NPS Form 10-900a
(8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section _____ Page ___

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 13000076 **Date Listed: 03/13/2013**

United Founders Life Tower — **Property Name**

Oklahoma — **County**

OK — **State**

N/A — **Multiple Name**

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper — **Date of Action** 3/13/2013

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Amended Items in Nomination:

Certification/Level of Significance:
The correct level of significance is: *local*
[The SHPO certification omitted a level of significance recommendation, but the narrative supports a local level of significance.]

Resource Count/Description:
The Resource Count correctly enumerates (1) contributing building and (1) non-contributing building. [The narrative on page 3 first identifies the circa 2010 parking garage as being excluded from the boundaries of the nomination, while the narrative on page 5 calls the building contributing. The verbal boundary description identifies the garage as located within the nominated boundaries. For clarification the parking garage building is hereby identified as a non-contributing resource located within the boundaries of the nominated property.]

Bibliography/Previous Documentation:
The previous documentation block should be marked as a "preliminary determination of individual listing [pdil] (36 CFR 67 has been requested)" and not as a "determination of eligibility."

Verbal Boundary Description:
The Verbal Boundary Description is revised to note the official legal description as: *subdivision 360 at Founders Plaza, Section 12, Township 12N, Range 4W, NE ¼; bounded on the North by N.W. 59th Street and on the East by Drexel Avenue.* [The original verbal boundary description was too imprecise, referring to only a TRS location, street address, and subdivision.]

U.T.M. Coordinates:

The correct U. T. M. Coordinates should read: *14 629500 3932900*

These clarifications were confirmed with the OK SHPO office.

DISTRIBUTION:

National Register property file
Nominating Authority (without nomination attachment)

NPS Form 10-900 OMB No. 1024-0018 (Expires 5/31/2012)

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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 United Founders Life Tower

other names/site number

2. Location

street & number 5900 Mosteller Drive ☐ not for publication

city or town Oklahoma City ☐ vicinity

state Oklahoma code OK county Oklahoma code 109 zip code 73112

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**

Bob Blachlen 1-22-13

Signature of certifying official/Title Date

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 3/13/13 Date of Action

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 include previously listed resources in the count.)

Contributing	Noncontributing	
1	1	buildings
0	0	sites
0	0	structures
0	0	objects
1	1	**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 Functions
(Enter categories from instructions.)

COMMERCE/TRADE: office building
COMMERCE/TRADE: specialty store

Current Functions
(Enter categories from instructions.)

DOMESTIC: multiple dwelling
COMMERCE/TRADE: office building
COMEMRCE/TRADE: specialty store

7. Description

Architectural Classification
(Enter categories from instructions.)

MODERN MOVEMENT: Populuxe

Materials
(Enter categories from instructions.)

foundation: CONCRETE
walls: CONCRETE
METAL: aluminum; GLASS
roof: ASPHALT
other:

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

The United Founders Life Tower is a complex consisting of a circular 20-story tower with a fan-shaped one-story base extending to its southwest that is set in a suburban commercial setting about five miles northwest of Oklahoma City's central business district and is bounded on the east by Drexel Ave., on the north by N. W. 59th St., and on the south and west by other commercial properties. The property is on the highest point at the northern end of United Founders Boulevard. Its site is in northwestern Oklahoma City, near the city's 1920s era Grand Boulevard system, where West Grand Blvd. and North Grand Blvd. merge at Will Rogers Park. It is in a neighborhood of 1960s and 1970s era low commercial buildings surrounded by parking lots. Within a half mile are other high-rise office buildings dating from the 1970s and later.

Narrative Description

The tower has a height of 275 ft., with 20 principal stories, plus two smaller penthouse levels. The main shaft of the tower is 92 ft. in diameter, not including its balconies. At the 20th floor, it broadens out to a diameter of 108 ft. The mechanical penthouse has a diameter of 38 ft. The broad base of the building has a maximum length of 240 ft. and a minimum width of 116 ft.

The property includes the tower plus its attached one-story annex. It also includes a one-story detached parking garage behind the tower, but the boundary has been drawn to exclude this feature, built within the last 2 years.

The structure of the United Founders Life Tower is principally steel frame, with steel columns and steel I-beams supporting a corrugated metal floor substructure with poured concrete base. But, the entire base of the building up to the first floor level is poured concrete, designed to resist wind loading transmitted from the tower. The one-story retail wing has an unusual folded plate concrete roof, the balcony floors are poured reinforced concrete and pinned back into the building's steel structure via massive concrete slabs that lock into the inner ring of columns, an unusual feature. Finally, the cantilevered 20th floor structure is reinforced concrete.

Starting at the 3rd floor and extending up through the 14th floor, there are cantilevered balconies at the junction of each plane of this ten-sided building. These are rather small balconies, about 6 ft. wide with as projection of about 3 ft. The walls recess at these balconies about 2 ft., providing shaded spaces here. Aluminum and glass doors, flanked by transoms and side glass panels, provide access to each balcony. The balconies are faced with marble aggregate panels in a slightly chevron form. These extend from the floor to balcony level.

At the 15th floor, the balconies alternate to the broad expanses between each of the narrow recessed sections where balconies were at the lower floors. These broad upper floor balconies, also faced with cast concrete panels, project out more than the lower balconies and take the form of broad Ws, further enlivening the exterior of this top-heavy tower. Narrow bands in the center of each balcony extend up to the base of the cantilevered top floor, providing a secondary support system suspended from the top floor.

The 20th floor cantilevers out on a floor slab of poured reinforced concrete that is buttressed by vertical cast concrete bands between the balconies, which swell out like brackets to receive this floor plate. A narrow balcony of open steel grid without a railing forms a largely invisible platform for window-washing. The 20th floor is taller in height and has an unusual ten-sided gable roof, aligned with the decagon form below the round exterior of this top level. The roof forms a series of gables with glazed transoms set above the completely glazed exterior wall at this level. The gables each project out from the building at their ridgelines to form a

cutout rhythm when viewed from directly below the building. These gables have a white aggregate roof to complement the color of the balconies and terminate in a much smaller mechanical penthouse level. This ten-sided penthouse, less than half the diameter of the building has a plain off-white exterior, complementing the balconies. It is visible only from distant views but forms a distinctive visual element.

The base of the retail wings is faced with unusually long very dark bricks supplied by Acme that feature regular slightly projecting headers, providing a rich textured effect not unlike that of Flemish bond brickwork. The west retail wing, which originally housed a cafeteria, has a folded plate concrete roof supported on slender steel columns exposed within a recessed clerestory glazed band atop the dark brick wall. Elsewhere in the retail wing, the roof is flat, but projects out several feet and is capped by a broad fascia band faced with precast panels containing white marble chips. This is the same facing material used on the balconies, the fascia of the folded plate cafeteria roof, the vertical elements that run up the sides of the tower beside the balconies and the fascia at the base of the cantilevered 20th floor.

Aside from the brick base, the balconies and other masonry bands, the building is clad in glass with aluminum framing. Vertical mullions project out several inches from the plane of t he glass, while the horizontal mullions are set flush with the glazing system. The vertical mullions are set thirty inches apart while the horizontal mullions have vision glass bands, about 6 feet tall, separated by spandrel panels about 2 feet tall.

Interior:
The main entrance to the building is through a simple freestanding canopy dating from 2008 that is contemporary yet compatible with the character of the building. The newer outer lobby is simple, with flat ceilings and square columns and a newer aluminum and glass framework. The inner lobby area has plaster ceilings, off-white terrazzo floors. Book-matched veined marble panels set off the principal walls around the elevator lobby and surround the wall on which the building directory is mounted. Additional key features of the lobby include recessed soffits and lighted openings above each of the square columns, with the tops of each column curving outward to blend into the raised ceilings here. There is a broad circular opening at the center of the first floor, bordering onto the elevators. It has a fascia and a setback scalloped metal band with concealed lighting.

The four elevators are grouped in an arc around the north side of the circular inner lobby on the first floor. On the upper floors this circular space has been truncated by a straight wall opposite the elevators to provide space for building services and the single plain fire stair that rises up the building. On each floor except the 19th, the elevator lobby ceilings are coved, with concealed lighting. The second floor is devoted to office use and the remaining upper floors, except the 20th, are made into living units.

The 20th floor contains a large restaurant space. At the outer edge and featuring a tall ceiling that reflects the rhythm of the gabled roofs above is a dining area set atop a revolving platform. A non-structural wall with numerous openings separates it from the inner dining area, including a dance floor and stage area. The inner part of the 20th floor has a mezzanine space above, accessed via plain spiral stairway. Inner spaces at this floor are devoted to a kitchen and restrooms. The 20th floor décor is a combination of simpler 1960s era décor with minor wallcovering and other decor dating from the 1980s.

Alterations
Exterior alterations consist of removal of the original entrance canopy and its replacement in another location with a new freestanding entrance canopy, the enclosure of portions of the first floor originally open but underneath the main mass of the tower, and changes to the glass curtain wall. The original glass was gray vision glass with dark spandrel glass used to face the areas between the floors. The vertical mullions, lining each floor and seeming to rise up the height of the building in unbroken lines, project outward several inches

from the plane of the windows. The horizontal mullions are similar in width but are set flush with the windows. They were originally dark anodized aluminum, in contrast to the bright aluminum finish of the vertical mullions. The windows were replaced in 2007-08 with new insulated green-tinted glass.

Interior alterations consist principally of expansion of the lobby in the 1980s to enclose areas formerly open but underneath the main mass of the building, the refloating of the lobby's plaster ceiling and the recreation of the original terrazzo floor in 2008, dark-green thermal-paned glass with overlay aluminum mullions replacing in 2007 the original single-pane gray glass, enlargement of the vision glass by shrinking the spandrel glass panels, remodeling of former officer areas into residential units, renovations to the first floor retail spaces, the removal of an original flat poured concrete, and the creation of a new entrance canopy within the framework of a former non-original canopy. Office spaces on each floor were reconfigured into apartments in 2007-08. Old nonstructural partitions, as depicted on the original plans, created a series of wedge like spaces, extending out from common secretarial spaces to private or semiprivate offices at the perimeter. Large areas were left open. The apartment layouts are more open, with large living spaces flanked by bedrooms on the perimeter and kitchen/dining and bathrooms and closets toward the interior.

Integrity Issues:
The United Founders Life Tower retains its original location, design, style setting, materials, feeling and association, with some exceptions. The building stands in its original location and has not been moved. The original design is intact, except for the new window system, but the windows still read as a background element to the more significant overall form of the building, its distinctive crown and its dynamic series of balconies. The style of the building is mid-century modern and that is clearly decipherable. No competing style has been created by any of the changes since it opened. The setting is basically intact. This is in a suburban area and is surrounded by low-rise buildings and parking lots. Although some nearby structures have been removed and replaced by others, no nearby towers compete with or impede the view of this tower. The materials of the tower, brick, concrete panels and glass remain the same. Only the glass and its aluminum framing have been changed. The original feeling of the tower is intact. It remains an impressive visual element on the city skyline and would be recognizable to its original users as the same building.

Parking Structure:
Part of the parking lot behind the United Founders Life Tower was roofed over in 2009 to create covered parking for condominium owners. This garage is a one-story rectangular facility, measuring about 120x340 feet and is detached and about 50 ft. north of the tower. It has a height of about ten feet and a slightly sloped, almost flat roof. The garage has a chain link fence with vinyl strips for privacy along its north and west sides. The south and east side walls are formed by split-faced concrete block, with car openings on the east side with black metal iron fence-like automated sliding entrance and exit gates. A sidewalk connects to the northwest entrance of the tower. A planting bed borders along NW 59th St. This parking structure is a contributing feature.

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.
- [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.
- [x] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

(Enter categories from instructions.)

ARCHITECTURE

Period of Significance

1962-64

Significant Dates

1962, 1964

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Hudgins, Thompson, Ball and Associates;
Lee Richardson, principal designer
B & G Construction Company, builders

Period of Significance (justification)

The period of significance reflects the time during which the building was constructed.

Criteria Considerations (explanation, if necessary)

Criterion Consideration G is applicable to this building as it was constructed from 1962 to 1964.

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance and applicable criteria.)

The United Founders Life Tower is exceptionally significant at the local level as a distinctive reaction against mainstream modernist/functional architecture, drawing inspiration from Frank Lloyd Wright's Price Tower and the Seattle World's Fair Space Needle. It is a highly individual mid-twentieth century high-rise building that showcases a limited timeframe in which recent technological developments and the freedom to experiment in architecture gave rise to rare building forms and details, as exemplified in the folded plate roof system and unusual slender decagonal form of this tower, plus its cantilevered balconies. United Founders Life Tower is one of two unusual skyscrapers from this era in the city, the other being the Citizens Bank Tower (NRIS #09000978). This was the first modern tall building of distinction in the State of Oklahoma since the 1955 Price Tower (NRIS #74001670) and is one of only two circular tall buildings in the state[i]. The unusual form of this building responds very well to its relatively isolated location at one of the highest elevations in the region, highly visible from nearby freeways and from nearly Lake Hefner. It helped to catalyze the development of the northwest side of Oklahoma City and facilitated the development of other high-rise buildings in the vicinity. United Founders Life Tower was a singular work of an architectural firm of regional renown and it displays innovative framing techniques as well as being an early example of design-build construction.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Exceptional significance of the design:

The United Founders Life Tower is a distinctive mid-twentieth century high-rise building that exemplifies a limited period in which the effects of trends on a statewide and a national level made it possible to construct a singular landmark on the outskirts of Oklahoma City. These trends include innovate technology in steel and concrete construction, as reflected in the folded plate roof system and unusual form of this slender high-rise building. Also playing a role was the relatively recent construction of Frank Lloyd Wright's Price Tower, which opened in 1955 in Bartlesville, and the influence of nationally known Oklahoma architect Bruce Goff encouraging bold experimentation in skyscraper design. Goff taught the tower's lead designer Lee Richardson. The lead developer of this project, Gerald Barton, was very well acquainted with Price Tower developer Harold Price and the two men worked together in the early 1960s on various projects at Taliesin West and were frequent visitors with Wright's widow[ii]. There was a trend on a national level as a reaction against Miesian slab-like office towers, often referred to as the Populuxe Style as exemplified by Bertrand Goldberg's Marina City in Chicago, built from 1959-64. Other factors from this specific timeframe encouraged more innovative design. Seattle's Space Needle gained national renown in 1962 as the centerpiece of the World' Fair held in that city. That tower is claimed as the inspiration of the architecture as depicted in the animated prime-time television show the Jetsons, which debuted that same year. Also in 1962 President John F. Kennedy gave perhaps his most memorable challenge in laying out plans for manned space flight to the moon within the decade.

The Price Tower, designed and erected from 1952-56, is the only realized skyscraper by Frank Lloyd Wright. Its inspiration was drawn from design ideas developed in the 1920s by Wright for a complex of 4 cantilevered towers for St. Marks-in-the-Bowerie in New York City. Although at 19 stories and 221 ft. in height, the Price Tower is lower in height and more slender than the United Founders Life Tower, they do share characteristics. Each has an innovative form, an articulated crown, and cantilevered concrete balconies with sculpted profiles. Each is set in a relatively open location, apart from other tall buildings. Each building originally had office and residential components.

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[i] The other circular tall building is University Club Tower in Tulsa, 1966, Bob Piland and Jack Butz, architects

[ii] conversations in 2007 with Gerald Barton and Harold Price, Jr., and Arnold Roy, historian at Talesien West

In addition, the Price Tower and the United Founders Life Tower used the same mechanical engineer, Collins and Spreche. Each had special circumstances related to the need to deliver mechanical services efficiently without compromising unusual forms and structural systems.

National publicity surrounding the opening of the Price Tower was both favorable and negative. Business Week, in particular, excoriated the building for its high cost per square foot, nearly three times that of the typical office building, and for what was perceived as its inflexible layout and mixed residential and office usage. While the Price Tower had impact nationwide, projects in Oklahoma were better positioned to capitalize on its fame. The Price Tower was widely publicized in the state because of Bruce Goff and his championship of the building.

The design of this building was altered during construction to include a larger 20th floor with a revolving platform restaurant, after a visit to the Seattle World's Fair by Horace Rhodes and other executives of here United Founders Life Insurance Company[iii]. Because this was a design-build project, a major change like this was feasible. Early depictions, including an ad in *Progressive Architecture* show its previous design.

The United Founders Life Tower is notable for its association with the evolution of revolving platform restaurants. It is one of 35 buildings or structures in the country that have this feature. The Seattle Space Needle was the first structure in the continental United States to have a revolving platform restaurant. It touched off a wave of interest in revolving platform restaurants in high locations and the United Founders Life Tower, then under construction, was the first building to incorporate this feature[iv]. UFL Tower is one of only three office buildings in the United States to feature a revolving platform restaurant. All other revolving platform restaurants are located in hotels or other residential buildings or in free-standing shafts such as the Space Needle. This is the best example of the integration of a revolving platform restaurant into the design of a tall building. Whereas most buildings that have a revolving platform restaurant treat the restaurant as a distinct visually separate element atop a square, rectangular or cross-shaped building, the UFL Tower is one of seven in the United States that features the restaurant as part of a cylindrical or multi-faceted cylindrical-like tower. Of the seven, three are Hyatt Hotels with characteristic mirror glass exteriors without differentiation of the restaurant. The other three have plainer tops, in contrast to the folded plate roof of the UFL Tower, and have either no or less pronounced cantilevers of their revolving platforms. It is unknown how much impact UFL Tower had in influencing designs of later buildings, but it is a singular structure dating from the early period in which such building forms were popular. It is claimed that the 1956 Capitol Records Tower in Los Angeles is the oldest circular tall building, but it lacks a top feature such as a revolving platform restaurant.

Seattle's Space Needle popularized the concept of a revolving platform restaurant and its very name evokes the era in which this feature gained renown. The first manned space flight in the United States took place in 1961, when the Space Needle was being planned. The following year U. S. Astronaut John Glenn gained fame for his orbital flight. The race to the moon was on and America was caught up in the spirit of space travel. Also, in the fall of 1962, when the United Founders Life Tower was being designed, the Jetsons television show premiered and was featured in primetime on Sundays on ABC from September 23, 1962 to March 3, 1963. Featuring moving walkways and structures inspired from the Space Needle, the Jetsons coincided with the movement to construct revolving platform restaurants. The Seattle Space Needle resembles a flying saucer that has just landed on a Jetsons-like pod. The UFL's top, with its distinctive crown, also recalls this flying saucer motif.

[iii] Interview with Horace Rhodes, 2007.
[iv] Interview with Horace Rhodes, also email exchanges with cgr5@cornell.edu, who is writing a book on revolving platform restaurants

Even the relatively standard rectangular hotel towers with their rooftop revolving platform restaurants look like a flying saucer has landed atop an otherwise ordinary building.

Technological innovations of the United Founders Life Tower:
This building displays innovative development methods, construction staging and makes uses of innovative materials and building methods. United Founders Life Insurance Company planned this building, located away from the major through routes at the highest point on their relatively large development site, as an icon for their multi-use development. The building is set at the end of a broad boulevard and was the first unit of a development that included retail, office and residential components. Some of these buildings were designed to complement the materials of United Founders Life Tower, but others, such as the nearby branch bank facility, were designed to be innovative in their design and use of materials without specific reference to the tower itself. Various architects designed these components of the complex.

This was possibly the first example of design-build construction techniques undertaken by Hudgins, Thompson, Ball and one of the first in the state.[v] Under this plan, construction proceeded while aspects of the building's design were still in the planning stage. For example, the building was designed without a specific tenant in the 20th floor space. Prior to completion of the design, but after construction was well underway, it was decided to locate a restaurant in this space that featured a revolving platform. For this feature, the design was amended to include a significant cantilever.

First among the innovative materials was the use of folded plate thin-shell concrete for the roof of the top floor and lower retail wing. Having folded plates meant that the angles could play a structural role, reducing the need for thicker concrete and added reinforcing steel. These principles were being employed throughout South America, where material costs far outstripped labor costs and resulted in dramatic architecture, especially the designs of Oscar Niemeyer in Brasilia. These examples, plus a client who specifically desired an innovative design, inspired Hudgins, Thompson Ball to explore these techniques. [vi] Interestingly, although the building itself was built with a steel frame structure as opposed to poured reinforced or post-tensioned concrete, extensive use is made of concrete as a structural element in innovative ways. The balconies are pinned back into the structure by massive reinforced concrete floor plates that lock into the steel frame. The 20th floor structure is formed entirely from reinforced concrete, facilitating its ability to cantilever out dramatically on all sides.

Concrete folded plate roofs made their first appearance in the early to mid twentieth century. One of the most famous early uses of the folded plate was at Fallingwater, Frank Lloyd Wright's design for Edgar Kauffman's summer residence in suburban Pittsburgh. While the main structure's thin concrete plates may be considered to be based on folded plate design concepts, it is the 1939 covered walkway leading to the guest wing that displays the most dramatic use of folded plate technology.

White Cloud Lodge, in rural southern Payne County, Oklahoma, features a thin-shell concrete barrel roll roof structure. Built in 1966 by John Barta from designs by Elmira Sauberan Smyrl, this building also displays innovative use of thin-shell folded-plate concrete technology.

According to Rafael Garcia in his study of concrete plates in The Netherlands[vii], "In the 1960s, the study and construction of reinforced concrete shells reached what was very likely their acme. Within this category of

[v] Interview with Rex M. Ball, FAIA, former partner, Hudgins, Thompson Ball architects, 2007
[vi] *ibid.*
[vii] Garcia, Rafael, "Concrete Folded Plates in The Netherlands" http://www.ketchum.org/milo/Memoir4.html

structures so-called folded plates merit special consideration for, while fairly thin, their surfaces are flat and therefore differs from other thin shells in that they neither benefit from the properties of curvature nor exhibit full membrane behavior. The earliest folded plate solutions, based on corrugated plates and cylindrical shells were able to accommodate longer spans with relatively small increases in weight by enlarging the structure. The top and bottom chords of each slanted slab are the main reinforcements and shear stresses are absorbed across the sloping sides." American engineer Milo Ketchum (1910-99), considered the father of the folded plate and originator of its name, was actively designing folded plate concrete roofs in the western United States when United Founders Life Tower was being planned and built. He was also the author of articles advocating this type of construction.[viii]

United Founders Life Tower is the only tall building in Oklahoma to display folded plate concrete roofs[ix]. Along with White Cloud Lodge, this is one of the few structures in the state to specifically utilize folded plate technology as opposed to thin-shell concrete, of which there are a number of examples. The folded plate roof atop its crown is visible for miles and permits the top floor to be free of columns from its core to the outer wall. It creates a sense of movement, with its zigzag outline against the sky. What is also unusual is that the folded plate system is used on the low-rise portion of the building, with clerestory glazing providing a sense of drama. The folded plate here permits a larger open space than otherwise could be achieved.

Harter Marblecrete perfected the manufacture of precast panels with exposed white marble chips. This was a dramatic use of that new product, collaboration between the architects, owners and product manufacturers. Acme brick from their Oklahoma City facility supplied the distinctively shaped brick used on the lower portions of this building. The marble panels in the lobby are a dramatic element of the interior, with their bold coloration heavily veining, travertine-like indentations and carefully book-matched placement. Recessed lighting appears in the circular saucer dome in the inner lobby, the curving recessed areas above each main lobby column and via curved fascia bands on nearly every floor's elevator lobby.

This building also was a pioneer in the use of glass curtain wall construction. It utilized single-paned sheets of glass tinted dark gray originally that coordinated with gray glass spandrel panels that appear to be almost black. The next tall building in the city, Citizens Bank Tower, was the first to utilize thermal-paned glass, a product that was being perfected for widespread use at this time.

The unusual shape of the building instantly creates a rare building form, with only 37 tall buildings in the country having a specific circular form (decagonal or larger), as opposed to older structures that had circular forms for functional purposes or were designed in eclectic styles. Also, the tall profile of this building differentiates it from First Christian Church and other circular one or two-story buildings from this same timeframe in Oklahoma City. Although a circular building encloses more volume with less perimeter wall space than a square or rectangular building, the practical issues of constructing and renting such a building make this a very rare form. The most expensive costs associated with a tall building are its structure, not its exterior skin. A round building has considerable redundancy in its structure when built with steel framing. As this example shows, the steel beams of each floor actually intersect in acute angles, whereas a rectangular building would have square or rectangular bays with their beams coming together at right angles. Inherently, this is a wasteful and difficult technique due to the convergence of beams that could otherwise support loads generated at the widest point throughout their lengths and then having to be connected at awkward acute angles,

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[viii] Article by Milo Ketchum, http://www.ketchum.org/milo/Memoir4.html

[ix] Search of tall Oklahoma buildings via www.Emporis.com

posing problems for fastening. The metal plates used to form the concrete at each floor have to be cut or trimmed at unusual angles, resulting in material waste and extra construction time. Yet, the emerging technology of welded steel construction, as opposed to the laborious and difficult prior use of riveted fasteners, made acute angles and other hard-to-reach connections feasible.

The presence of so many balconies on an office tower seems highly unusual. Even Frank Lloyd Wright's Price Tower has its small lower balconies integrated into what might be argued is a less costly exterior fire stair system. Here, there are shared balconies with private entrances from each of the 20 perimeter offices on every floor. As the building was planned for air conditioning from the beginning, unlike the Price Tower, such balconies would have been difficult to justify functionally. The upper four levels have unusually large balconies, perhaps reflecting the original use of some spaces on these upper floors as guest suites. These upper floors were planned as rental space, not occupied by the insurance company itself. It has been suggested that the balconies would have visually emphasized the fact that this is a round building, as it might otherwise seem flat without the rhythm of the balconies converging and receding toward each side. These balconies were made possible by emerging hybrid technology, cantilevered reinforced concrete attached to an overall steel frame structure. The systems necessary for this type of construction were not commercially available until this timeframe of the 1950s and 1960s thus enabling this building to dramatically showcase new methods of construction.

Developmental history/additional historic context information (if appropriate)

Developmental history/context

Oklahoma City, like other major urban areas in Oklahoma and Texas, grew quickly with the oil boom of the early 20th century. the 1920s saw the construction of a number of skyscrapers in the city's downtown, including the First National Center and City Place, both with a height of about 430 feet and completed in 1931. Like many American cities, Oklahoma City construction stalled during the Depression and World War II and not until the 1960s did buildings tall buildings rise in Oklahoma City and not until the 1970s did any buildings exceed the heights of these pre-war skyscrapers.

With the exception of the Gold Star Memorial Library at Oklahoma City University, completed in 1954 as a campanile-like thin tower, the United Founders Life Tower was the first tall building erected outside of the city's downtown. Next in the sequence was the Citizens Bank Tower (1966) and then not until the 1980s were any tall buildings built outside of the downtown.

This building is essentially a pre-Interstate era suburban building. Although the state's first controlled access highway, the Turner Turnpike, was authorized in 1947 and completed in 1953, the section of Interstate 44 that passes the closest to this location was not completed until 1975, 12 years after United Founders Life Tower opened. Instead, this tower is more oriented to the older system of limited access roads such as the Northwest Expressway. It also stands near the city's pre-World War II era boulevard system, near where NW Grand Boulevard passes by Lake Hefner.

Bruce Alonzo Goff (1904-1982) was a child prodigy who at age 12 was apprenticed to the Tulsa architectural firm of Rush, Endacott & Rush, becoming a partner in 1930. Along with his high school art teacher Adah Robinson, Goff is credited with designing Boston Avenue Methodist Church in Tulsa (NR 1978, NHL 1999), acclaimed as one of the finest examples of Art Deco architecture in the United States. Goff later worked in Chicago and Berkeley, California and in 1942 began teaching at the School of Architecture at the University of Oklahoma. Although he left the University of Oklahoma in 1955, Goff retained a devoted following of students and clients and he continued to practice up until the late 1970s. Goff was instrumental in the selection of Frank

Lloyd Wright to design the Price Tower in Bartlesville, having established a relationship through the Prices' sons Harold, Jr., and Joe, who had both been students at the University of Oklahoma and were on the building committee for the Price Tower. He trained a generation of Oklahoma architects, including Lee Richardson, lead designer of the United Founders Life Tower.

United Founders Life Insurance Company was headed by Horace Rhodes at the time of this building's construction, with Gerald Barton serving as developer. The United Founders Life Tower was built by the United Founders Corporation, a development company independent of the United Founders Life Insurance Company, the building's principal tenant, but included directors of the insurance company on its board. As a development company, United Founders Corporation had a goal of developing land for profit and, in the period of robust expansion that characterized the 1960s, this meant suburban development along newly created or enlarged highways. Because the tower itself was to serve as a catalyst for the development of this large vacant tract of land, there was added incentive to design and construct an iconic landmark, set back toward the less desirable rear of the property but still visible from nearby highways due to its height. This development was one of the first major commercial projects outside of downtown Oklahoma City.

The Populuxe Style

This style refers to the decade from 1954-64 in which American design underwent a revolution spurred by economic growth, technological innovations and the growth of consumer spending. The term chiefly refers to automobile design, furniture styles and various house types, but is also applied to architectural design. In his book, Populuxe, author Thomas Hine claims that Mies van der Rohe and Morris Lapidus both reached the peaks of long careers in architecture during the Populuxe years. Mies, with his highly restrained formal elegance, and Lapidus, who "laid on everything he could to please clients", were said to be the perego and id of American architecture. Hine claims that of the two only Lapidus could be labeled Populuxe. The works of Morris Lapidus consist of streamline modern hotels and restaurants largely in Miami Beach such as Eden Roc (1955) and Fontainebleau (1954).

To the extent United Founders Life Tower and these works by Lapidus use curving, more sensuous forms, experiment in thin-shell concrete and other up-to-date technological innovations and imply a certain sense of movement, they are related stylistically. They also share a public component that most Mies-designed building. Visiting the restaurant atop United Founders Tower was a very special experience for many Oklahomans, with thrilling vistas, the excitement of the revolving platform and the sense of arrival at the end of its broad landscaped boulevard. Mies' buildings are generally single-use, rather formidable and uninviting. Whereas one could point to one of the distinctive chevron-shaped balconies and pinpoint one's particular office (or apartment), Mies' skyscrapers repress any sense of individuality to the relentless grid and unadorned box.

Hine relates the architecture of the Populuxe era to the automobile. He means not simply the sense of mobility these buildings imply in their streamline and sensuous curves, but primarily their orientation to the automobile traveler. Like the buildings by Lapidus, United Founders Life Tower has a drive-up approach, originally with a recessed lobby that provided shelter for people being dropped off by cars, but which has since been filled in to expand the lobby's retail space (like Wright's New York Guggenheim Museum).

Conclusions

The United Founders Life Tower is exceptionally significant on a local level because it displays not only an iconic form because of its circular tall profile, but also because it displays numerous technological innovations that combine to make this a unique structure of its time. Although it was altered in the 1980s and during a

recent conversion of the building to residential use, the major aspects of this building that contribute to its significance survive intact. The wedge-shaped offices proved difficult to rent and previous owners attempted remodeling of the space to encourage more flexible office plans. Because the offices were generating relatively little income, steps were taken over the years to increase rental income. The lobby was expanded in the 1980s by enclosing space underneath the main tower and installing a newer separate entrance canopy. A plain rear retail wing, since removed, was erected in the 1980s. The apartments created during the recent conversion have tall drywall ceilings and open kitchens such that the original sense of openness is retained. Baths and closets are located near the core. Each elevator lobby remains intact. The first floor retail space has been renovated and retains its original folded plate ceiling exposed and an open floor plan. The top floor remains essentially as it was before the recent rehabilitation.

The most significant change is the replacement of the exterior windows. The original single-paned windows had been compromised by the application of a film to their inside surfaces, which had wrinkled and delaminated over the years, obscuring views. Some windows had exterior light-filtering screens installed to reduce sun glare and air conditioning needs. In addition, these windows did not meet current buildings codes because they were not tempered glass and are set low to the floor such that safety glass is required. Finally, the new mechanical systems for the apartment units replace the old central system with new systems in each unit. To make these new units function properly and to comply with modern energy codes, insulated glass was required. The changes from the previous windows consist of new glass units, re-cladding of the aluminum framing and mullion system, lowering of the vision glass units, made feasible through the elimination of the perimeter heating system, the replacement of dark anodized aluminum horizontal mullions with non-anodized aluminum mullions, and the use of dark green spandrel and vision glass instead of gray glass. Since the windows are a background feature and their fundamental form remains intact, sufficient integrity remains to meet National Register criteria.

9. Major Bibliographical References

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

1. Metropolis Magazine, August/September 1998: "Talking About a Revolution", an article about revolving platform restaurants:

2. Macton Corporation website: article about platforms built by Macton: http://www.macton.com/turntables/revolving-restaurants.htm

3. Kuban, Adam, article on revolving platform restaurants, posted April 9, 2007: http://www.seriouseats.com/required_eating/2007/04/the-history-of-revolving-resta.html

4. This is an article about Seattle's Space Needle posted March 28, 2006: http://www.citynoise.org/article/3450

5. Time magazine, September 21, 1962, "Art: The Circle & the T Square"

6. The Daily Oklahoman, 6-14-63, pp. 24, 42, 59; 10-8-63, p. 27; 10-20-63, p. 218; 11-17-63, p. 84; 6-26-66, p. 80.

7. Collins, William J., Jr., "Choose Variable Volume Air Conditioning System for Tower Office Building Interior", Heating, Piping & Air Conditioning, February 1966, cover and pp. 85-90.

8. "High-Rise Folded Plate, Progressive Architecture, June 1963, p. 68.

9. Raymond W. Hilliard Center Historic District National Register nomination, listed 9/13/89.

10. Citizens Bank Tower National Register nomination. listed 3/19/10.

Further Source Notes

Much of the material gathered for this National Register nomination was obtained through extensive interviews with Rex M. Ball, FAIA and AICP. Mr. Ball is the son of one of the partners of the architectural firm that designed this building and had an active involvement with the firm during this period. He later managed and then sold the firm and moved to Tulsa. Mr. Ball has a long history of involvement with architecture and historic preservation. He is a member of the Tulsa Preservation Commission and has had a long involvement with the Tulsa Foundation for Architecture and has been active in helping to record and preserve the city's special Art Deco heritage as well as the legacies of Bruce Goff and Adah Robinson. Mr. Ball reviewed this text and suggested potential areas of significance. There were also interviews with Gerald Barton, developer of United Founders Life Tower; Horace Rhodes, president of United Founders Life at the time of construction; Bernard Ille, project board member; Arnold Roy, historian at Taliesin West; and Harold Price, friend, college classmate and business partner of Gerald Barton and member of the Price family in Bartlesville.

Significance of the United Founders Life Tower is proposed in a local context and this section compares it with other similar buildings on a local level. It also suggests reasons why the tower was designed and the local or regional circumstances that influenced this. It is possible that future research will show that the United Founders Life Tower may have significance on a regional or national level. Relatively few buildings from this

era have been entered on the National Register of Historic Placers, providing a limited data base from which to conduct comparisons. However, www.emporis.com provides a data base that makes limited comparisons possible, enough to suggest that decagonal, round or cylindrical buildings like this are fairly rare. Some, such as Bertrand Goldberg's Marina City was studied for this text and the National Register nomination for Goldberg's Raymond M. Hilland Center Historic District was also used as a source. A book that was an especially good source was Prairie Skyscraper: Frank Lloyd Wright's Price Tower by Anthony Alofsin (Editor), Joseph Siry (Contributor), Pat Kirkham (Contributor), Scott W. Perkins (Contributor), Hilary Ballon (Contributor), Richard Townsend (Author), Monica Montagut (Author). Other sources include the Oklahoma Department of Transportation's website plus newspaper articles on the United Founders Life Tower as researched via on-line search by Jim Gabbert, formerly staff at the Oklahoma Historic Preservation Office and later on the National Register staff at the National Park Service.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested)
____previously listed in the National Register
_X_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: _____

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property 4.65
(Do not include previously listed resource acreage.)

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

	Zone	Easting	Northing		Zone	Easting	Northing
1	14	829500	3832900	3			
2				4			

Verbal Boundary Description (Describe the boundaries of the property.)
The subject property is legally described as follows: Section 12, Township 12N, Range 4W, United Founders Life Plaza Subdivision, Oklahoma City, Oklahoma. The property is also known as 5900 Mosteller Drive, Oklahoma City, OK.

Boundary Justification (Explain why the boundaries were selected.)
The nominated area includes the United Founders Life Tower and its one-story wing plus its parking lot, garage and landscaping, the land associated with the tower since it was constructed.

11. Form Prepared By

name/title Steven McQuillin, preservation consultant

organization Steven McQuillin & Associates date October 2010

street & number 31156 Detroit Rd. telephone 440-899-1200

city or town Westlake state Ohio zip code 44145

e-mail stevemcquillin@aol.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**
- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: United Founders Life Tower

City or Vicinity: Oklahoma City

County: Oklahoma State: Oklahoma

Photographer: John Rupe

Date Photographed: September 2, 2010

Description of Photograph(s) and number:

1 of 10 front, looking north
2 of 10 side, showing west wing, looking northeast
3 of 10 rear, looking southeast
4 of 10 closeup of tower, looking north
5 of 10 one-story west wing, looking north
6 of 10 entrance, looking north
7 of 10 main lobby, looking west
8 of 10. first floor inner lobby, looking north
9 of 10. upper floor and balcony
10 of 10. Close up of a typical upper floor balcony

Property Owner:

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

name Founder's Tower Condominiums, LLC

street & number 1603 E. 19th Street, Suite 204 telephone 405-775-1128

city or town Edmond state OK zip code 73013

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.

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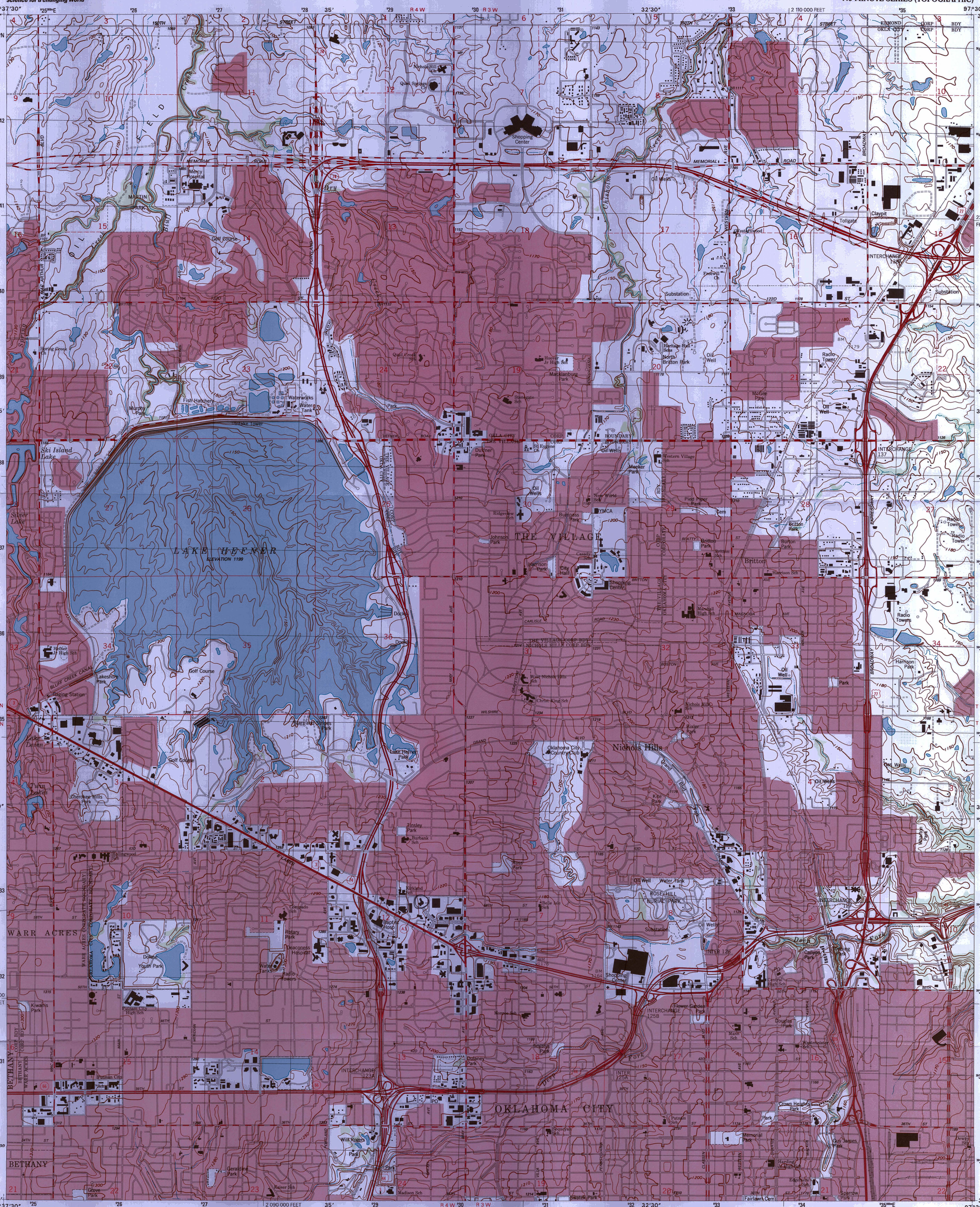
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Ski Island Lake
Silver Lake
Lake Overholser
Twin Lakes
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Oklahoma City Country Club
Kite Park
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Rock Creek
Gas Wells
Water Tank
ROSE HILL BURIAL PARK
Kirkland Sch
Belle Isle Sch
Coronado Sch
Baptist Hosp
Dulaney Park
Smith Park
Monroe Sch
Sequoyah Sch
Putnam City Sch
Wharton Park
Bixler Park
Nichols Hills Sch
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Dutner Park
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Macklanburg Park
Hoover Jr High Sch
Quail Creek Sch
Stonegate Sch
Heritage Hall Schs
North Britton Park
McGee Park
Radio Towers
Fish Hatchery
Waterworks
Water Tank
Intake Tower
Murphy Park
Spring Creek Ch
Nichols Hills Sch
Quail Springs Ch
Westernwood Ch
Freewill Ch
Ridgeview Sch
Johnson Park
Burnpass Park
YMCA
New World Sch
City Hall
Casady Sch
Docks
Lakeshore Park
Bluff Creek Canal
Gaging Station
Cherokee Hills Park
Hefner Jr High Sch
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