NCPTT

Lustron On-Line | 2008-02

National Trust for Historic Preservation

National Park Service
U.S. Department of the Interior

National Center for Preservation Technology and Training

Project Team
Jeanne Lambin, Project Manager
Christina Morris, National Trust for Historic Preservation
Ian Johnson and Monte Workman, Web Designers, Moia Group
Charlene Roise, Historic Research and Writing, Hess-Roise
Todd Zeiger-Technical Research and Writing

Report Prepared by:
Jeanne Lambin
319 High Street
Mineral Point, WI 53565
608-987-1504
jeanne_lambin@yahoo.com
December 17, 2007

Table of Contents

Executive Summary 4
Introduction 5
The Housing Crisis 5
A Role for the Federal Government 6
Prefabrication Seen as the Solution 6
Carl Strandlund 6
The problem 7
The solution 12
Methods or Materials 12
Historic and Archival Research 13
Maintenance and Repair 15

Results and Discussion 15
Web Site Statistics 17
Future Use, Expansion and Updates 18
The Lustron Advocacy Group 18
Conclusions 18
Acknowledgements 19
References 19

Executive Summary

The pre-fabricated, all-steel Lustron Home was a unique solution to the post-World War II housing crisis. Between 1948 and 1950, approximately 2,680 Lustron homes were manufactured and shipped by truck to 35 states, primarily in the Midwest and Northeast. Since the last Lustron rolled off the assembly line, hundreds have been lost to neglect, alteration and demolition, the pace of which is dramatically increasing. Indeed, in Quantico, Virginia, the largest concentration of Lustrons in the United States was recently demolished.

Since 1996, approximately 24 Lustrons and one Lustron District have been listed on the National Register of Historic Places, many as part of Multiple Property Submissions for Lustrons in the states of Kansas, Alabama and Georgia. These Lustrons have been recognized for their significance under Criterion C as an example of the Lustron Corporations innovative contributions to the pre-fabricated housing industry.

Despite these positive steps, Lustrons throughout the nation are threatened by a lack of appreciation, insensitive alterations, neglect, development pressure and demolition. As development pressure continues to increase, and original materials age and fail, the threats to the remaining Lustrons will only increase.

A review of the then extant web resources and monitoring of the Lustron Yahoo Group revealed that there was a need for correct and accurate information on how to properly maintain and repair Lustron homes. In addition, there was a clear need for information on basic preservation practices and procedures including understanding the benefits of listing on the National Register of Historic Places and protection through a local landmark designation program.

Lustron Preservation (www.lustronpreservation.org), a web-based initiative of the National Trust for Historic Preservation, was created to help owners and advocates preserve Lustron homes by providing high-quality technical information and a forum for the exchange of information via the internet.

The team produced a comprehensive website which includes information on the history of Lustron homes, advocacy, repair, maintenance, basic preservation standards and practices as well as a user-generated inventory of Lustron homes. The website is extensively illustrated with relevant images from the Lustron Erection Manual and, when available, contemporary and historic images. Highly sought after, useful and informative documents such as the Erection Manual and Master Specifications are available for download from the site for free. The site was built using a content management system (CMS) so that it can be added to, amended and updated over time to reflect the most current research.

To date, over 2,300 users from 13 countries have downloaded over 45,000 pages of information and almost 2,000 homes are included in the Lustron Locator.

Introduction

The innovative, all-steel Lustron home, manufactured between 1948 and 1950 was once thought to be *the* answer to the post-World War II housing crisis. Today, Lustron homes are threatened with demolition, alteration and a lack of appreciation.

The Housing Crisis

"A national emergency now exists because of the critical housing shortage. Existing facilities are inadequate to house large segments of the population and large numbers of veterans are returning to civilian life in need of housing accommodations which are not available. It is estimated that some 2,900,000 married veterans of the recent war will be in need of housing facilities by the end of the year 1946…To meet the housing emergency, there is an urgent need

for some 3,000,000 moderately and low-priced homes and apartments during the next two years."

Congress, House, Committee of the Whole, Director of Housing Stabilization*. 79th Cong., 2nd Sess. Report No. 1580.*

Following the close of World War II, millions of troops returned home to find less than

A Role for the Federal Government

Convinced that the federal government should play a major role in responding to the housing crisis, Congress passed the Veterans' Emergency Housing Act in May of 1946. The Act implemented the Veterans' Emergency Housing Program which called for significant government involvement in housing production, control of critical materials, allocating repurposing factories that had been used during the war for military purposes, and providing loans through the Reconstruction Finance Corporation

Prefabrication Seen as the Solution

The government set the ambitious goal of having 250,000 pre-fabricated houses erected in 1946 and 600,000 in 1947. Pre-fabrication became the panacea that would save America by providing economical, up-to-date housing in unprecedented quantity.

Carl Strandlund

Swedish immigrant, inventor, and Vice President of the Chicago Vitreous Enamel Company saw an opportunity. Chicago Vit manufactured porcelain enamel steel panels. Unfortunately, the steel to make the panels was in short supply after the war. Strandlund, unable to get an allocation of steel for service stations and other utilitarian type buildings, envisioned a new use for his high-quality product---housing. While he could not get an allocation for service stations, he could get it for housing, and so the Lustron was born.

He founded the Lustron Corporation and obtained a government loan and a massive former aircraft plant in Columbus, Ohio in which to manufacture the steel framed homes with porcelain coated steel panels, covering both the interior and exterior. The interior of the pioneering small house featured an extremely efficient layout, with pocket doors, built-in steel cabinets, vanities and closets, radiant heating and an innovative dishwasher, washing matching combination. Designed to be maintenance free, the Lustron was also advertised as being vermin proof, fireproof, lightening proof, and rust proof. The pre-fabricated homes were shipped by truck to 35 states, primarily in the Midwest and Northeast. Strandlund anticipated that the factory would be able to produce 400 houses a day. He estimated that in 1947, 30,000 Lustrons would roll off the assembly line and into communities across the nation.

Sadly, production numbers never reached that rate. Indeed the only thing produced in 1947 was more debt. Delays, financing issues and political interference all contributed to the setbacks. Production of the houses did not begin until 1948 and by1949, they were still only producing 25 houses a day. Unable to repay the massive loans or receive other financial assistance, the dream was quickly dissipating. Production ceased in May of1950 due to a number of factors including political posturing and the company's inability to repay its government loan. The factory was repurposed and the equipment auctioned off. In the end, it is estimated that only 2,680 Lustrons were ever produced.

The problem

Lustrons are a unique, finite, and significant resource threatened by a lack of appreciation, alteration, neglect, improper maintenance or repair, development pressure and demolition. Of the approximately 2,680 built, is it unknown how many survive. Estimates range from as low as 1,200 to as high as 2,175. Unfortunately, many of these surviving examples have been unsympathetically and irrevocably altered, making them ineligible for listing on the National Register of Historic Places or for recognition and protection through a local landmark designation program.

It is unknown how many Lustrons have been lost to alternation, demolition and neglect. This Lustron has been dramatically altered.

Currently, there are approximately 24 Lustron Homes listed on the National Register, most as part of Multiple Property Submissions. There is also one Lustron National Register District in South Dakota. A handful of Lustrons have been designated as part of a local landmark designation program.

The Norris and Harriet Coambs House, in Chesterton, Indiana, was individually listed on the National Register of Historic Places in 1992.

Although there has been a recent resurgence of interest in Lustron homes, as evidenced by these listings and a host of articles and a documentary film, they are still disappearing at an alarming rate. In an era of monster houses and home remuddling mania, hundreds have been lost to demolition, dramatic and unsympathetic alteration, or to harmful repair. It is unknown exactly how many unaltered Lustrons survive.

Although it is listed on the National Register of Historic Places, this Lustron home in Closter, New Jersey is threatened by demolition.

In response to these threats, a number of historic preservation organizations, including Preservation New Jersey and the Arlington Heritage Alliance in Virginia, have listed Lustrons to their annual endangered lists. As development pressure continues to increase and original materials age and fail, the threats to remaining Lustrons will only increase. In October the last of the Quantico Lustrons were demolished. The fifty-eight houses, located on the Marine Corps Base in Quantico, Virginia, represented the largest development of Lustrons in the world.

As aptly stated in a recent article of *CRM: The Journal of Heritage Stewardship*, "Lustrons pose a significant preservation challenge. Because of their modest size and the changing spatial demands of modern living, they are prime candidates for demolition."

Alternation and inappropriate repairs are also another significant threat. In fact, many of these damaging repairs were undertaken by owners "trying to do the right thing" but they lacked the information that they needed to make appropriate repairs.

Many inappropriate alterations to Lustrons (like vinyl siding) are made by owners trying to do "the right thing."

In 2002, KDN Films released their award winning documentary, *Lustron the House America's Been Waiting For* which premiered at film festivals and was featured on PBS stations throughout the country. When the filmmakers attended premiers, they often found themselves peppered with questions from audience members who were also Lustron owners seeking guidance on how to care for these unique homes. The filmmakers contacted the National Trust for Historic Preservation and asked the fateful question, "Can you help?" The Midwest Office of the National Trust agreed to explore the issue. Concurrently, the Midwest Office of the National Trust noticed a marked increase in the number of inquiries relating to the preservation of Lustron homes. Calls were received from both homeowners and advocates seeking assistance.

With each passing week it seemed that more Lustrons were lost to demolition, alteration, neglect and inappropriate or misguided repairs. The challenge was to determine how to help. Many Lustron owners wanted to "do the right thing"

by their Lustron, but lacked the information needed to do so. What could be done to provide Lustron owners and advocates with the information that they needed to preserve and protect Lustrons for future generations? They needed information on a range of subjects—from how to repair pocket doors and cracked window panes, to how to get a home listed on the National Register or as a locally designated landmark. Without working individually with owners and local advocates, how could the Trust make high-quality technical preservation information readily and consistently available in order to help owners and advocates make good preservation decisions? Hence, the idea for the Lustron Preservation website was conceived. The internet is the most efficient way to get high-quality specialized technical information to Lustron Owners and appreciators.

The solution

The goal of Lustron Preservation is raise understanding, awareness and appreciation of Lustron homes. Its goal is to also provide high-quality technical information and a forum for the exchange of information via the internet to owners and advocates of Luston homes.

Methods or Materials

Prior to beginning development of the actual site, a review committee was created to help develop the content outline for the site, review early iterations of the site and be available to review selected content. A list of Advisory Committee members is included in Appendix A.

After a competitive bidding process, the firm of Hess-Roise of Minneapolis was selected as the research consultant and Moia Group of Tucson, Arizona was selected as the web designer. Todd Zeiger, a Lustron owner and member of the Advisory Committee, was brought on as a technical consultant to assist with the preparation of research guides.

Early on in the process, Peter Rogers, Lustron owner, advocate, member of the advisory committee and manager of the Lustron Yahoo Group provided the group with a comprehensive overview of the most frequently asked questions

and topics of discussion on the Lustron List-serve. This report was used to create a draft outline for the site which was then vetted by the Advisory Committee. The outline was revised based on the feedback with the committee. The outline was then used to amend the flowchart (see Attachment A) for the site which was then given to the web designers so that they could come up with some preliminary designs for the site.

The designs were previewed by National Trust Staff and vetted by the Advisory Committee. A design concept was selected and the web designers began work developing a content management system for the site using Word Press, a state-of-the-art semantic personal publishing platform. The web designers then developed various plug-ins for features like the Lustron Locator.

Content was developed by National Trust staff and the research consultants; it was edited and posted to the site by Trust staff using the content management system (CMS). A CMS is a system used to manage the content of a website. Content management systems allow for interactive use by a potentially large number of contributors.

Historic and Archival Research

Charlene Roise, of Hess-Roise, a historical research firm, conducted the research for the project. Because extensive research had already been conducted on the Lustron Corporation and Lustron houses, a standard literature search was not completed. The bibliography and footnotes in two major published histories of Lustron—*The Lustron Home* by Thomas Fetters and *Suburban Steel* by Douglas Knerr—provided direction for research on specific issues related to the company and the houses. Two additional sources were also extremely helpful: the extensive research files of Michele Boyd, who wrote a masters thesis on Lustrons as part of her course of study at Columbia University, and the well-organized notebooks and files of Ed Moore and Bill Kubota, producers from KDN Videoworks in Detroit, who prepared an authoritative documentary on the history of Lustrons. These collections contained photocopies of much of the material in the Lustron Corporation Records at the Ohio Historical Society in Columbus and other relevant archives.

To gain insight into the development of the design of Lustrons, the Roy B. Blass papers at the Chicago Historical Society were examined.

The libraries of the University of Minnesota, the in-house research files and library of Hess Roise, internet resources, and contacts with State Historic Preservation Offices were among the other sources used to find general and in-depth information on the Lustron Corporation's history, extant houses, and maintenance issues. Information published by the National Park Service provided guidance about considerations related to the National Register and the Secretary of the Interior's Standards.

This material was used throughout the website, specifically in: the interactive Timeline, the "Lustron Library," which contains an extensive annotated bibliography and the "Meet the Lustrons" section of the website. This section details the history of the Lustron Corporation, the Post-war Housing Crisis and includes a biography of Carl Strandlund. It also includes information on the various Lustron models: Esquire, Westchester, Meadowbrook as well as on the components of the "Lustron System."

In preparing the content for this section, the team worked to provide owners with a basis of understanding of the complexity of "the Lustron System." Because of the intricacy of the Lustron components, as well as the assembly process, the team felt it was important for owners to develop an understanding of how those components fit together to make up the Lustron System. Learning about the Lustron System would help them better understand how to approach repairs of their Lustron and appreciate the level of intervention that might be required to undertake what, on the surface, might appear to be a fairly straightforward repair. For example, whereas gutter replacement is a fairly straightforward repair job in a conventional home, gutter replacement in a Lustron is more complex. In a Lustron, the roof was installed after the gutters. Therefore, to remove the gutters for replacement the roof must be removed. Information in the "Meet the Lustrons" section would help give owners and stewards a solid basis for approaching the actual repairs.

Maintenance and Repair

Information on repair and maintenance of Lustron was prepared by National Trust staff and Todd Zeiger. The content for the repair guides was initially developed in consultation with the advisory committee who reviewed and approved of the content outline.

The methodology that was utilized in the development of the technical briefs consisted of on-site investigation on two different historic Lustron homes being restored, research into appropriate preservation techniques, review of philosophical ideals of the preservation community, and consultation with other preservation experts. Due to the unique nature of the Lustron system and its materials and components, the field testing and techniques along with first-hand experience working on a Lustron was the most helpful in the development of the briefs. Discussions with other Lustron owners about what worked and what did not work helped expand the number of options that were presented in the briefs.

Different ideas about practical preservation and restoration techniques were tested on parts of Lustron houses that had been salvaged from demolished structures. This allowed investigation into potential solutions but eliminated the possibility of harming a preserved structure. The experimental techniques, as well as any of the solutions suggested in the briefs, were weighed against appropriate preservation philosophy, reversibility and potential permanent harm or damage to the historic element. In the end, the Lustron system and its components and materials left the consultants with no easy answer to the Lustron preservation dilemma. Due to the construction techniques, some Lustron issues do not lend themselves to easy or inexpensive solutions. A respectful balance was sought between preservation philosophy and practical solutions for Lustron owners.

Results and Discussion

The team produced the framework for a multi-component website which includes information on advocacy, repair and maintenance, the history of Lustron, and basic preservation standards and practices, information on buying

and selling Lustrons and parts and National Register listing and local landmark designation. In addition, an extensive library exists with hard to find and sought after documents, such as the Erection Manual (an assembly manual for Lustron homes provided to builders and dealers) and the Lustron locator, which contains the framework for creating a comprehensive standardized national inventory of Lustron homes. The Locator was created in consultation with representatives from the National Park Service and the Wisconsin State Historic Preservation Office (SHPO.) One of the goals of the Locator was to create a survey form that could be utilized by SHPOs, CLG's and the average user. To date, the Locator has almost 2,000 entries.

To date, the Lustron Locator contains almost 2,000 Lustrons like this one in Milford, Connecticut, which was added to the Locator by the owner.

The website is extensively illustrated with relevant images from the Lustron Erection Manual and historic and contemporary images of Lustron homes.

The Philosophy

In conducting the research for developing the content for the website, it became increasingly clear to the members of the project team that there are

few easy and inexpensive repair and maintenance solutions for Lustron homes. This is particularly true if the Lustron has suffered from ongoing neglect, deferred maintenance or other damage. Since it was beyond the scope of the project to provide an answer for every Lustron repair and maintenance issue, the project team felt it was critical to give owners a framework for making informed decisions. Hence, the project team created links to the "Lustron System," "Dos and Don'ts" and the "Guidelines." The team felt that if owners understand how the intricacies of a Lustron, they would be in a better position to fix it. These links of the website are beneficial for owners as it provides them with a general strategy and approach for addressing problems.

Web Site Statistics

The following website statistics were complied using WStats, which generates advanced web, streaming, ftp or mail server statistics graphically. The results below were last updated on December 14, 2007

Total Number of Unique Visitors	2,290
Total Number of Visits	3,665
Total Number of Pages Visited	45,696
Total Number of Hits	21,7085
Average Number of Pages/Visit (November 2007)	22.16
Direct Address/Bookmarks	430
Links from an Internet Search Engine	165
Links from an External Page	93

In addition to attracting visitors from the US and Canada, the website has attracted visitors with domain names from Seychelles, Germany, Belgium, Japan, Australia, Sweden, Denmark, Turkey, Poland, the Czech Republic, the Russian Federation, Spain, Austria and Peru.

The majority of visitors spend less than one hour on the site. It is anticipated that the number of unique visitors and the duration of the visit will increase with the press release in January 2008.

Future Use, Expansion and Updates

It is expected that the site will be added to, amended and updated over time. The site was built using a content management system to facilitate easy updates, additions, expansions and amendments and to readily reflect on-going research into procedures and practices.

The Lustron Advocacy Group

As part of the initiative, it was hoped that in the time it would take to develop the website, the loosely-knit Lustron community would make significant progress towards the goal of establishing a national Lustron advocacy organization, capable of managing the website and continuing to develop content. However, this has not yet happened.

Because the organization of the Lustron group has not yet been formalized, and there has been a reduction of NTHP staff available to work on the project, there has been an adjustment of some of the features of the site. Specifically, the "Buy/Sell" section of the site was altered. Initially, this section of the site was supposed to be a centralized source for the buying and selling of Lustron homes, parts and ephemera. While this aspect of the site was desirable, owners seeking or selling parts have had success posting the items on the Lustron list-serve and on some of the popular online auction sites. Because the ability to keep this information up-to-date was beyond the capacity of the project team and because this information could be found elsewhere, the team decided to focus their efforts on the other sections of the site. Instead, the team created advice and suggestions on how to successfully buy and sell Lustrons, ephemera and parts online.

The Midwest Office will be meeting with selected members of the Advisory Committee and the Lustron Community to discuss a long-term strategy for the maintenance of the site and for the development of the Lustron Advocacy Group.

Conclusions

According to the US Census Bureau Report, *These Old Houses, 2001,* 16.6 percent of the US housing stock was built during the 1940s and only 13.8 percent was built during the 1950s. As the size of the American house continues to grow, homes from this period are increasingly threatened with demolition, insensitive alternations, repairs and additions. The Lustron is particularly vulnerable considering its relatively small size and unique methods of construction, repair and maintenance.

Creation of the Lustron website was created to provide a much needed, comprehensive website to provide high-quality technical information on a variety of Lustron related topics ranging from history to advocacy to materials conservation. It is hoped that the website will:

- Increase awareness of the significance of the resource;
- Assist in the identification and documentation of Lustrons by establishing a standardized survey form;
- Provide specific, consistent technical preservation information to owners on a variety of subjects including materials conservation to ensure that owners have the information to preserve their Lustrons for future generations.

It is hoped that the Lustron website can serve as a model for the creation of similar websites for other resources from the post-war period.

Acknowledgements

I would like to acknowledge the hard work and dedication of the project team for the countless hours that they put in above and beyond the scope and the budget of the grant and their unified commitment to get the job done.

References

Congress, House, Committee of the Whole, *Director of Housing Stabilization*. 79th Cong., 2nd Sess. Report No. 1580.

Liccese-Torrez, Cynthia and Kim A. O'Connell, "Lustron House Preservation Efforts in Arlington County, Virginia," CRM: The Journal of Heritage Stewardship, Volume 4, Number 2 Summer 2007. http://crmjournal.cr.nps.gov/05_report_sub.cfm?issue=Volume%204%20Number%202%20Summer%202007&seq=2. Accessed Nov. 21, 2007

Nash, Jan Olive, National Register of Historic Places Registration Form, Lustron Home #02101, Cedar Rapids, Iowa, 2004

APPENDICES