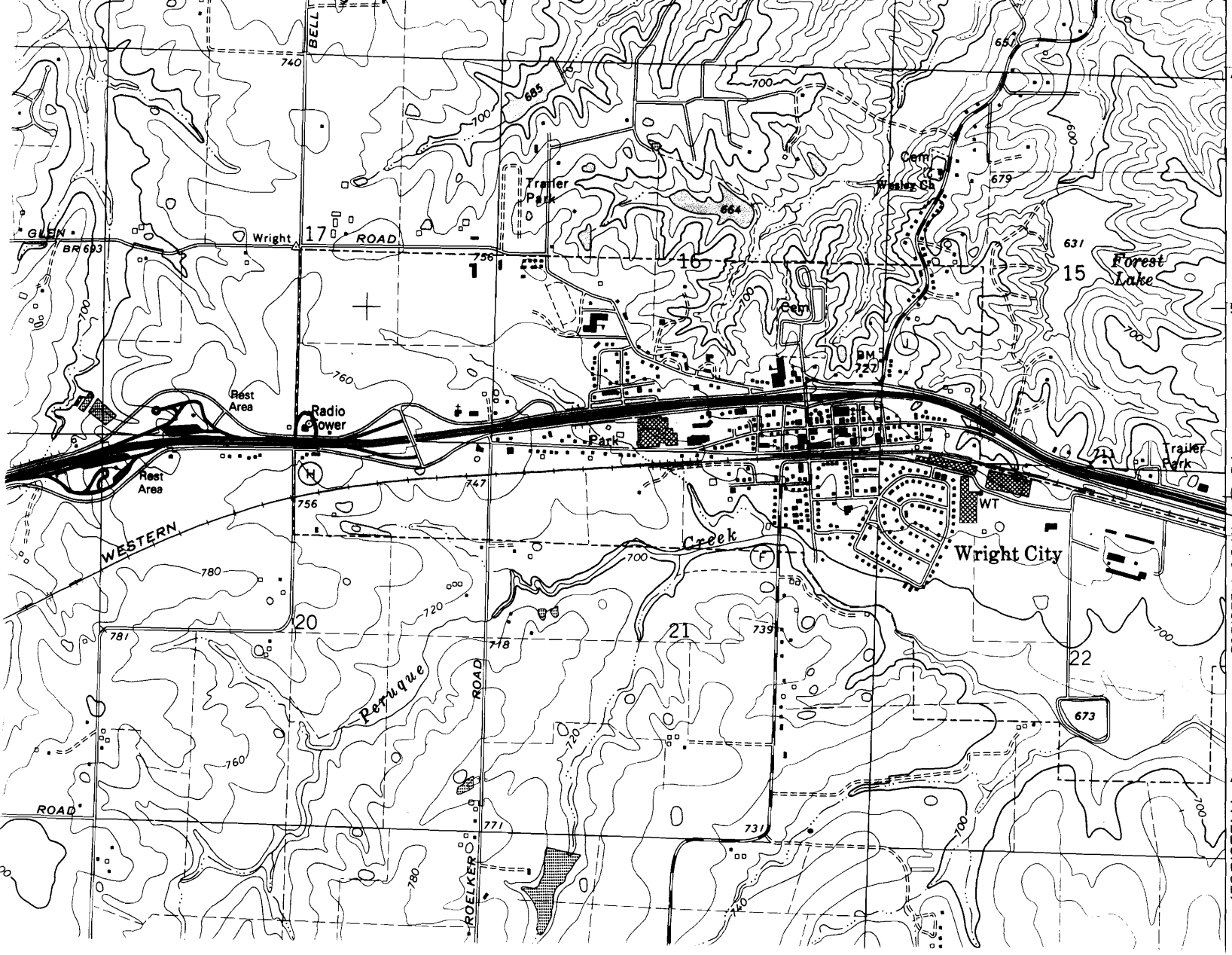


PHOTOGRAPH LOG

The following information pertains to photograph numbers 1-16 except as noted:

Photographer: Matthew S. Bivens, Assoc. AIA
Date of Photographs: August 2006
Negatives: SCI Engineering, Inc.

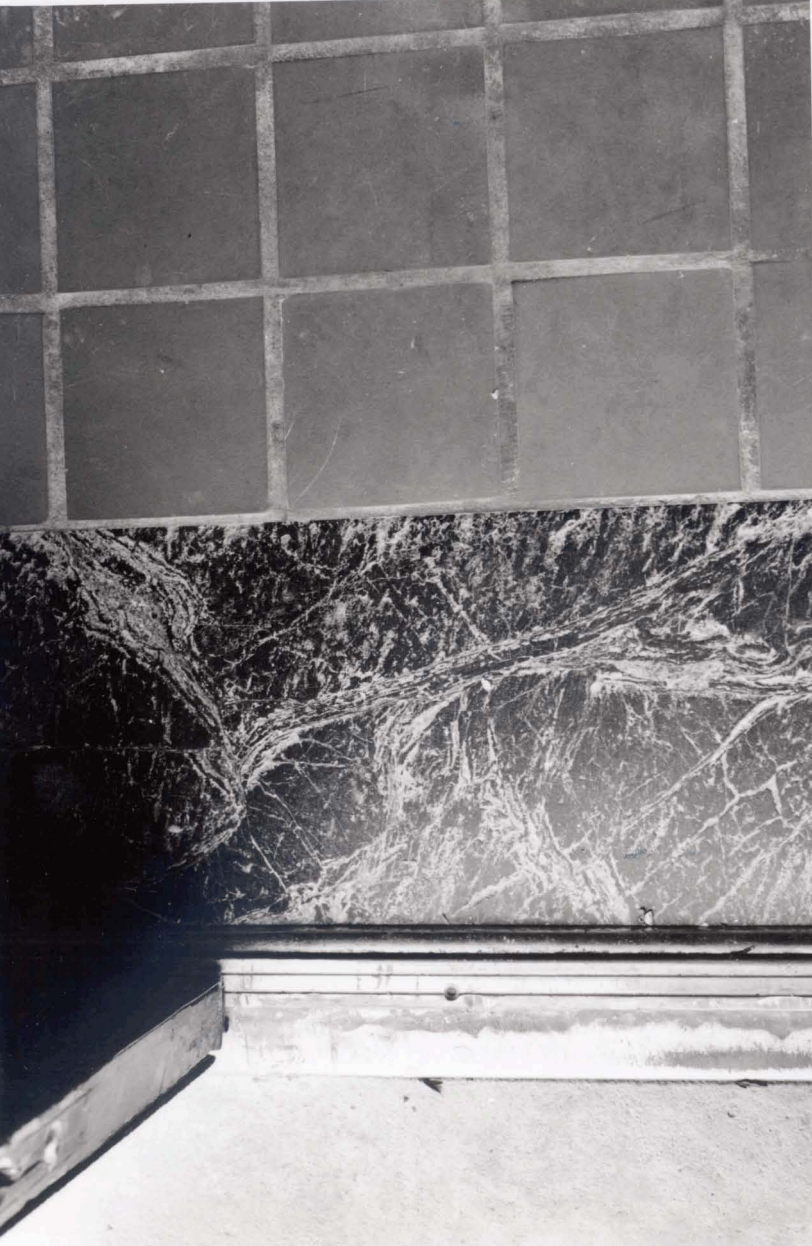
Photo No.	Photographic Information
1	Primary façade south (right), west elevation (left); camera NE
2	Primary façade south entrance steps; camera NE
3	Primary façade south entrance; camera N
4	Primary façade south entrance arch detail; camera N
5	Primary façade south window detail; camera N
6	Primary façade south terra cotta detail; camera N
7	West elevation chimney detail; camera SE
8	Primary façade south (left), east elevation (right); camera NW
9	Rear north elevation; camera SW
10	Interior entrance room to basement; camera N
11	Interior entrance room floor detail; camera down at S end
12	Interior door detail; camera E
13	Interior first floor; camera SW
14	Interior basement; camera SW
15	Interior basement former battery room; camera S



Southwestern Bell
Repeater Station,
Wright City
•
West of the North
Service Road for
Close to Bell Road
•
Wright City,
Warren County,
Missouri
•
Zone 15
E 669739
N 4299571


RELIANCE
AUTOMOTIVE


RELIANCE AUTOMOTIVE
RELIANCE AUTOMOTIVE

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LONG LINES DEPARTMEN