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National Park Service

Cover

National Register of Historic Places
Multiple Property Documentation Form

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in How to Complete the Multiple Property Documentation Form (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

X New Submission ___ Amended Submission

A. Name of Multiple Property Listing

Lustron Houses of Kansas

B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

Suburban Housing Development in the Post World War II Era, 1946-50
Post-World War II Residential Architecture, 1946-50
Pre-Fabricated Metal Housing
The Lustron House, 1946-50
The Lustron House in Kansas, 1949-50

C. Form Prepared by

name/title Elizabeth Rosin, Partner, with research and field assistance from Dana Cloud and Jon Taylor

company Historic Preservation Services, LLC

street & number 818 Grand Boulevard, Suite 1150 **telephone** 816\221-5133

city or town Kansas City **state** MO **zip code** 64106

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. [ ] See continuation sheet for additional comments.)

Richard D. Pankratz — 12-6-00

Signature and title of certifying official — Date

State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Edson H. Beall — 3/2/01

Signature of the Keeper — Date

some distance away, were the most common and provided paved streets, garbage collection, sewers, and other services. Unplanned suburbs popped up along country roads and usually relied on county or rural public services. As newly packaged subdivisions augmented the earlier axial suburban growth along public transit lines, cities became surrounded by rings of low-density housing interrupted only by commercial strips along main roads (Hernly, p. 165).

A distinct middle-class lifestyle emerged in the post-war American suburbs as the policies of the FHA affected the appearance of dwellings and streetscapes. The agency advocated zoning and deed restrictions, which regulated lot sizes, location of structures and their design and prohibited temporary dwellings and nuisances. FHA guidelines discouraged the use of the gridiron plan as costly and monotonous and advocated rectilinear planning on level ground and curved streets on sloping ground. This reduced grading costs and allowed for economical installation of sewers. To provide orderly variety, the agency recommended grouping homes and varying setbacks as opposed to uniform setbacks and spacing (FHA, pp. 5-6). Other mandates for federal loans or funding included: subdivision designs that discouraged heavy through traffic; minor streets that entered major streets at right angles; planned extensions of major streets beyond the development; long blocks (up to 1,300 feet) with center crosswalks to public facilities; and provision for parks/green space, commercial, school and church sites. Lot size was of particular concern. FHA planners considered deep lots to be wasteful, but required wide lots to provide "adequate side yards for light, air, and driveways" (FHA, p. 14). Other hallmarks of FHA planning criteria were the use of wide corner lots; lot lines which ran perpendicular to the street; lots designed to face desirable views; buffers such as green space; playgrounds between residential lots and adjacent nonconforming uses; and protection of residential lots from major street traffic.

Builders quickly adopted the minimum standards established by the FHA for new home construction as the industry standard and regularly applied them to new construction that was purchased without FHA-guaranteed loans. Although the standards did not guarantee a fault-free building, they aimed to eliminate serious structural and mechanical deficiencies. Written, objective, uniform building standards and enforcement through on-site property inspections prior to and during construction set the FHA apart from other mortgage programs (Jackson, p. 205).

Suburban Development Patterns in Kansas

Post-war growth in Kansas was heavily influenced by the same factors directing suburban growth nationwide. In response to the return of G.I.'s, the wartime housing shortage, and the availability of low-interest housing loans, large subdivisions that provided builders with an economy of scale in new construction quickly came into vogue. In the decade following the war, single-family housing developments often transformed farmland across the state within a period of weeks. Most subdivision were bordered by major streets at the edge of town. The grid plans within the subdivisions typically did not align with the streets of a city's traditional grid system. Because country roads typically followed section lines, suburban platting frequently followed section lines as well. It was in these new residential subdivisions that a majority of Kansas Lustron houses were built.

Evidence of this type of development can be seen in the communities of Great Bend and Russell in the central part of the state. In Great Bend 3,300 building permits were issued between 1947 and 1952, the majority for residential construction. Also by 1952, the community had a brand new, $1.8 million high school, in addition to four grade schools and a junior high school, to help educate the growing school-age population (Kansas Directory Company 1947, pp. 5-7; R.L. Polk & Co. 1952, p. 13-14). Most of the new homes were located in subdivisions

ringing the older city core. Lustrons were constructed in five subdivisions with names like Fair Haven, Parkview, College Grove, Hacienda, and Crescent Park, which alone contained eight Lustrons. Platted in April 1949, this addition had a pie-shaped grid plan with the north-south streets named for US presidents and generals. The Lustrons were clustered in the north central section of the addition. Only four of the seventeen Great Bend Lustrons were located in portions of the Original Town area, mainly along Broadway on the edge of town (Barton County, Kansas 1949).

Russell experienced similar growth during this period. In two years, between 1949 and 1951, the assessed population grew by nearly 1,000 residents. In 1952 the community dedicated two new elementary schools, and between 1951 and 1955 four new churches were built. In the second half of that decade the city anticipated the construction of a $400,000 hospital addition that would double its existing capacity. To accommodate the many new residents, new subdivisions were being platted on undeveloped land within the Russell corporate limits (Rocky Mountain Directory Co. 1948, p. 11-12; Ibid. 1951, [np]; Mullin-Kille Co. 1955, p. 5-7). All four Lustrons were located in the Theron Addition on the southeast side of town, which was platted in 1938.

POST-WORLD WAR II RESIDENTIAL ARCHITECTURE, 1946-50

The FHA encouraged the building and selling of ready-made houses as opposed to custom built homes. Architects and planners soon criticized the lack of individuality and mediocre designs promulgated by federal guidelines. Their complaints had merit. While guidelines cautioned that "sufficient variety in exterior design should be used to avoid monotony and yet retain a harmonious character," the FHA instructed loan evaluators to lower rating scores of houses with conspicuously modern styles, which the agency considered to have less resale value (FHA, p. 5).

While complaining of the boring designs fomented by the FHA, architects at this time advocated stripping away non-functional ornamentation and a "scientific" approach to developing a floor plan that met human needs. The result was a dramatic change in the design and form of suburban housing. With the exception of restrained Colonial and Tudor Revival influences seen in the Cape Cod and Minimal Traditional designs, the period house and the Craftsman bungalow disappeared. And, while the single-family house continued to dominate the residential market, its modern, post-war form contained few, if any, historical references and was most often nearly identical to surrounding houses within its subdivision as well as to houses in contemporary subdivisions nationwide (Wright, p. 253; Jackson, p. 240).

Despite the outcry from the architectural and planning community and the guidelines of the FHA, most post World War II builders' houses displayed little regard for the site. Of primary concern was the financial goal of erecting as many houses per acre as possible. Most homebuilders obtained house designs from plan services, other developers, and local designers. Even in up-scale subdivisions, the unique architect-designed house became a rarity.

The styles that emerged and prevailed in the post-war period had common attributes. All had a more functional approach to design and plan, minimal decorative detailing, ornamental front yards and private back yard patios and activity areas. Most were a story or a story-and-a half and had moderate to low pitched roofs.

Several new styles appeared at this time. The most prevalent, the Ranch House, came into popularity in the 1950s. This new style utilized a plan that incorporated three basic zones: a formal living (and sometimes dining) area; a kitchen with an informal dining and/or family room; and a bedroom area. An attached garage often augmented the plan. The simplest versions of the one-story Ranch style house were quite small and utilized as few interior walls as possible. The larger, more high style versions relied on projecting wings to create separate formal and informal zones and often separated "adult" spaces from "children" spaces (Wright, p. 254-55). All reflected the influences of Frank Lloyd Wright's 1930s, low-profile Usonian houses in the use of low hipped or gabled roofs and a horizontal emphasis created by contrasting materials and ribbon windows. Most featured a large, single, fixed-pane "picture window" often flanked by small side windows (Wright, p. 251; Jackson p. 234). Ironically, Wright's original Usonians failed to receive FHA approval.

Faster and more efficient construction methods also influenced residential styles while innovations in material technology speed up the building process. New platform frame construction used prefabricated materials cut to standardized lengths. Wallboard and plywood replaced plastered walls and hard wood floors. Prefabricated doors, windows, fireplaces, and plumbing fixtures substituted for custom work, creating even more uniformity in appearance. New plastic laminates and vinyl products became popular, economical building materials. The "platforms" built on concrete slabs using standardized, often pre-assembled, materials created a fast, assembly line approach to subdivision development (Wright, p. 244).

The Lustron House

In many regards the Lustron house was a typical post-war dwelling. Available in two-and three-bedroom models, these dwellings had compact one-story plans that emphasized communal spaces. Architectural ornament was sparse. Notable contemporary features included asymmetrical placement of openings, tripartite picture windows, casement windows, and wide eaves. Lustrons were erected on concrete slabs through a process that relied on prefabricated building elements. In spite of its similarities in design, the steel frames clad on the interior and exterior with porcelain enamel-coated steel panels distinguished Lustrons from more traditional contemporary wood-frame residential construction. As described below, the company's philosophy of automation and pre-fabrication resulted in a construction process that was discernibly different from traditional building practices. (Please refer to the following section on pre-fabricated metal housing for more details.)

PRE-FABRICATED METAL HOUSING[1]

Pre-fabricated metal housing was a concept that first took root during the Industrial Revolution. During the mid-nineteenth century foundries in England and the United States shipped the components for metal houses to various outposts worldwide, including the California gold fields and new settlements in Australia and Africa. However, these metal houses were frowned upon by the residents of established communities as being suitable only for temporary, specialized uses, such as army quarters, camp shelters and summer cottages. In general, houses constructed of pre-cut lumber, including elaborate jigsawn and turned trim elements, following the designs in widely circulated plan books remained the most popular form of pre-fabricated dwellings in both countries.

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[1] Unless otherwise noted, the general discussion on the history of pre-fabricated housing is drawn from Wolfe and Garfield.

Early in the twentieth century, a series of housing shortages prompted a second look at residential prefabrication. In England World War I left the nation with a housing shortage and steel surplus. In 1924, designs for Weir and Atholl houses featured steel-clad timber framing. Also developed in the 1920s, the Dorlonco houses had cement-coated metal panels attached to a steel frame. However, the public rejected these dwellings as being too experimental and too expensive. Only a few thousand were constructed before the housing shortage ended. Other pre-fabricated metal housing designed in the 1920s included American Buckminster Fuller's Dymaxion house, and two German designs, the Muche-Paulick house, which featured a Bauhaus design with enameled steel wall panels, and the Hirsch house, which incorporated a copper structure and interior copper panels. Neither the Dymaxion nor the German designs ever reached full production.

As a rule, homebuyers preferred houses of traditional designs and materials. As long as these were available the pre-fabricated metal designs remained a curiosity. However, by the 1930s in America housing starts dropped sharply and housing prices rose dramatically, so that even the least expensive dwellings were beyond the affordability of the vast majority of homebuyers. Anticipating a shortage of affordable housing, a number of companies each built a few hundred prototype houses that incorporated steel framing and/or cladding. More than a dozen of these firms exhibited their designs in Chicago at the 1933 Century of Progress Exposition. However, these designs were generally plagued by technical problems, such as insulation, condensation, and corrosion. The substantial capitalization necessary for equipment and materials, lack of an organized distribution network, and minimal corporate interest hampered the ability of these companies to exploit their opportunity.

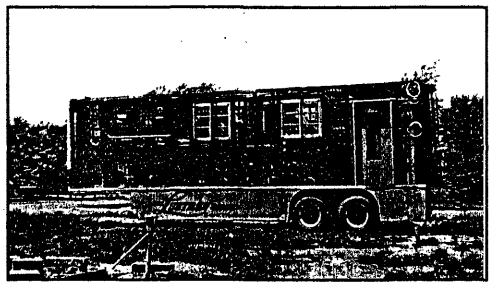
The next American housing crisis occurred at the end of World War II. As G.I's began returning homes, the federal government estimated that the existing housing shortage necessitated the immediate construction of three million new homes followed by an additional twelve million over the next decade. Research and subsidies for suitable prefabricated housing received support from Congress beginning in 1946. The support included leases on surplus factories, access to scarce resources, and loans through the Reconstruction Finance Corporation (RFC). By the end of the decade prefabricated housing was being developed by nearly 300 firms. Three of the 300, including the Lustron Corporation, received direct federal loans.

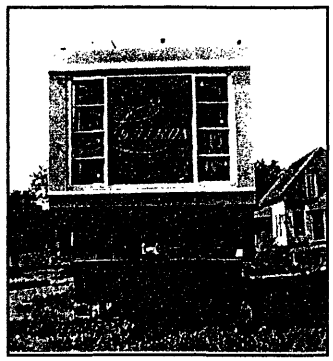
In addition to the Lustron Corporation, the RFC-financed General Panel Corporation produced a pre-fabricated steel house. The Package House, designed by German architects Walter Gropius and Konrad Wachsmann, began production in 1942. Its standardized, interchangeable parts adapted to a variety of designs, as well as professional acclaim. However, in spite of the government subsidies, the company had built fewer than two hundred houses when it folded in 1949.

The Lustron House

A Lustron dwelling was the ultimate pre-fabricated house, literally designed like the automobile for assembly line production. As *Architectural Forum* noted in May 1949, in addition to answering the nation's housing problem, Lustron president Carl Stradlund "may have a new industry that will have the expanding effect on the whole U.S. economy that the automobile once had." (*Architectural Forum* 1949, 1). In fact, veteran automobile workers filled the ranks of the Lustron Corporations employees. Lustron hired designers, production managers, machinists and salesmen experienced in the automated process and production of automobiles to make the company as efficient in the production of dwellings as the major manufacturers were producing automobiles (Jandl 1991, 189).

In the mode of nineteenth century pattern book homes and early-twentieth century mail-order houses, trucks transported custom-designed trailers loaded with Lustron building components to the building site without additional crating. Where distance required some rail transport, flatbed rail cars carried the loaded trailers. Parts were loaded onto the trailers in the inverse order in which they would be used, so that the pieces needed first were at the front of the crates. Wall sections and roof trusses arrived pre-welded for easy assembly, and concealed screws attached the interlocking porcelain panels to the frame. The trailers also provided storage for building pieces during construction (Lustron Corporation [n.d.]b, 2-3).





Figures 1 & 2 – Lustron Trailer, Ashland, Kansas, 1950 (Courtesy of Margaret Jane Stein)

THE LUSTRON HOUSE, 1946-50

History of the Lustron Corporation[2]

Carl Stradlund was the visionary president of the Lustron Corporation. A Swedish immigrant, Stradlund earned a degree in engineering before embarking on his career. Patents received during his tenure as president of the Oliver Farm Equipment Company attest to Stradlund's innovations in agricultural machinery. During the 1930s he filled an executive position with the Chicago Vitreous Enamel Product Company. This firm fabricated enameled steel panels used for a range of products including household appliances and commercial buildings, including gas stations.

During the summer of 1946, Stradlund traveled to Washington to request materials to erect 500 enameled steel gas stations for Standard Oil of Indiana. Steel was among the materials rationed during World War II with virtually all of the available metal diverted from civilian to military uses. Even after the end of the war, Congress oversaw the distribution of the material. While Congress did not feel that Stradlund's commercial proposal for Standard Oil merited the allocation of the steel, in the face of the existing housing shortage, they suggested he develop a plan that utilized steel in residential construction.

A few months later Stradlund returned to Washington with plans for a steel-framed dwelling clad with enameled steel panels. Within nine months, he promised, a new subsidiary of Chicago Vitreous would produce 100 of the houses per day at a purchase price of $7,500. Wilson Wyatt, Truman administration Housing Administrator, was

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2 Unless otherwise noted, information about the Lustron Corporation comes from two primary sources: Jandl and Wolfe and Garfield.

a strong advocate of Stradlund's plan. He promised Stradlund a vacant Dodge automobile plant in Chicago for production of the design and financial backing to cover the production of the firm's first 15,000 dwellings.

With the backing of Wyatt and the White House, Stradlund presented the working drawings and an operating budget of $52 million to Congress in 1947. Congress had already awarded the Dodge plant to the Tucker Automobile Company, and instead awarded the Lustron Corporation a lease from the War Assets Administration for the Curtiss-Wright airplane factory in Columbus, Ohio. The 1.1 million square foot plant covered 23 acres. It had been used only briefly during the war effort. Located in a major city, it had good access to highways, railroads and an airport.

The Reconstruction Finance Corporation (RFC) was reluctant to fund Stradlund's $52 million loan request due to the minimal private equity invested in the project. Stradlund worked with a Chicago firm to sell stock in the new Lustron Corporation. However, the effort raised only $840,000, mostly from would-be suppliers. Stradlund himself purchased all 86,000 shares of voting stock for an investment of only $1,000. He dismissed critics of his limited equity investment by saying, "... I brought in the patent and the engineering. I'm an endorser on all notes. If there is any failure in Lustron, you can meet Carl on the breadline." (*Architectural Forum,* 3-4). The [dispute] between the Federal Housing Administration (FHA) and RFC escalated, and ultimately Wyatt resigned his position.

All was not lost, however. Now without Wyatt, his primary booster, a friend urged Stradlund to contact Vermont Senator Ralph Flanders, an engineer and project supporter. Enthused by the project, Flanders arranged a review of the venture by the Senate Banking and Currency Committee. At the same time, the primary project opponent, RFC head George Allen, resigned, and the Truman Administration quietly gave tacit support for the project. Both the House and Senate Banking Committees voiced support for the Lustron venture, passing legislation authorizing the RFC to issue loans up to $50 million for the development of prefabricated housing in June 1947. Of that allotment, the Lustron Corporation received a seven-year $15.5 million loan on June 30, 1947, 15 minutes before the expiration of the legislation. This was the first time since the end of the war that a private venture received federally appropriated funds.

In the meantime, prior to the issuance of the loan, the new Lustron Corporation produced the first Lustron house, a two-bedroom prototype dubbed the "Esquire," at a factory in Cicero, Illinois. The house was erected in the Chicago suburb of Hinsdale in 1946. Following the success of the first demonstration and with the RFC loan in hand, in 1947 the Lustron Corporation erected 100 show houses in cities throughout the East and Midwest and established a network of Lustron dealers. Architectural journals and trade unions praised the design. Advertising in local and national magazines and newspapers attracted the interest of potential buyers intrigued by the prospect of low maintenance, the numerous built-ins and the novelty of an all-steel house. When the factory began full-scale production the following year there were reportedly 20,000 standing orders for Lustron homes.

By the time Congress granted Stradlund the RFC loan and the Columbus plant was equipped, supplied and ready for production, it was the summer of 1948. The delay was not only financially costly to the new company, but it also caused Lustron to miss the peak of the housing crisis. In spite of the delays, the RFC awarded the Lustron Corporation additional financing – a $10 million loan in 1948 and a $7 million in 1949, bringing the total RFC financing for Lustron to $32.5 million. While the first loan was a seven-year start-up loan, the subsequent loans provided short-term financing for working capital (*Architectural Forum,* 3-4).

Although the company aimed to produce 17,000 houses a year, with crews working three round-the-clock shifts, the maximum factory output reached only 270 units during the month of July 1949. This was far fewer than the 100 houses per day envisioned by Stradlund and significantly less than the 50 units per day necessary for the company to break even. As of December 1949, the best shift produced 27 houses, and 42 houses were the maximum shipped in one day (Lustron Corp. [n.d.]b, 2).

The company continued to lose money, up to $1 million per month, and Congress denied Stradlund an additional allocation in 1949. Review of Lustron's finances yielded a series of unfavorable reports, including financial irregularities and rumored payoffs to Washington officials (among them Senator Joseph McCarthy), and lead to the denial of additional funds. The previously supportive press also began to highlight the company's technical, operating and financial woes. In March 1950 the RFC foreclosed on its outstanding loans and a court-appointed receiver took control of the company. The Lustron Corporation had shipped just shy of 2,500 housing units when the factory ceased operation on June 6, 1950.

Production and Design Issues

As proven by the automobile industry, Stradlund recognized that the company's financial success would be realized with volume production. To achieve this he outfitted the Columbus factory with $15,000,000 worth of specialty equipment. For instance, the plant boasted a steel press that could extrude a bathtub in a single operation and three automatic presses that produced a steady stream of 2' x 2' panels. Not only did Lustron claim the world's largest porcelain enameling operation, but its engineers also developed a process for cool firing the porcelain that reduced fuel costs, warpage and necessary tooling. (Lustron Corp. [n.d.]b, 2-3).

However, production problems plagued the operation. In 1949 the company hired architect Carl Koch and Associates to review the operation. Regarded as an authority on pre-fabricated housing, Koch was concerned by the quantity of parts required to build each Lustron and by overdesign of some building elements, which were likely slowing rates of production (Jandl, 196). One example highlighted by Koch was the bathtub press. Capable of producing 120,000 units per year, 40,000 of these were to be for Lustron houses, while the remainder were to be sold on the open market. However, the Lustron tub measured five feet one-and-a-half inches in length, a size not compatible with standard building dimensions (Jandl, 196).

To Koch it appeared that the Lustron used more steel than necessary. Changes to the design, such as increasing the side of the exterior panels to two-feet by eight-feet (matching those on the interior), and changing the manner in which the panels were manufactured, would reduce by one-third the amount of steel needed for each dwelling. Koch also redesigned the panels to be load-bearing and interlock in a manner that concealed the joints, eliminating the need for steel studs and rubber gaskets. Other recommendations included: replacing the four different windows sizes with a single unit that would be interchangeable with the wall panels; offering multiple floor plans by rearranging interior components; and preassembling more parts at the factory, reducing the number of components delivered to the building site. These measures would save the company both time and money, enabling the production of more Lustrons and making the product more affordable to the public (Jandl, 197). The revised Lustron designed by Koch took better advantage of the materials and production system already in place. The new design was also simpler and more versatile, with multiple floor plan configuration and common suburban amenities such as a fireplace and attached garage (Jandl, 198; Wolfe and Garfield, 58). However, the timing was not right, and with foreclosure looming, Koch's new ideas never made it to the factory floor.

Market

Stradlund aimed his product at the middle third of the housing market. The myriad built-in features, the radiant heat, the combination dishwasher/washing machine, and the size of the floor plans, were all designed to please this segment of the market (*Architectural Forum,* 4). While Stradlund hoped the finished houses would sell for around $7,000, post-war inflation boosted production costs, raising the price of a Lustron house several thousand dollars. Several other elements contributed to the cost of a Lustron. In addition to the base factory price for materials and delivery to the building site, which varied with the model ordered, the dealer added the cost of site preparation, construction, utilities, and landscaping, as well as any extras, such as a garage or patio. Local land and labor costs effected the final price as well. (Lustron Corp. [n.d.]b, 2). Lustron required that local dealers clear the final price with headquarters. The company set dealers' margins for profit and overhead to ensure that houses were not priced above the affordable range of the target market (*Architectural Forum,* 7). In 1950, probably in an effort to boost sales, Lustron introduced six new home models. These two and three bedroom designs were smaller and featured fewer conveniences than the original model. They were also priced approximately $2,000 less than the original (Lustron Corp. [n.d.]b, 2).

Available information suggests that prices for Lustrons in Kansas ranged between $8,500 and $10,000, depending on model and size. Great Bend dealer Dan Brack sold the larger Westchester model for $10,000 and the smaller Newports for $8,500. Attwood Implements in Smith Center sold two-bedroom Westchester Deluxe models for $9,500 cash, including a $1,000 down payment. In Newton, code restriction requiring the substitution of cast iron soil pipes for the standard copper piping added $600 to the base price, and the two-bedroom Westchester Deluxe sold for $10,000. (Attwood, Coleman, and Puckett personal communications).

By the end of 1949, the FHA and VA were among the many financing agencies accepting applications for Lustron homes (Lustron Corp. [n.d.]b, 4). Because initial reaction to the all-steel house had been cool by many standard financiers and insurers, Lustron Corporation developed a plan with the Galbreath Mortgage Company of Columbus to provide loans to local dealers to cover the costs of building materials and construction (Ibid.). Interestingly, none of the Kansas dealers, builders, or original homeowners recollects trouble financing the construction of a Lustron (Various personal communications).

Stradlund would have appreciated the diverse range of people included on the list of original Lustron owners in Kansas.[3] Owners prominent in their communities included dentists, doctors, a banker, an attorney, a newspaper editor, an automobile dealer, a partner in an oil drilling company, business owners, the Larned city manager, and the Mayor of Hays. Teachers, merchants and sales clerks, farmers, a machine operator, a telephone operator, a railroad dispatcher, an electrician, a salesman, a photographer, an accountant, a pharmacist, a truck driver, and an oil driller were also among the original owners. Interestingly, numerous Lustron dealers, builders and their close relatives purchased Lustron dwellings:

- The Kinsley Lustron dealer lived in the Kinsley Lustron for several years; it was later owned by his nephew;

[3] Information about original Lustron owners is derived from personal communications with Kansas Lustron dealers, builders, current and former owners; city directories; the Kansas State Historical Society Lustron Survey File; and newspaper obituaries.

- Three sons of the Great Bend Lustron dealer/builder as well as a niece and two construction crew members each owned a Lustron; additionally, the dealer's home, while not a Lustron, had Lustron panels on several interior rooms;[4]
- The father-in-law of Lustron salesman in Smith Center owned a Lustron; and
- The manager of the Newton Lustron dealership purchased the Lustron in Newton.

Personal communications also revealed that several of the Lustron homes in Kansas have provided rental housing for 40 years or more, including the Lustron in Newton, which may have been rental property nearly since its construction, and a Lustron in Great Bend that has been rental property since 1952. Communication with current owners further reveals that their construction and materials make Lustrons ideal rental property. Multiple owners commented on the indestructibility and low-maintenance of their Lustrons, and many said if given the opportunity they would buy and/or live in another Lustron. Several currently own multiple Lustron rental properties.

Sales

The Lustron Corporation shipped the majority of houses (1952 of roughly 2500) during 1949. Production peaked with 270 units shipped during the month of July 1949. However, during this month both RFC pressures on the company to increase production and negative publicity increased. Sales dropped steadily over the next twelve months, dipping below 200 units the following month and to less than 100 units in March of 1950, when the RFC filed foreclosure and the company went into receivership. The factory shipped 130 Lustrons between May 1 and June 6, 1950 when production ceased. (Lustron Corp. [1950]c and [n.d.]b, p.2). When the plant closed, the Lustron Corporation had shipped 2498 Lustrons to 36 states east of the Rocky Mountains and to Alaska and Venezuela (*Architectural Forum,* 4).[5] At the same time, dealers had projects involving 1,270 Lustron units ready to start (Lustron Corp. [1950]d, 1).

When the plant closed the Lustron Corporation and its local dealers and builders had cleared many of the obstacles that resulted in initially slow sales. Among these were building code issues, local labor relations, transportation problems, construction time, dealer confidence, and perhaps most importantly, public satisfaction with the product. A sales report prepared after June 1950 reported that in spite of early problems in the development of a sales and marketing strategy by August 1949 the company was in a position to turn a profit. (Lustron Corp. [1950]d). Dealer sales peaked at 270 units during the month of July 1949, and the company anticipated that this level of sales would have continued to grow if not for publicity concerning the questionable future of the company (Ibid.). The testimony of Kansas Lustron dealers presented during Senate Banking Committee hearings supports this notion (Congress, Senate 1950).

Company officials also believed that many dealers had gained sufficient experience with the product to shift from the construction of single houses to much larger, multi-unit projects. This ultimately was where it saw its future success. By August 1949, the company had three signed contracts for projects encompassing a total of nearly 5,000 Lustron homes, and in November 1949 a fourth contract was negotiated for a 3,000 unit Lustron project (Lustron Corp [1950]d).

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[4] Mr. Puckett, a former crew member, continues to own and reside in his Lustron in Great Bend, and Dan Brack's daughter, Delores Frick also rents a Lustron in Great Bend.

[5] As of May 1949 shipping costs prohibited the distribution of Lustrons to the West Coast, although, at that time the company was negotiating a reduced shipping rate with the railroads.

In this vein, the company believed their product to be well suited for the military. In addition to housing, designs and parts could be adapted for other types of military buildings, such as barracks, mess halls, offices, and hospitals. The low initial costs, minimal labor costs, and durable, maintenance-free designs were important advantages ((Lustron Corp [1950]d, 2). Corporate records include two major Lustron military projects proposed in Kansas that never reached fruition, most likely due to the poor publicity that began with the foreclosure hearings. In June 1949, a Lustron Company memo discusses a proposal to construct 243 two-bedroom units and 107 three-bedroom units at the Smoky Hill Air Force Base in Salina. Under the terms of the agreement the Strategic Air Command had one year to begin construction; however, the project was cancelled on October 31, 1949 because the association could not guarantee the loans and the Lustron housing program was not approved by the Department of the Air Force. (Lustron Corp. 1949a and 1949e). A report of the Lustron Fleet Sales Projects, issued on February 16, 1950, the month prior to foreclosure, includes a project for the construction of 150 three-bedroom Lustron at Fort Leavenworth, Kansas. The project sponsor was Lillis Construction of Kansas City, Missouri. The report describes:

> "a major stationed at Ft. Leavenworth lives in a Lustron house and has had all of the officers in Headquarters personally inspect his home, all of whom have been favorably impressed and are desirous of having Lustron Homes utilized as their rental project. The proposal is waiting evaluation at Headquarters Fifth Army. Again we are of the belief that Lustron is regarded as a doubtful source until its future is cleared with RFC." (Lustron Corp. [1950]b).

As the report suggested, the Fort Leavenworth Lustron project never advanced.

Dealers

Hoping to mobilize sales, Lustron did not limit its initial set of dealers to one region of the country. The cost of shipping components over the Rocky Mountains, rather than dealer interest, restricted dealerships to the eastern United States. Initially, each of the franchised builder-dealers had a defined geographical territory. Over 10,000 potential dealers expressed interest in a franchise when the company began production in 1949 (Jandl, 189).

Previous experience in construction and sales, good credit, available capital, and "willingness to use AFL union labor" were prerequisites to acquiring a franchise. Some dealers were already in the building trades. Others, involved in related industries (real estate, concrete, etc.), formed partnerships that would capitalize on their existing products or services and, hopefully in the long run, could provide cost-savings to the consumer (*Architectural Forum*, 2;6).

When Lustron started production in summer 1948, 143 dealers held franchises. By the end of 1949, there were 234 Lustron dealers in 35 states plus one in Venezuela. Eight of these were in the state of Kansas. Two dealers in Kansas City, Missouri may have built Lustrons in eastern Kansas as well.[6] The Lustron Corporation trained dealers at special sessions at the factory in Columbus. Dealers were then responsible for their own sales and construction. (Lustron Corp., [n.d.]b, 3-4; *Architectural Forum,* 2;6).

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[6] Kansas dealers were located in Abilene, Garden City, Great Bend, Hays, Kinsley, Newton, Smith Center and Topeka. Dealer Performance Report [Feb. 1950] p.3

Dealers needed between $50,000 and $100,000 in working capital to start a Lustron franchise. The company required dealers to pay for building components (approximately $6,000) when they left the factory. This, plus the cost of labor to construct each dwelling, made it difficult for many dealers to capitalize sufficiently to embark on large volume Lustron projects (*Architectural Forum,* 7). Dan Brack, the Great Bend dealer, reportedly had trouble paying his employees, which might explain in part why several of his crew members owned Lustron dwellings (Abel 2000). FHA standards, as well as existing deed and zoning restrictions, often slowed sales and mortgage approvals, limiting the ability of dealers to quickly sell houses.

Construction Issues

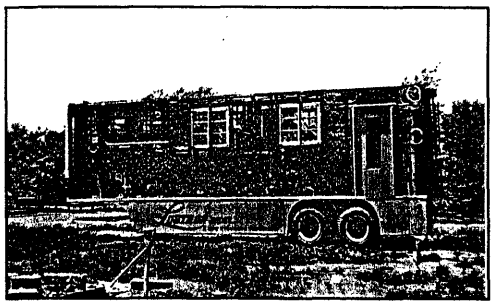
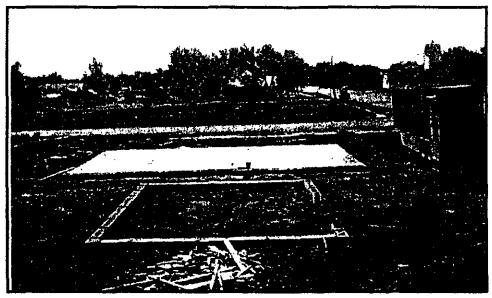
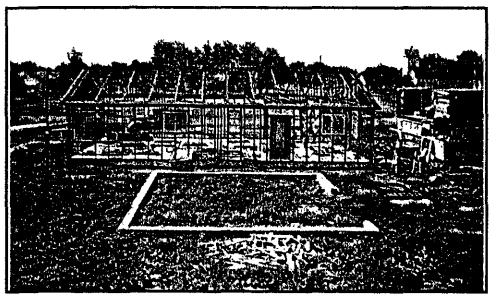
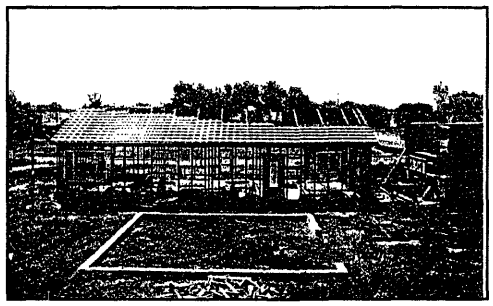
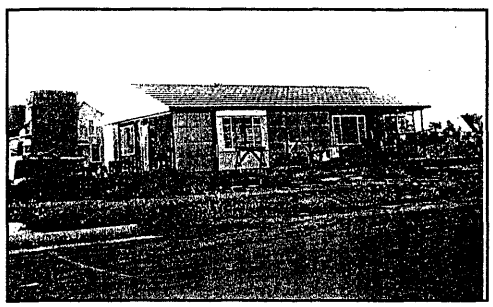
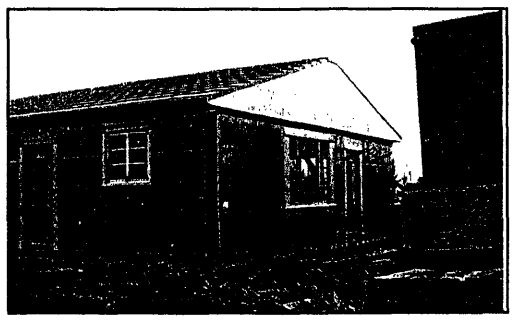
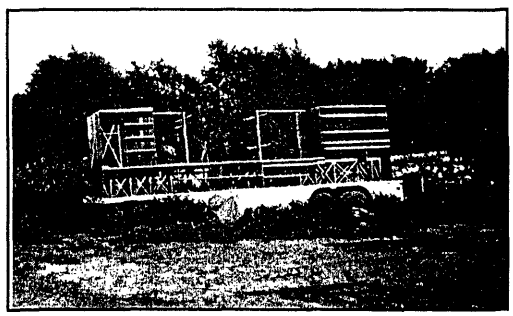
Builders, trained at the "Lustron Erection Training School" in Columbus, followed the instruction manual to assemble each dwelling on a slab foundation. Quick, easy assembly, which allowed volume construction, was necessary for the success of Lustron. After it became apparent that novice building crews required up to 1500 hours to erect their first homes, Lustron engineers improved the construction process, reducing assembly time to an average of 350 hours over a two-week period (Lustron Corp. [n.d.]b, 4). One dealer reported that hours to construct his first four houses dropped from 1,211 to 436 as the work crew gained experience and familiarity with the system and parts. Other dealers initially experienced less significant drops; in part because experienced members of construction crews were split into multiple crews to accommodate the construction of multiple building projects at one time. The most difficult and time-consuming element of the construction involved the assembly of interior cabinetry. Given the substantial number of built-in elements in every Lustron, this affected approximately one-fifth of the construction effort (*Architectural Forum,* 7). These figures for length of construction are similar to those reported by Kansas builders. Most reported that a crew of three or four could erect a two-bedroom Lustron in two weeks, with the first week dedicated to pouring the slab and the second week to erection of the dwelling (*Figure 3;* Kruckenberg, Coleman, Attwood, et.al).

The company emphasized that "AF of L carpenters, electricians and plumbers are used for all field construction labor" (Lustron Corp. [n.d.]b, p. 4). Disgruntled union members sabotaged previous attempts at developing pre-fabricated housing. Stradlund used union labor in all facets of Lustron fabrication in an effort to appease union fears and welcome them to the project (*Architectural Forum,* 4). In fact, AFL unions staffed the Lustron factory as well as on-site construction.

In 1949 the FHA's technical division in Washington, DC, approved the Lustron design and construction system. While FHA financing helped numerous buyers purchase their Lustron, the vagaries of FHA design review continued to frustrate corporate officials and local builders. A design approved by the FHA office in one state often did not receive approval from the FHA office in another state. Many of the changes were minor, such as requiring the addition of a door or light in a specific location; however, the inconsistencies remained frustrating (*Architectural Forum,* 7).

In addition to FHA review troubles, the novel all-steel house often encountered difficulty with local building codes, zoning ordinances, deed restrictions and financing. For instance, the City of Chicago would not allow porcelain enamel steel cladding, while other municipalities prohibited copper plumbing. When necessary, the Lustron Corporation provided dealers with the legal backing to challenge existing local standards. Some communities, such as St. Louis, amended building codes in response to challenges from Lustron. As an up-side to the situation, the standardized design and construction of Lustrons was such that once a dealer successfully

FIGURE 3 -- CONSTRUCTION SEQUENCE: 420 Cedar Street, Ashland, Kansas (May – June 1950)[1]


[1] Photographs courtesy of Margaret Jane Stein.

defeated such a challenge he was not likely to face the same challenge again in the same community (*Architectural Forum,* 7).

Dealers and builders faced similar issues in Kansas. For instance, City officials in Newton required that cast iron pipe replace the standard copper for the soil chase. However, an engineer by training, the City Manager in Larned modified local building codes to accommodate the Lustron design (Coleman and Puckett, personal communications).

THE LUSTRON IN KANSAS, 1949-50

The 1999 survey of Lustrons in Kansas revealed that 92 remain extant in the state. Approximately seven additional rumored Lustron properties could not be located and may have been demolished or moved. The extant Lustrons are located throughout the state, with the exception of the southeast corner *(Figure 4).* By far the largest concentration is found in central Kansas in the vicinity of the prolific Great Bend dealership. There are Lustrons in the far northwest communities of St. Francis, Atwood, and Norton, as well as towns in the far southwest corner of the state, including Johnson City (2), Liberal, and Ulysses. Because the unassembled dwellings were transported by truck, it is interesting to note that the majority of Kansas Lustrons are located in communities with access to one of the primary roads traversing the state, including US highways 36, 40, 50, 56, and 160.

Of the 91 Lustrons sixty-eight (68) were Westchester Deluxe two-bedroom models; thirteen were slightly larger three-bedroom Westchester Deluxe models. The remaining ten Lustrons were the Newport Deluxe model, all of which were built by Dan Brack, the Great Bend Lustron dealer, in his home town with the exception of one in Larned.

Many of the Kansas Lustrons retain their original identification tag in the utility room. The serial numbers on these tags suggest when during the approximately two years of sales the individual Lustron was manufactured. The 1999 survey recorded the serial numbers from twelve Lustrons across the state. The dwelling at 214 Park in Smith Center had the earliest number (0843).[7] Five Lustrons had serial numbers between 1700 and 2000, and three Lustrons had serial numbers above 2400 (1307 Coolidge and 1301 Harding,Great Bend; 420 Cedar, Ashland), suggesting that they were among the last units shipped from Columbus before the factory closed.

Kansas Dealers and Builders[8]

A Dealer Performance Report, issued around the time of foreclosure in early 1950, listed eight Lustron dealers in the State of Kansas with sales of 78 Lustrons to date and open orders for three additional houses. Interestingly, based on the number of extant Lustrons in Kansas, that figure indicates that between 14 and 22 additional

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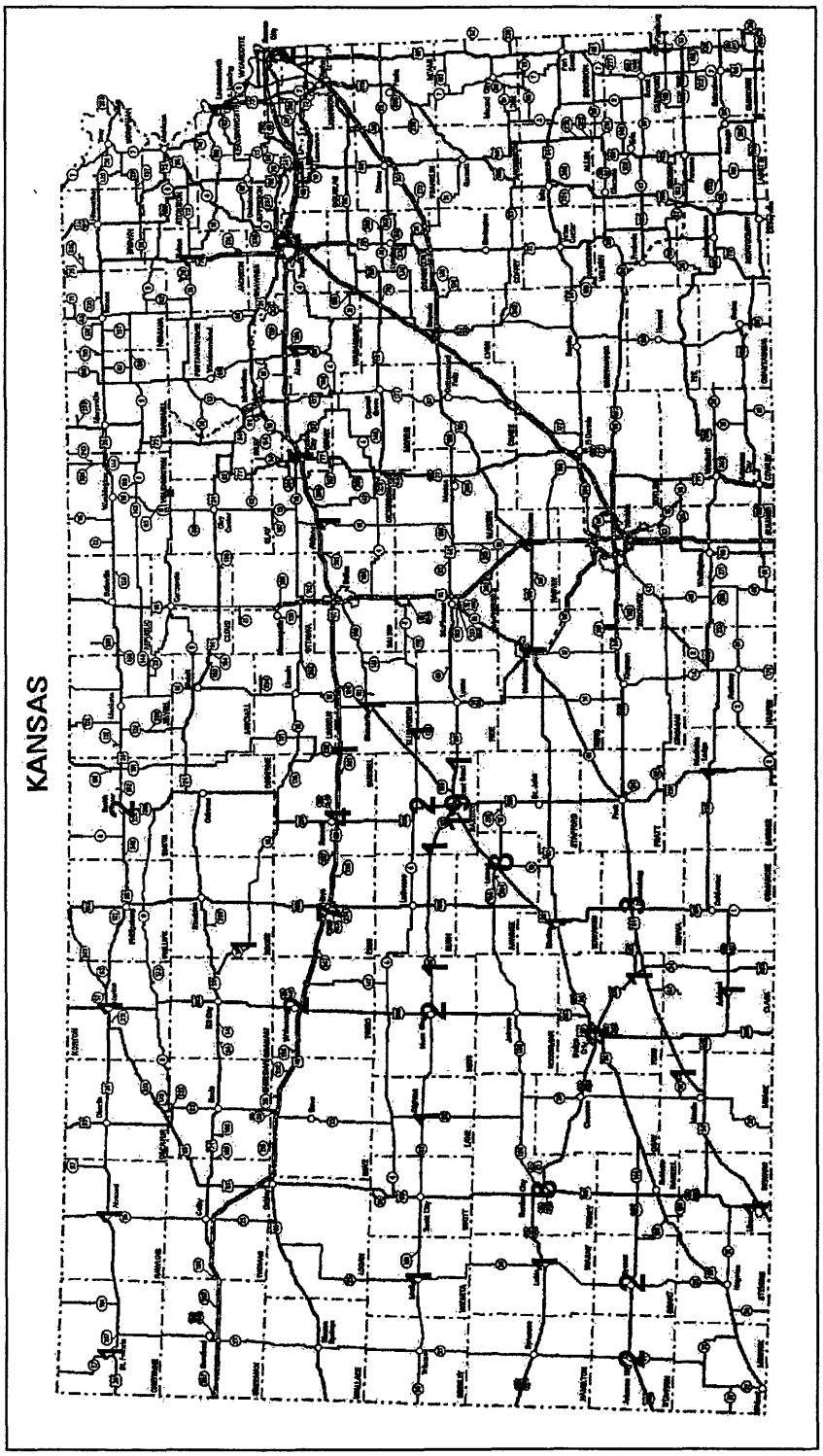
7 214 and 216 Park were built at the same time. Unfortunately, the serial number at 216 Park had been removed

8 Unless otherwise noted, information on Kansas Lustron dealers comes from personal communications, city directories, county farm directories, the Lustron Corporation's Dealer Performance Report (Lustron Corp.[1950]a), and the hearing records of the Senate Subcommittee on Banking and Currency (Congress, Senate 1950).

Figure 4 – DISTRIBUTION OF LUSTRON HOUSES IN KANSAS, 1999



Lustrons were sold and built in Kansas before production halted approximately three months later. Some of these additional houses might also be attributable to one or more as of yet unidentified dealers in neighboring states, such as Colorado, Nebraska or Oklahoma.

The Kansas dealerships/builders were:

- Smith Implements, Abilene
  Very little information was found about this dealership, which built only one Lustron in June 1949. The 1948 *Abilene City Directory* lists Smith Implements and Supply Company, 213 W. First Street, owned by Frank B. Smith. The next available directory, from 1953, indicates that Frank B. Smith was an employee of Smith Sheet Metal Works, which was owned by a family of apparently no relation. Frank Smith subsequently disappears from Abilene records.

- Hughes McOllum Construction/I.A. Sauer Construction Co., Garden City
  Hughes McOllum Construction, the Lustron dealer in Garden City, worked in tandem with the I.A. Sauer Construction Co. Owned by C.N. McOllum, Hughes McOllum primarily built roads and installed water and sewer lines. Lustron records indicate that this dealership sold 16 Lustron units. However, an interview with one of the building foremen for I.A. Sauer recollected the construction of only six units – two in Garden City, two in Ulysses and two in Johnson City. The Sauer company built each pair of Lustrons in about a month using a crew of three men. A. H. "Fritz" Sauer served as foreman for the builder. Mr. Sauer was impressed with the Lustrons' quality and ease of construction. He called them a "good deal."

  When asked for comments on anticipated future sales for the Senate Subcommittee on Banking and Currency, C.N. McOllum wrote:

  > Think the house has been out long enough for public to accept it as a good product. We had open house last week on our first three-bedroom house and from this received three times as many actual prospects as from our first open house in May of last year. People that are living in Lustron homes tell me every day they receive inquiries as to the heating and livability. There is a tremendous potential in our territory if project is given a green light.

  Mr. Sauer and Mr. McOllum moved to Colorado Springs, Colorado in the 1950s where they continued to build custom homes.

- Brack Implements and Kurckenberg Construction, Great Bend
  Brack Implements in Great Bend, owned by Dan Brack, Sr., was by far the most prolific dealer of Lustron houses in the state of Kansas, selling 35 dwellings over a 15 month period (January 1949-February 1950). Prior to his affiliation with Lustron, Brack was a manager at Kerbs Implement Company, owned by his brother-in-law Leonard Kerbs.

  According to his niece, Betty Kerbs Abel, the Lustron Corporation recruited Dan Brack to sell the dwellings in Great Bend. Brack initially worked with Lyman Kruckenberg of the Kruckenberg Construction Company. Kruckenberg had seen a Lustron display home in Kansas City. Together the team built two dozen Lustrons in Great Bend and Russell. However, their affiliation dissolved, and Brack Implements became a Lustron builder

as well. Some of Kruckenberg's Lustron construction crew continued to work for Brack after the disolution of the partnership. Other employees included three of his sons, Dan, Jr., Orville and Wilbur.

Brack built Lustrons with four-man crews, with an additional crew solely responsible for pouring foundations. With the foundation in place, it took approximately one week for the four-man crew to erect the dwelling. In addition to the 19 Lustrons in Great Bend, Brack Implements is known to have built Lustrons in Albert, Bushton, Dodge City, Ellinwood, Ford, Hoisington, Hutchinson, Larned (eight units), Medicine Lodge, Ness City (one of the two units there), Russell, and Sun City (vicinity) for a total of 38 Lustrons.

In his letter to the Senate Subcommittee on Banking and Currency Brack wrote, "We have spent the past year promoting the Lustron home and our many satisfied owners are selling homes for us every day." In fact, Brack was so confident in the Lustron product that he anticipated sales of between 120 and 200 Lustrons over the next year.

After foreclosure, Dan Brack acquired tooling equipment and inventory from the Lustron Corporation, and continued to salvage panels and parts from damaged Lustrons around Kansas. During this time, in addition to owning the Brack Implements Company, Dan Brack was president of the P.E. Construction Company. An advertisement for P.E. Construction in the 1952 Great Bend city directory describes a company specializing in "light steel framing – porcelain enamel coverings on buildings." Following the end of the Lustron venture, Dan Jr. continued to work with his father at Brack Implements, while his brothers, Orville and Wilbur, moved to New Mexico.

- Kruckenberg Construction, Great Bend

  Lyman Kruckenberg first saw a Lustron house on display in Kansas City, but he recalled that Dan Brack had gotten him interested in these unique dwellings. Kruckenberg, working with Brack, believes that he was the first Lustron builder in Kansas, erecting approximately two dozen of the homes before anyone else in the state. Between 1948 and 1949 he built Lustrons with Brack mainly in Great Bend and Russell. Subsequently he built Lustrons in Garden City for the Hughes-McOllum dealership.

  For a fee of $1800, Kruckenberg and a three or four-person crew could erect a Lustron in two weeks. The first week the crew would pour the slab foundation and the second week erect the Lustron. He recalls that the dwellings were "quick" and easy to assemble. For this very reason, according to Kruckenberg, electricians and plumbers were not fond of the homes because they rarely required more than one day to wire or set fixtures in a Lustron. Kruckenberg believes that "the lumber Senators" were responsible for the down fall of the company. Lustrons were "ahead of the their time," he said, and the communities in which they were built "couldn't believe their eyes."

  After the demise of the Lustron Corporation, Kruckenberg continued to work in commercial steel construction. He also moved one Lustron originally in Great Bend to a new location west of town.

- Dreiling Implements, Hays

  Dreiling Implements, located at 305 East 11th Street, Hays, was owned by Leo J. Dreiling. An advertisement for the company in the *1949 Ellis County Farm Directory* described a business carrying "[a] Complete Line of Farm Machinery." While Leo Dreiling's background was in farming, he worked during the early 1920s on

an assembly line in Youngstown, Ohio. He returned to farming when he returned to Kansas. He later founded the Dreiling Implement Company in his home town, Victoria. Later, after the company expanded to Hays, Dreiling was among the largest implement dealers in northwest Kansas. Dreiling also became interested in oil drilling during this time. Joined by two of his sons in Dreiling Oil, by the 1960s the family was drilling in nine states. Dreiling and his wife, Albina, were civic benefactors underwriting multiple charities focused on education, healthcare and elderly services.

Dreiling had reasonable success with Lustron sales. Over a 29 week period he sold eight Lustrons, far exceeding the corporate projection of two. In his statement to the Senate Subcommittee on Banking, Dreiling wrote, "We are reasonably certain of selling ten more in the next four months and 25 in the following 12 months." Dreiling credited the increased volume to "Acceptance and our ability to build have passed pioneering and schooling states. We are much enthused over [the] future for Lustron homes."

- Weidenheimer, Kinsley
  The Weidenheimer Lustron dealership was a sideline operation run by Merlyn Weidenheimer, owner of the Kinsley appliance store. Dewey Blank headed the construction crew that built the Lustrons sold by Weidenheimer. This three-man crew could build a Lustron in approximately two weeks (*Edwards County Sentinel* 1996). The Weidenheimer dealership sold four Lustrons during its 29-week tenure as dealer, far exceeding its goal of one. According to his nephew, Bob Weidenheimer, Merlyn moved to Palo Alto, California in 1951.

- Stauffer Construction, Newton
  Stauffer Construction was owned by Mahlon R. Stauffer, Sr., and managed by Mahlon R. Stauffer, Jr. Stauffer was a prominent general contractor who came to Newton in 1924 and entered business, specializing in commercial buildings. He was the builder of the Science Hall at Bethel College and Newton's Santa Fe Railroad Depot.

  With his commercial construction business thriving, in 1949 Stauffer ventured into the residential market with his Lustron dealership. During 29 weeks as a dealer/builder, Stauffer Construction built two Lustrons – one in Newton and one in Emporia. Stauffer hired his son-in-law, Jean Coleman, to manage the dealership and oversee construction of the Lustron homes.

  In the opinion of Jean Coleman, the design of the pre-fabricated Lustron home was created by "experts," as demonstrated by the Lustron's ease of construction. The building plans were the most precise and meticulously drawn set of construction documents Coleman had ever seen, providing dimensions to 1/64 of an inch. Coleman and his three-man crew could erect a Lustron home, including the concrete slab, in approximately ten days. The only minor problem Coleman encountered was with the pre-assembled copper plumbing pipes, which were not acceptable to Newton's building codes, and consequently had to be replaced with cast-iron soil pipes at an additional cost of $600. In spite of the code issues and slow sales record, M.R. Stauffer, in his written testimony to the Senate Banking Subcommittee, anticipated tripling sales over the next year to six Lustron dwellings and wrote that "public acceptance [of Lustrons] is growing."

- Attwood Implement Company, Smith Center
  Roy Attwood and his son, Lyman, owned and operated Attwood Implement Company, a local farm implement dealership that sold and serviced a variety of equipment, appliances, and vehicles including Maytag washing machines, McCormick farm equipment, Krause disc plows, International Harvester Trucks, and Chrysler-Plymouth automobiles. Lyman served in World War II before joining his father in business.

  The Attwoods became Lustron dealers in early 1949, selling the first of five two-bedroom Westchester Deluxe models in May of that year. In addition to the two Lustrons in Smith Center, Attwood Implements constructed one each in the towns of Osborne, Oberlin and Norton. The Attwoods sold the two-bedroom Westchester Deluxe for $9,500, plus the cost of the lot. Before the Lustron Corporation went bankrupt in 1950, Attwood secured down payments of $1,000 each for fifteen additional dwellings.

  Although short-lived, the Attwood's Lustron venture was both profitable and efficiently managed. Roy Attwood supervised the business while Lyman served as salesman, marketing the Lustron with an open house on each Sunday. Once Attwood's six-man crew, directed by foreman Mel Moore, poured the concrete slab foundation and installed plumbing, Lyman notified the Lustron Corporation for delivery of the house. The six-man crew then erected the Lustron home in only three days. Lyman Attwood was a firm believer in the Lustron Corporation. Recognizing that Lustron homes were well ahead of their time, the Attwoods would have continued their Lustron dealership had the Lustron Corporation not gone out of business in 1950.

- George B. Emery, Jr., Construction Company, Topeka
  Archival research gleaned little information about the Emery Construction Company in Topeka. The company first appears in the 1950 Topeka city directory. The entry lists George B. Emery, Jr., as president, George B. Emery as vice-president, and Charles M. Houseknecht as secretary-treasurer.

  A local history describes George Emery, Jr., as a "prominent figure in construction and oil development" (Markely, 104). Emery started in the construction business at the age of twenty-one. In 1943 he entered the U.S. Army Air Force, serving as a flight instructor during World War II. Following the war, Emery returned to Topeka and formed the construction firm, George B. Emery, Jr., Inc., in 1946. Emery specialized in housing construction. Between 1950 and 1956 the Emery Construction Company built over 1,500 residential units in five housing developments in Topeka. He was very involved in the national and regional home building industry, serving as president of the Topeka Association of Home Builders and as a director of the National Association of Home Builders (Ibid.).

  The Emery Lustron dealership operated for 47 weeks beginning in early 1949. Prior to closing of the Lustron Corporation Emery sold seven Lustron dwellings, all but one between May and September of that year. These included two in Topeka and one in Holton. As a construction company, it is likely that the Emery company also built the Lustrons they sold. Given Emery's involvement with larger housing developments he would have been a prime candidate for the construction of Lustron developments, such as those considered for military bases in Kansas.

In addition to these eight dealers, it is likely that Lillis Construction and Universal Construction, both located in Kansas City, Missouri, were also responsible for construction of Lustrons in the eastern portion Kansas, possibly

including Lustrons in Leavenworth, Wyandotte, and Miami counties. Unidentified dealerships in the neighboring states of Colorado, Nebraska, and Oklahoma may also have constructed Lustrons in Kansas.

THE LUSTRON HOUSE

The Lustron House was in many ways an ideal expression of the new suburban architecture. Its marketing described it as "the triumphant result of modern engineering and production methods applied to home building – bringing you the happier and more comfortable living you've planned and dreamed about" (Lustron Corp. [n.d.]e). Its compact design and one-floor plan addressed the standards of the FHA. The all-steel construction provided the added benefit of being virtually maintenance free, and its myriad built-in features lured new suburbanites. The all-steel dwelling was billed as "fireproof, ratproof, decay-proof, [and] termite proof. Will never deteriorate or stain, never fade, crack or peel, never need painting, refinishing or reroofing [sic]." (Ibid.) According to Lustron president, Carl Stradlund, Lustron dwellings were not intended to provide emergency or stop-gap housing. They were a permanent solution to the housing shortage. Likewise, the design and production, while standardized and automated, was not to be confused with lesser quality pre-fabricated housing (Stradlund [n.d.], 1).

Design

Carl Stradlund took his preliminary house plans and the porcelain enameled steel technology developed by Chicago Vitreous to the Chicago architectural firm of Beckman and Blass to prepare working drawings. Partner Morris Beckman, a graduate of the Massachusetts Institute for Technology and former draftsman with Skidmore, Owings and Merrill, prepared the final design. (Jandl, 185).

Materials aside, Beckman's Lustron dwelling was similar in form and design to the Minimal Traditional style dwellings popular in the post-war period. It featured a front-gabled plan of approximately 1,000 square feet with asymmetric elevations. Framing was 14 and 16-guage steel, typically set on concrete slab foundations. Steel panels, covered on both sides with a permanent porcelain enamel finish, clad interior and exterior surfaces.

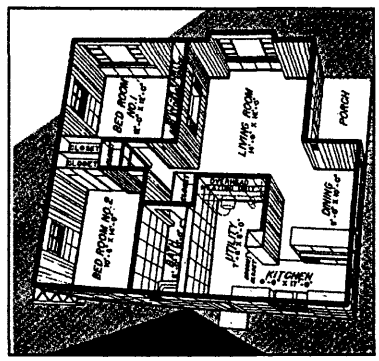


Figure 5 – Westchester Two-bedroom Flooplan (Lustron Corp., [n.d.]a)

The open plan featured common living spaces that flowed into each other. Sliding pocket doors provided privacy to the bathroom and bedrooms while conserving space needs. Replacing the functional basement was a utility room off the kitchen, which contained the dwelling's mechanical units (furnace and water heater) and provided space for sewing, ironing and miscellaneous storage (Jandl, 187).

Figure 6 – Two-bedroom Westchester with Lustron Garage (Lustron Corp., [n.d.]c)

Interlocking 24" by 24," square panels clad the exterior body of the dwelling. Stylized roof "shingles," long thin corner elements, plates and sills, and shorter vertical elements in the gable ends completed the cladding. Roof and trim complemented the four available body colors: "Dove Gray, Desert Tan, Surf Blue and Maize Yellow." The designs incorporated aluminum windows in two configurations. Window configurations on the primary façade and portions of the

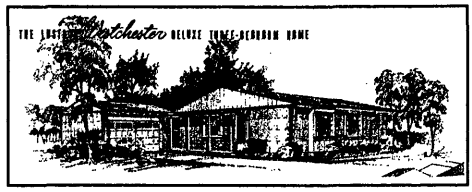


Figure 7 – Three-bedroom Westchester with Lustron Garage (Lustron Corp., [n.d.]c)

secondary elevations included tripartite bays with four-light casements flanking a larger, single-light fixed pane. Bay windows on some three bedroom models projected slightly from the wall of the dwelling. The remaining secondary and tertiary façade windows featured three-light casements arranged singly or in pairs. The steel doors also had single glazing at their centers.

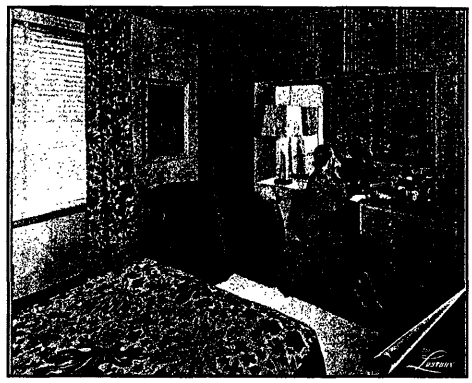


Figure 8 – Master Bedroom (Lustron Corp., [n.d.]d.

The interior was equally maintenance-free. Two-foot by eight-foot panels clad interior walls and 4-foot square panels covered the ceilings. The porcelain enameled panels were soft gray, with the exception of the kitchen, bathroom and utility room, which featured soft yellow wall panels. Asphalt tiles covered the floors, and screens protected all windows. (Lustron Corp. [n.d.]a).

Owners could select either an oil or a gas furnace to fuel the radiant heating system. A Lustron innovation, this system included a forced air furnace in the utility room that blew air through a plenum suspended from the roof trusses. Heavily insulated above, the hot air radiated down through the uninsulated ceiling panels. In temperate areas the system worked well. In colder climates, the minimal wall insulation, concrete slab floor and single-glazed windows limited its efficiency. (Jandl, 194) The smaller Newport models did not have the radiant heat system, but relied instead on forced air from the furnace that blew through two vents to heat the house. (Coleman, personal communication).

To improve thermal efficiency, fiberglass insulation was glued to the back of all exterior wall panels as well as the backsides of the bathroom and utility room wall panels. The steel studs that supported the panels were paired to provide a thermal break between the exterior and interior walls, further enhancing the dwelling's thermal efficiency. The panels attached to the studs with screws, and plastic gaskets assured airtight joints. (Jandl, 193-94).

The two garage designs that followed the development of the dwelling (one-and-a-half and two-and-a-half car versions) featured the same cladding attached to a wood stud frame (Mitchell 1991, 49). Company literature emphasized that builders could customize individual units with breezeways, patios, carports and screened porches, "...using Lustron panels in combination with conventional materials to give unlimited variety to Lustron Homes." (Lustron Corp. [n.d.]b, 2).

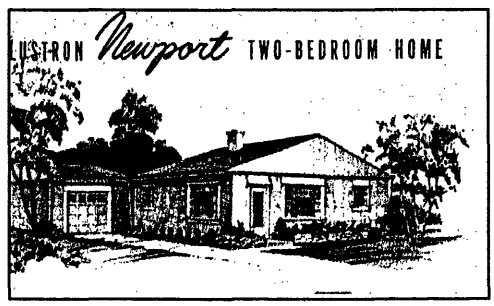


Figure 9 – Two-bedroom Newport with Garage (Lustron Corp., [n.d.]c)

By January 1950, the consumer could choose from one of four Lustron models (economy to deluxe), each with either a two or three-bedroom floor plan. Variations between the models reflected the size of some rooms and the number of built-in features. For instance the top of the line Westchester Deluxe models measured 31' by 35' for a two-bedroom model and 31' by 39' for a three-bedroom model. It included a vanity-bookcase, china cabinet-pass-through, radiant heat, bay window, bathroom vanity, 2'x2' kitchen panels (as

opposed to the typical 2'x8' interior panels), and asphalt floor tiles. The Westchester Standard had the same dimensions but lacked some of the "luxury... built-in features." The most economical line, the Newport, measured 23' by 31' with two bedrooms and 31' by 31' with three bedrooms. This model was a design "...for buyers who can afford only a minimum investment in a home or who want to build several homes for rental income." (Ibid., 2 ; Lustron Corp. 1949c).

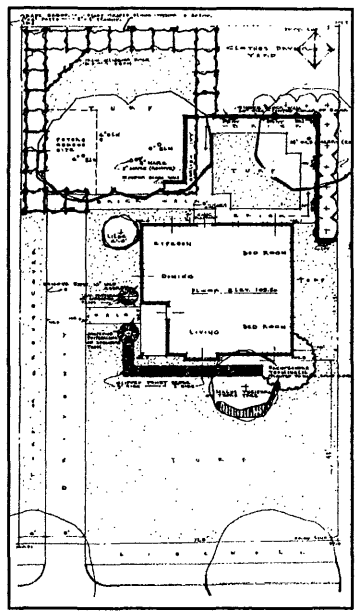


Figure 9 – Plot Plan No. 4 (Lustron Corp. [n.d.] e.

Lot Selection/Siting

In 1948 the Lustron Corporation issued a set of "Suggested Land Operations Polic[ies]" that discussed individual lots and group developments. The policy guided dealers on the selection of "suitable lots" and the siting of Lustrons on those lots. In general the policies followed those of the FHA. Individual lots were to equal less than 15% of the total project cost (land and building) and have a minimum frontage of 50 feet. Both underground utilities and foundations were to be approved in advance of construction by local building authorities. The company required that builders provide "all-weather" walks and/or driveways, sod or grass seed, and landscaping (two 2 ½ inch caliper trees and eight shrubs) for each individual home (Lustron Corp. 1948).

Developments of groups of Lustrons (essentially Lustron subdivisions) were to follow the same specifications for each individual lot in addition to receiving prior approval from the Lustron Corporation for the overall plans. On a map showing the tract, the builder was to indicate zoning; main traffic arteries; public transportation; existing improvements, including buildings and infrastructure; and topographical information. In exchange, the Lustron Corporation would advise dealers on site and landscape planning and offer suggested landscaping alternatives based on local climate. (Ibid., 1-2). Aside from a sixty-unit Lustron development at Quantico Marine Corps Base (extant) in Virginia, it is not clear that the company realized any Lustron group developments.

Registration Requirements

The all-steel framing and cladding of a Lustron House made a fairly traditional post-war residential design unique, and it is the retention of the basic design and materials that give these dwellings their distinct feeling and distinguish their architectural integrity. All framing, exterior and interior cladding utilized steel, and it is essential that these materials be retained for a Lustron House to qualify for listing on the National Register.

The Lustron design is a variation of traditional residential architecture common in the period immediately following World War II. Additions that are in keeping with the original Lustron design located on a secondary or tertiary elevation and compatible with the size, scale, massing, and features of the original will not disqualify a property from National Register eligibility. However, substantial alterations and additions, including the application of siding over the exterior Lustron panels or construction of an addition that largely obscures or compromises the original design, will render a Lustron ineligible for listing on the National Register.

Likewise, minor, reversible modifications to materials will not compromise the overall architectural integrity of a Lustron. As seen during the survey, such alterations might include addition of central air conditioning, aluminum

storm doors and/or window awnings; replacement of kitchen cabinetry, including the original dishwasher/washing machine; installation of carpeting; and application of paint and/or wallpaper to some of the interior walls. However, replacement of the original aluminum casement windows with new windows represents a more serious alteration. When the new windows do not match the materials, profiles or configurations of the originals they significantly impact the integrity of the property and render it ineligible for National Register listing.

The Lustron Corporation anticipated modifications to Lustron properties through the construction of secondary structures, including garages, patios, breezeways and carports. While the company prepared some garage designs that used steel panels attached to wood framing, many secondary structures on Lustron properties utilize more traditional wood and masonry construction. The secondary nature of these elements, and the company's anticipation of such elements do not compromise architectural integrity if the structure is located on a secondary elevation, is compatible with size, scale and massing of the property, and does not obscure the original character and design.

Kansas Lustrons are found in older residential areas, subdivisions developed after World War II, and rural locations. In any of these settings, the surveyed Lustrons adhere to the site design prescribed by the corporation, including hard-surface walks and driveways and grassy lawns. No instances were identified in which alterations to a property's setting (such as changes to landscaping or site) adversely impacted its National Register eligibility. Likewise, a Lustron dwelling that has been moved from its original location might still be eligible for listing on the National Register if no changes were made to its design or materials and it retains a setting that generally meets corporate standards.

GEOGRAPHIC AREA

The State of Kansas.

SUMMARY OF IDENTIFICATION AND EVALUATION METHODS

The Multiple Property Nomination for ***Lustron Houses of Kansas*** is based upon a survey of Lustron Houses completed by Historic Preservation Services, LLC, (HPS) for the Cultural Resources Division of the Kansas State Historical Society (KSHS) during the fall of 1999. The field survey was guided by the 1995 article "In Search of the Kansas Lustron," published in *Kansas Preservation,* and other records on file at the KSHS, which identified nearly 100 known or rumored Lustron Houses throughout the State of Kansas. Working from these records, HPS field verified the presence of the reported properties for approximately two weeks between October and December 1999, taking exterior black and white photographs of each Lustron that was located. A computer database (Microsoft Access 7.0) recorded physical and historical information about each property, including each building's physical features (plan, height, materials, model) as well as historical information (date of construction, ownership, alterations, builder/dealer). In advance of the survey, HPS mailed letters to all of the Lustron owners, informing them of the survey and providing general information about the overall project scope.

The survey located 92 of the 100 reported Lustrons. Seven Lustrons reported in the 1995 article or in the KSHS files could not be located and may have been demolished. One surveyed property in Great Bend had been moved from its previously recorded location, and another reported Great Bend property was actually the former home of a Lustron dealership and not an actual Lustron structure. Subsequent research identified the locations of two additional Lustrons that had not been included on earlier lists. The condition of these two properties has not been verified.

In addition to the National Register Multiple Property Documentation Form for ***Lustron Houses of Kansas***, HPS prepared individual National Register nominations for fifteen properties. In consultation with the KSHS, HPS reviewed the survey data to identify those Lustrons that possessed sufficient architectural integrity to merit listing on the National Register. Assessment of integrity focused on the condition of original building materials, the degree of alterations to the original design. Because Lustron designs incorporated distinctive building elements on both the interior and exterior, HPS considered both interior and exterior architectural integrity in the evaluation. Site arrangement (such as presence of a Lustron garage), proximity to other Lustrons, and owner interest in National Register designation also factored in to the final selection of properties to be individually nominated.

Forty-four of the ninety-two Lustrons surveyed appeared to meet the National Park Service Criteria for listing on the National Register. To ascertain which owners might be interested in the National Register program, the consultants sent letters and placed follow-up phone calls to the owners of the forty-four eligible properties explaining the impacts of National Register designation. After identifying fifteen properties for nomination, HPS staff conducted a second round of fieldwork, which involved additional photographic documentation and historical research for each property. Color slides as well as black and white photographs were taken of each property.

The Muliple Property Documentation Form focuses on four historic contexts that affected the development, design and construction of Lustron houses in Kansas. These four (Suburban Housing Development in the Post World War II Era, 1946-50; Post-War Residential Architecture, 1946-50; Pre-Fabricated Metal Housing; and the Lustron House, 1946-50) are detailed in Section E of this nomination. To prepare these contexts as well as the individual nominations, HPS focused archival research on three areas: 1) general information about the history and significance of the Lustron House and the Lustron Corporation; 2) information on Lustrons in Kansas; and 3) specific information on the history of the fifteen properties individually nominated to the National Register. In addition to the survey files and archival collections of the Kansas State Historical Society, HPS staff visited the Archives of the Ohio Historical Society, Columbus, Ohio, which maintains a collection on the Lustron Corporation. Factual information and established historical contexts from the *Kansas Preservation Plan* provided additional information on the history and development of housing in the State of Kansas. City directories, county farm directories, newspaper obituaries, and county deed records provided specific information on the history of individual properties, property owners and Lustron dealers. These resources were available through the KSHS archives as well as through county historical societies and municipal libraries. Where possible and appropriate, the consultants interviewed current and original owners as well as other individuals knowledgeable about Lustrons in Kansas.

Because the Lustron Corporation produced houses for only a very limited period of time, the dates of construction for surveyed properties were listed as "1949-50 c." unless an exact date was identified. Additional research that narrowed this window relied on chains of title, city and county directories, and oral interviews. While HPS obtained deed records for all 15 of the individually nominated properties back to the mid-1940s, these were not always clear about who the original Lustron owner or builder was, and directories for the necessary years (1949-51) were not available for all communities in which these Lustrons were built. Fortunately, the narrow window within which Lustrons were built and the presence of serial numbers on many of the dwellings enabled the consultants to identify original owners and dates of construction for most of the nominated properties with relative certainty. Personal interviews supplemented these archival sources with valuable information on some of the nominated properties.

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