United States Department of the Interior
National Park Service

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

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MAY 6 2016
Nat. Register of Historic Places
National Park Service

## 1. Name of Property

Historic name: X-100
Other names/site number:
Name of related multiple property listing: **NA**

(Enter "N/A" if property is not part of a multiple property listing

## 2. Location

Street & number: 1586 Lexington Avenue

City or town: San Mateo State: California County: San Mateo
Not For Publication: ☐ Vicinity: ☐

## 3. State/Federal Agency Certification

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

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

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

___**national** ___**statewide** _x_**local**

Applicable National Register Criteria:

___**A** ___**B** _x_**C** ___**D**

**State Historic Preservation Officer** 5/3/16

**Signature of certifying official/Title:** **Date**

**California Office of Historic Preservation**

**State or Federal agency/bureau or Tribal Government**

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

**Signature of commenting official:** **Date**

**Title :** **State or Federal agency/bureau or Tribal Government**

## 4. National Park Service Certification

I hereby certify that this property is:

X entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

Signature of the Keeper

6/20/2016
Date of Action

## 5. Classification

**Ownership of Property**

(Check as many boxes as apply.)

| | |
|---|---|
| Private: | x |
| Public – Local | |
| Public – State | |
| Public – Federal | |

**Category of Property**

(Check only **one** box.)

| | |
|---|---|
| Building(s) | x |
| District | |
| Site | |
| Structure | |
| Object | |

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

| Contributing | Noncontributing | |
|---|---|---|
| 1 | | buildings |
| | | sites |
| | | structures |
| | | objects |
| 1 | | Total |

Number of contributing resources previously listed in the National Register n/a

**6. Function or Use**
**Historic Functions**
(Enter categories from instructions.)
Domestic, single dwelling

**Current Functions**
(Enter categories from instructions.)
Domestic, single dwelling

**7. Description**

**Architectural Classification**
(Enter categories from instructions.)
Modern Movement – Midcentury Modern

**Materials:** (enter categories from instructions.)
METAL: Steel
CONCRETE: Concrete Block
CONCRETE: Concrete Foundation
GLASS

## Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

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### Summary Paragraph

The X-100 is a steel structure, single-family residence built by developer Eichler Homes in 1956 to designs by the architectural team Jones & Emmons in the style Modern Movement, Midcentury Modern. Its setting, in the San Mateo hills with expansive views, retains much of its integrity. All structural elements -- posts and roof beams -- are steel beams and are exposed inside and out. No interior walls are structural. The structural system, devised with the aid of structural engineer William R. Mason, C.E., allows for an expansive open plan. Skylights add to the open feeling and allow for two indoor gardens. The steel decking that makes up the roof is exposed on the interior. Rear walls opening to expansive views are entirely glass, framed in steel. Indoor-outdoor connections are emphasized by continuity of materials, concrete paving pads inside and out, connection to outdoor gardens from every room, and indoor gardens. The house retains the “experimental features” that gave it its name, as it was designed to investigate new ideas for homes, incorporating new materials, technological advances, and innovative labor-saving devices. The X-100 looks much as it did when new thanks to careful preservation by its three owners and to sensitive restoration in the last decade. The landscape design too is almost entirely intact. The setting too remains original. It sits in a neighborhood of Eichler homes and backs up to open space.

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### Narrative Description

The X-100 stands on a ridge in San Mateo Highlands, a San Mateo neighborhood of approximately 650 houses that was developed by Eichler Homes starting in 1955. The X-100 was one of the first homes built there. It was opened for public tours that promoted its experimental nature and publicized this subdivision and other Eichler subdivisions.

The 2,310-square-foot X-100, 56 feet wide and 64 feet deep, sits on an 80-by-100-foot rectangular lot on Lexington Avenue, bordered on two sides by homes and to the rear by a downward sloping hill of open space owned by the San Francisco Public Utilities Commission and preserved as watershed. Just to the west, about a quarter mile away, are Lower and Upper Crystal Springs reservoirs and beyond that the undeveloped hills of the Coastal Range, also preserved as open space.

The view to the west from the X-100 is virtually identical to that when it was built, despite the construction of Interstate 280, which is barely visible from the X-100.

From the street, the flat-roofed house reveals little (CA_San Mateo County_X-100 House_0001). The house is framed in an exposed skeleton of steel beams, painted a rusty red

("deep-tone cinnamon," in the words of Eichler's Grand Opening brochure). Six I-beams can be seen projecting from the house towards the street, three above the carport, one over the front entry door and two over a children's play yard adjacent to the entry. An original band of metal fascia runs along the edge of the roof.

The street-facing façade is constructed of half and whole hollow Basalite concrete blocks painted a tone of café au lait. The blocks form the façade of the house, of the adjacent children's play yard, and of the entry garden walls and planters (CA_San Mateo County_X-100 House_0002). Some blocks show their solid sides to the street, others form a screen by showing the hollow cores. Most of the blocks used are half blocks. Full-sized blocks are used to form projecting rows, which provide visual and textural interest.

There is a front garden between the front entry and carport, featuring two large decorative rocks, low fir and other evergreen shrubs and agapanthus. (CA_San Mateo County_X-100 House_0001)

The roof is steel decking (originally roofed with tar and gravel but today with sprayed polyurethane foam). While the roof itself cannot be seen from eye level on the street, portions of the steel decking can as, in a fashion characteristic of the home's design architect A. Quincy Jones, a section of the decking folds down over the front façade to form a sunshade.

A five-pointed sculpture of a star in steel and stained glass panels and 3 ½ feet in diameter, attached to the front façade, is original to the home, having been installed at the time of its grand public opening in 1956. (CA_San Mateo County_X-100 House_0027) It is probably the work of Matt Kahn, who oversaw art installation in the X-100, designed interiors for many Eichler model homes, and went on to teach design for 50 years at Stanford University, where he lived in an Eichler home on campus.

One of several changes that have been made to the house can be seen in the extension of the sunshade, which originally sheltered a portion of the play yard and an adjoining carport shop. Today the sunshade extends over the length of the carport as well, though it drops down only two and a half feet over the carport, not the four feet of the original sunshade. These changes to the carport are reversible.

Another change is that the two-car carport, once open to the street, today has an aluminum rollup garage door. The carport remains open to the north. The driveway is concrete aggregate with rows of brick.

Both to the north and south of the house, freestanding garden walls using the same concrete blocks have been added as well as wooden gates, blocking what had been a view from the street of the Coastal Range beyond.

The entry garden includes a broad walkway of concrete aggregate pavers leading to the front door. Alongside the pavers, to the south, a 20-inch, slightly serpentine wall of concrete block holds a variety of plantings. To the north alongside the pavers is an 18-inch tall planter attached

to and projecting from the block wall that surrounds the play area. All this landscaping is original.

The play area is surrounded by a block wall six feet high. A wooden gate provides for entry. A small pebbled area is just to south of the front door. It is similar to pebbled landscape areas inside the house.

The front door, inset beneath a broadly projecting roof overhang, is of sliding frosted glass. (CA_San Mateo County_X-100 House_0001) The steel pier and beam by the front door suggest what visitors will experience inside.

Another change in the façade appearance can be seen by the entryway – the exterior infill wall, originally wood panel of Douglas fir plywood, has been covered with dark brown horizontal vinyl siding. This siding has also been added on the original exterior wood paneling on the north and south sides of the house. This change is reversible, as the current owner states that the original siding remains in place.

The X-100, like Eichler homes generally, is built on a concrete slab-on-grade foundation. There is no attic. Thanks to its structural steel frame, no walls are load bearing.

The floor plan of the house is organized around a utility core (Eichler called it the “plumbing core”) that consists of paired bathrooms that each open onto a shared bath-shower room; a laundry and utility room; and the kitchen (CA_San Mateo County_X-100 House_0003). Circulation in the house thus takes on a circular character, as people walk around the core as they move from the private, bedroom section to the public living areas.

It is possible that the circular steppingstones that make up so much of the interior and exterior flooring were inspired by this aspect of the house’s plan (CA_San Mateo County_X-100 House_0004).

The east section of the house, closest to the street, contains three bedrooms, the master bedroom to the north, then two more to the south, each with built-in closets.

The master bedroom, originally separated from the open plan living area only by a motorized, sliding curtain whose motion could be controlled by a remote control, was later walled off from the living area, using Jones & Emmons plans. This was done a few years after the house was built. The current owner has removed that wall and reinstalled the curtain, which now operates manually (CA_San Mateo County_X-100 House_0017).

The master bedroom opens onto a side yard, to the north (CA_San Mateo County_X-100 House_0016). The two smaller bedrooms, which have been known informally as the “children’s rooms,” open onto the play yard (CA_San Mateo County_X-100 House_0020). All have sliding glass doors.

A hallway separates the bedrooms from the utility core, with its paired bathrooms and sunken tub-shower conveniently located by the bedrooms. (CA_San Mateo County_X-100 House_0018)

On either side of the utility core are equal sized interior "living gardens," as Eichler called them (*Eichler Homes X-100, an experimental research house, promotional brochure, October 1956*). By the front door in the south is the "entry garden." (CA_San Mateo County_X-100 House_0005) By the master bedroom in the north is the "game garden." (CA_San Mateo County_X-100 House_0014)

Each garden receives light from Skydomes and each gets additional light through a floor-to-ceiling translucent panel of honeycomb plastic in the side of the house. Both gardens open onto the main living area, which is alongside the west-facing wall of windows.

The western portion of the house, starting with the utility core, is symmetrical in plan. The main living area is a broad space fully occupying the house's 56-foot width, with steel beams carrying the eye west, through an eight-foot-tall wall of glass to the views beyond. (CA_San Mateo County_X-100 House_0006) Thanks to the steel structure and plentiful glass, the effect produced approaches "the serenity of unconfined spaciousness" that Eichler promised in the X-100 promotional brochure.

The entire western wall is glass, both Arcadia steel-framed sliding glass doors and fixed panes. The original single-paned glass was replaced with double-pane first in the 1970s and again in recent years without affecting the visual integrity. (CA_San Mateo County_X-100 House_0025)

It is worth noting that the X-100 has no conventional windows – just Arcadia fixed floor-to-ceiling glass and glass sliding doors, a glass-filled front door, and two floor-to-ceiling panels of what the X-100 brochure called "translucent honeycomb plastic."

Steel beams run through the house towards the west. Steel posts and the steel ceiling are exposed throughout, painted in the original shade of gray. The steel ceiling cantilevers past the window wall, then drops down 20 inches to form a sunscreen.

Interior walls of wood panel are painted light gray or dark brown. The original floor of light reddish brown cork tiles has been replaced with dark vinyl composite tile. The original steel radiant heating system installed in the original concrete slab, so characteristic of Eichler homes, has been replaced with new hydronic tubing within the slab.

The X-100 retains virtually every component that was designed to be "experimental," and that attracted throngs to its public showing and write-ups in Life, Popular Science, Living for Young Homemakers, and other popular magazines.

Throughout the house, "Beauty Bonded Formica" is used for ease of maintenance – as a finish on closet doors, and on countertops and "almost every surface in the kitchen." (*Grand Opening Brochure from Eichler Homes*)

In the center of the living area, and serving as the focal point of the house and of the life within, is a large, white, dining table attached to a combination Thermador double oven and liquor/storage cabinet. The metal mesh light fixture over the table is original. (CA_San Mateo County_X-100 House_0007, CA_San Mateo County_X-100 House_0009, CA_San Mateo County_X-100 House_0010)

Besides offering diners wonderful views of the backyard and mountains beyond, the table contains one of the house's signature innovations – justifying the name X-100, for "experimental" – the dining table slides open to reveal two electric burners that could be used for cooking or keeping food warn during dinner. The table is four by eight feet in dimensions, when closed. (CA_San Mateo County_X-100 House_0008)

The open kitchen provides other experimental touches, including a blender built into the counter, which still works, and cabinet doors, each side a different color (creamy white and yellow), that can be reversed to meet the color tastes of the moment (CA_San Mateo County_X-100 House_0012). An intercom and radio are mounted over the kitchen counter; neither remain functional. (CA_San Mateo County_X-100 House_0011

The house has plastic-domed skylights (CA_San Mateo County_X-100 House_0006), which Eichler called "Skydomes," in every room, including baths and shower. All originally had electric lights above to provide illumination at any time of the day or night. Many of these lights still work. One skylight is 32 feet long, made of four eight-foot sections, extending over gardens and bathrooms, "the largest Skydome ever installed in a residence." (*X-100 promotional brochure*).

The plastic domes have been replaced in kind.

Along both the north and south sides of the house run original track lights, four to each side, cone-shaped metal lamps that can be moved for convenience. (CA_San Mateo County_X-100 House_0015)

The bathtub-shower has two levels of knobs, a high set for use by people showering, a low set to be used by those immersed in the tub. (CA_San Mateo County_X-100 House_0019)

Another unique aspect of the X-100 is its full integration of home and nature by bringing the gardens inside. Both entry and game gardens are floored with concrete aggregate circular pads that Eichler called "steppingstones," from as large as nine and a half feet in diameter to 18 inches. (CA_San Mateo County_X-100 House_0016) In addition, in the entry garden there are freeform, cloudlike pads, made up of sections of circles. These suggest Asian art, a strong interest of A. Quincy Jones.

The different colors and textures of the pads provide visual and textural interest, a form of art integrated with the architecture.

Where the circles meet to form odd-shaped bits of negative space, Jones and landscape architect Douglas Baylis provided pebbled planting areas beneath skylights, today filled with a variety of plants. The entry garden has three distinct planting areas; the game garden, three.

"Planters have been provided in the simplest possible way – by omitting the floor in half a dozen free-shaped areas," Popular Science magazine wrote in a feature on the house in January 1957.

Metal mesh lamps arrayed in the planting areas are original. The standalone rectangular metal fireplace in the entry garden replaces an original fireplace that could rotate 360 degrees to direct its heat.

In the backyard, the circular motif is repeated, with the main seating area demarcated by an inscribed circle 24 feet in diameter. (CA_San Mateo County_X-100 House_0023) The swimming pool is formed by the meeting of two circles, the shallower one for children. (CA_San Mateo County_X-100 House_0022) The wood-framed glass fence in the rear is like the original. (CA_San Mateo County_X-100 House_28)

**Integrity**:
Although there have been reversible changes to the carport area, vinyl siding has been placed on top of some original wooden panels, and cork flooring has been replaced, the character defining steel structure, glass walls and interior gardens, remain.

So do many elements that defined the house by being "experimental" for their time, including the curtain wall divider, skylights, built-in appliances, and more – to such an extent that the house could serve as a museum

In addition, the original setting – the view through the house to open space beyond – still remains. All of this qualifies the X-100 for inclusion on the National Register of Historic Places.

## 8. Statement of Significance

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

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

**Criteria Considerations**
(Mark “x” in all the boxes that apply.)

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

**Areas of Significance**
(Enter categories from instructions.)
Architecture

**Period of Significance**
1955-1956

**Significant Dates**

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

**Cultural Affiliation**

**Architect/Builder**
Builder: Eichler, Joseph
Architects: Jones, A. Quincy
Emmons, Frederick E.

**Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The X-100 qualifies for listing in the National Register of Historic Places under Criterion C as a significant example of Mid-Century Modern architecture, and the work of master architects A. Quincy Jones and Frederick Emmons at the local level of significance, with a period of significance of 1955-566, the period of the building's construction. The X-100 illustrates important aspects of Mid-Century Modern architecture, including its explorations into new materials and technological advances, and the quest to provide carefree living in an open-planned home, with the division between indoors and outdoors seemingly obliterated. The home exemplifies in a heightened manner the aesthetics and technology of the modern California home of the 1950s, with its open plan, glass walls, integration of indoors and outdoors, and use of new materials. The home's designers were leading California modernists, masters of their professions, architect A. Quincy Jones of the firm Jones & Emmons, landscape architect Douglas Baylis, and civil engineer William R. Mason. The builder, Eichler Homes. Run by Joseph Eichler, was America's largest tract developer of modern homes, so the construction of the X-100 suggested the possibility – never realized – that steel houses could have become a commonplace part of the American landscape. The X-100 is one of only two steel houses Eichler built (he advised on a third). It is one of relatively few all-steel structural houses built during the period in Northern California. The X-100 remains a brave experiment to this day, not only for its steel structure but for other innovations including artificially lit skylights and a dining table with built-in cook top to keep food warm. The house is also a work of art, using steel for emotional as well as structural reasons, evoking movement and a sense of joy. These same emotions are evoked by the use of color, light and varied textures of materials, creating a sense of optimism and freedom.

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

**Criterion C: Architecture**

The X-100 embodies the most advanced physical and social characteristics of mid-century modern design – an emphasis on openness to the outdoors, an open plan, a thin profile, the use of new materials for economy and better living, an emphasis on improving family life through modern conveniences and good design.

Moreover, it would do all of this in a tract house built for middle class people that could serve as a model for such houses not just in California but nationwide. (Hence the use of indoor gardens for use in all parts of the country, as opposed to the open-to-the-air atrium most often used by Eichler, which works best in benign climates).

The house clearly embodies the values shared by many mid-century architects, designers and intellectuals – the idea that good design could improve society one house at a time, and one neighborhood at a time.

The home's emphasis on new materials was part of a burgeoning trend that was spurred on by such use during the Second World War. The home's celebration of such materials, and its pioneering of low maintenance surface coverings and labor-saving devices, speaks to the sense of optimism and idealism that characterizes designers of the period.

Eichler Homes' use of innovative, labor-saving devices, which the company highlighted in its advertising, brochures, and on open tours of the home, were part of an important trend in the mid-century to improve household efficiency and make life easier for the housewife – while the open kitchen with a view of the outdoors and the nearby game garden would allow her to mind the children.

These devices in the X-100 included "a new component," "the Waste King Dishwasher," efficient in use, "service free," and "exceptionally quiet." The Thermador electric cooking surface concealed beneath a sliding dining table would allow for "at-the-table cookery," Eichler promised, and for "keeping food warm when the table is used for buffet service." (*Grand Opening Brochure*)

**Master Architects: Jones & Emmons**.

The X-100 combined the talents of several masters, including A. Quincy Jones, of the firm Jones & Emmons, who had a strong interest in using new materials in residential architecture, and those of developer Joseph Eichler, who always enjoyed doing something new, was committed to the modernist enterprise, and was equally committed to promoting his latest neighborhood.

The house also involved the talents of landscape architect Douglas Baylis (1915-1971), one of the founders of the "California School" of modern landscape architecture, and William R. Mason, a young civil engineer who went on to become president of the Irvine Co. and helped lead the development of the planned city of Irvine, CA.

Jones, the design leader of the Jones & Emmons firm, studied architecture at the University of Washington, served in the Navy, and went into practice in Los Angeles in 1945. He and Emmons formed their partnership in 1950.

Jones' early and middle career focused largely on residential work. He became a nationwide leader in efforts to design whole communities, with greenbelts, schools, and clustered housing. One of his early projects was the Mutual Housing Association's cooperative neighborhood in Brentwood, where he built his own home.

Though Jones & Emmons went on to design a wide range of building types, from schools and universities to office buildings and churches, residential work always remained a mainstay of the firm. Besides their work with Eichler, Jones & Emmons worked with several other large tract

developers, often trying out unusual materials, including concrete block for the primary structure of homes.

Although Joseph Eichler had no formal training in architecture, or even a deep knowledge of it when he began his career of homebuilding in the late 1940s, he had a real sense of style. So, when architect Robert Anshen of the firm Anshen & Allen, whom Eichler brought in to design a home for the family, criticized as worthless the tract homes Eichler was starting to build, Eichler accepted Anshen's offer to design modern tract homes Eichler could build instead.

Over the next two and a half decades, working with the firms Anshen & Allen, Jones & Emmons, and Claude Oakland, Eichler built 11,000 homes, mostly in Northern California but also in Los Angeles and Orange Counties, Sacramento, and even three homes in upstate New York.

Eichler may not have designed Eichler homes. But he was "more than a sponsor of modern architecture," said Ned Eichler, Joseph's Eichler's son and marketing manager for Eichler home when the X-100 was built. "His commitment was to prove that he could build (modern tract homes) and sell them to people where they didn't have to pay a premium against conventional houses, which everybody said you couldn't do. That appeared to everybody at the time to be impossible. He not only believed it was possible, but he was determined to prove that and he did prove that."

Eichler, who began building modern tract homes in 1949 when he founded Eichler Homes, came together with Jones & Emmons in 1951, shortly after the magazine Architectural Forum honored Eichler for "subdivision of the year" and Jones for the "builder's house of the year," Elaine Sewall Jones, A.Q. Jones' widow, recalled in a 1989 interview.

"Joe Eichler telephoned Quincy and said to the effect, 'If I had the subdivision plan of the year and you had the subdivision house of the year, why don't we get together?' "

Jones & Emmons continued to work with Eichler, designing thousands of tract homes.

Douglas Baylis began his career working for the pioneer of modern landscape architecture in California (and in the United States) Thomas Church.

Baylis, a graduate of the landscape architecture program at UC Berkeley, designed landscapes for universities, mortuaries and churches, wineries and office complexes, Eichler's San Mateo Highlands neighborhood, and Civic Center Plaza and Washington Square in San Francisco. He made his biggest mark on small residential gardens, in large part thanks to dozens of articles he turned out for several popular magazines, most illustrated by his wife Maggie, a graphic artist.

The real goal of landscape architecture, Baylis said, was to "help people live better."

William R. Mason, (1920-1973) who like Jones graduated from the University of Washington, got a masters degree in engineering at Massachusetts Institute of Technology then worked in Southern California.

Mason, who worked for an aluminum door manufacturer in Fullerton in the mid-1950s, probably Arcadia, may have met Jones at that time. (*Communication from historian Alan Hess, Feb. 17, 2014*).

In 1959 he joined the Irvine Co., just as major changes were in store for the company's immense landholdings.

The Irvine Co. had developed from the 110,000-acre Irvine Ranch, whose roots stretched to 1864 and the involvement of Irish émigré and former Gold Rush miner James Irvine (1827-1886). The ranch slowly begun to urbanize in the late 1940s. Urbanization began in earnest after the University of California decided to build a campus there in 1959.

Mason, who became president of the Irvine Co. in 1965, guided the development of one of the state's largest planned communities, until his death at age 53.

**Aesthetic and architectural quality**.

The X-100 is a work of art, standing out among the 11,000 artfully designed Eichler tract homes for its consistent visual emphasis on circular "steppingstone" pavers, both inside and out, as a visual counterpoint to the rectangular grid formed by the exposed steel structure.

Besides helping unify the indoor-outdoor experience, the "steppingstones" create visual interest through the use of concrete aggregate textures, shapes and colors. Jones and Baylis clearly worked closely as collaborators.

The steel structure itself provides beauty, its beams leading the eye from the street through the house and out to the views beyond. Their "deep-tone cinnamon" color and regular rhythm play off against the light gray ceiling and white of the home's centerpiece, the dining table.

The way the home is placed on its site is artful in itself, on the edge of a ridge with views of nothing but open land and forested mountains. This is an excellent example of the use of the Asian landscape design technique of "borrowed scenery," suggesting again A. Quincy Jones' appreciation for Asian design principles.

The home, which faces west, uses one of Jones' characteristic sunscreens to provide useful shading. Far from providing a kitchen nook, so popular at the time, Jones made the kitchen the centerpiece of the home, fully integrating it with the dining area, by placing a dining table that's both grand yet casual next to the oven and mere feet from the cook top – and installing two warming burners into the table itself.

In its savvy use of space, the X-100 was also innovative. The interior has no wasted space. The only "hallway" is part of the general circulation of the house. And the paired bathrooms, separated from each other by a shared shower room, are a model of compactness and utility, allowing three people to use the facility at once.

**X-100 and themes of development, trends and historic context**.

The home retains a uniqueness as well from its history as an experimental building designed as "a research laboratory for testing new design concepts, new materials and new technologies of construction." (*X-100 promotional brochue*) These innovations included interior surfaces sheathed in composite plastic (Formica) for easy maintenance and cleaning, electric spotlights for skylights, movable track lighting, built-in cook tops for the dining table, indoor gardens beneath skylights, and more.

"One material used here perhaps more generously than ever before in a house is the kitchen-counter type of plastic laminate," Popular Science wrote in its January 1957 issue. Formica was used to sheath interior panels of Douglas fir plywood, closet doors, and, according to Eichler's X-100 promotional brochure, "almost every surface in the kitchen area, on doors, table, countertops."

"It was the purpose of the project," the magazine Arts & Architecture wrote at the time, "to develop from the early stages of research the use of materials most practical and useful and the most advanced structure."

The home likewise illustrates how far a canny developer would go to attract buyers to an out-of-the-way neighborhood, and how far he would go, in his quest to sell nothing but modern homes, to promote his wares.

The X-100 promotional brochure highlighted the X-100 but pointed out as well the virtues of Eichler's more traditional models, if you can call any of Eichler's homes "traditional." The brochure brought attention to several Eichler neighborhoods that had houses for sale and urging visitors to experience "the light heated freedom of Eichler living in delightful locations throughout Northern California."

"The idea of the X-100 was mine," Ned Eichler has said. The goal was to attract potential buyers to the then remote San Mateo Highlands, and to publicize other Eichler neighborhoods. Neither Interstate 280 nor Highway 92 existed at the time, so access was difficult to the Highlands. "For me it was 98 percent promotion – and it worked like that," Ned Eichler said. He said the name X-100 was invented either by himself or by one of two younger men working for him in marketing Eichler Homes.

The house cost a lot to build, $125,000, "a mint of money" in the words of Popular Science magazine.

The X-100 celebrated its grand opening Oct. 6, 1956. It remained open three months, attracting what was said to be 150,000 people, and attracting as well the press. The X-100 received coverage in Sunset magazine, Life, Popular Science and other local and national publications. Adding to the appeal were a number of artworks installed in the house, overseen by artist Matt Kahn, who created some of them himself.

The X-100 even won a jaunty spot ("Everything is so modern it takes your breath away – and your money too if you bought one") in the newsreel "News in Brief."

Ned Eichler noted that Eichler Homes never went on to build more steel homes, citing cost and efficiency. "The kinds of houses desired by most Americans (even if they were avant-garde Eichler types), were most efficiently built with a wood frame, siding, sheetrock, and all the other materials and components then in use."

While Joe Eichler's intent in building the home may have been primarily as a form of marketing and publicity, for A. Quincy Jones, who a year before had designed and built a home for his family in Los Angeles using a similar steel structure, the goal was something else.

Jones clearly believed steel could play an important role in residential construction. In steel's favor he cited "depletion of forests caused by the postwar housing boom, coupled with the increased level of precision and efficiency attainable with this industrial material." *("A Pragmatic Visionary,' by Ellen Donnelly," in "A. Quincy Jones: Building for Better Living," Los Angeles, 2013*)

Jones seemingly had his eyes on more than the California market in designing the X-100, seeing it as a model that, like a demonstration steel house had earlier designed for the U.S. Gypsum Co. in Illinois, could be replicated nationwide. Unlike the exterior atriums for which Eichler Homes would soon become known, the X-100's two interior planting spaces allowed Jones to work with the idea of a garden for all climates that could be built anywhere in the country.

**Historic context – steel houses**.

The first all-steel structural home designed by Jones was done as part of the U.S. Gypsum Company's "Research Village" in Barrington, Illinois in 1953. The idea was to illustrate the use of new materials, including gypsum, in residential building. (*Paul Adamson, "Eichler: Modernism Rebuilds the American Dream.")* Although Joe Eichler served as a building consultant on the project, the home was not an "Eichler home," because it was not built or marketed by the Eichler Homes co.

Steel as a material for residential development was clearly in the air during the mid century. The Case Study House program, initiated by John Entenza, editor of the magazine Arts & Architecture, which ran from 1945 to 1966, with a goal of producing architect designed homes that could serve as prototypes, included steel structural homes by such advanced architects as Craig Ellwood, Pierre Koenig, Raphael Soriano and David Beverly Thorne.

In California, the use of steel in modern residences goes back at least to Richard Neutra's soon-to-be iconic Lovell Health House in 1927. Steel was widely used in homes in the Palm Springs area by such architects as Albert Frey and Donald Wexler, where architects decided it held up to the elements better than wood.

In Northern California, however, steel did not catch on as a primary structural material for homes as much as in the Southland. The architect who probably designed the largest number of steel-framed homes in the Bay Area, Beverly Thorne, acknowledged the challenge.

"This is Maybeck, wood-frame redwood country," he said of the Bay Area. And unlike some of the Southern California designers in steel, who played up steel as a primary aesthetic as well as structural component of the house, Thorne in general did not, and he often mixed steel and wood framing in the same building.

"My structural theory was, you do the basic cage or bone in steel, then you fill it in with wood. Because I like wood. It's just a nicer material inside."

Eichler Homes prospered in part because of its efficient system of procurement and construction, using pre-cut lumber carefully marked and delivered to the jobsite. But the X-100 was not Eichler's first venture into steel.

That came a year earlier when Eichler brought in an architect who was not part of his regular architectural teams. Raphael Soriano designed a steel house for a site in Palo Alto in 1955. Eichler described it as an "experiment" into the use of steel for mass produced housing.

"Custom homes today . . . steel sub-divisions tomorrow," US Steel boasted in an advertisement featuring the home. (*Arts & Architecture, December 1955*).

Ned Eichler did not share Soriano's opinion, concluding after the home was built that unless steel and wood prices changed, or new "steel forms" developed, the costs of building homes in steel made the venture impractical. (*Ned Eichler, The Merchants Builders*.)

Of the three steel houses that Eichler was involved with, only the X-100 survives intact. The house in Illinois burned, and the one in Palo Alto was badly remodeled, gaining a second story. And Jones' own steel home burned in the Brentwood Fire of 1961.

Through its integrity, and its story, the X-100 thus eloquently reflects several important themes, patterns of development, trends and historic contexts – the effort to more efficiently produce mass housing through industrial techniques and materials; the idea that mass housing could and should be well-designed, functional, and beautiful; the idea that new materials like plastics and labor-saving devices could make maintaining and living in a home easier and carefree; the idea that art should be integrated with residential architecture.

It illustrates too how suburban developers, building on ever more remote sites, strove to attract attention to their developments and to integrate their houses with the landscape.

The structure of the house is in itself remarkable. As historian Esther McCoy has written of the Case Study houses, "The important difference between building with wood and steel is that nothing can be left to the discretion of the steel carpenter. Unless all details are worked out precisely on the drawing board, the overhead on a steel house can be ruinous to the contractor. Wood houses may be built by heart but not the one of steel. It needs an architect who does not sit in his office, a contractor who studies the plans, and sub-contractors who are up to the technology of the machine." (*Case Study Houses: 1945-1962, Esther McCoy, 1977*.)

Popular Science (January 1957) described the construction process of the X-100: "Work began with concrete piers topped by leveling plates. Cranes brought in 4" steel columns to be bolted onto the plates. Eight-inch steel beams were then laid across to support the steel roof deck. The deck was spot-welded, topped by glass-fiber insulation and a built-up roof, then spray painted on the underside.

"The complicated slab floor was then poured – with its circles of brass to contain the areas of exposed aggregate – and the structural phase was completed."

**The X-100 over the years**:

According to research for exhibit panels at an open house at the X-100 in 2004 conducted by Paul Adamson and current owner Marty Arbunich, the house has had only three owners.

Jesper Petersen, who operated an imported home furnishings business with stores from San Francisco to San Jose, bought the X-100 from Joe Eichler, after its stint as a model home, for $47,000 in early 1957.

When Petersen and his wife moved, Petersen's secretary and friend, Danish-born Anna-Lise Pedersen bought the X-100 in 1964. On her death in 2003 it was purchased by the X-100 Partners, one of whose partners, Marty Arbunich, is the owner today.

The X-100 remains in remarkable condition. Despite several changes outlined in the narrative description, the house retains its architectural and engineering integrity, with the essential elements of steel, glass, concrete block, and floor plan intact, not to mention almost all of the innovative features, from built-in kitchen appliances and Formica-sheathed surfaces to, in the words of the X-100 promotional brochure, "a sunken shower room with the sky for a ceiling."
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**Previous documentation on file (NPS):**

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

**Primary location of additional data:**

____ State Historic Preservation Office
____ Other State agency
____ Federal agency
____ Local government
____ University
____ Other
Name of repository: _____

**Historic Resources Survey Number (if assigned): _____**

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## 10. Geographical Data

**Acreage of Property** _____.08 acres_____

Use either the UTM system or latitude/longitude coordinates

**Latitude/Longitude Coordinates**
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)
1. Latitude: 37.524984 N Longitude: -122.353420 W

2. Latitude: Longitude:

3. Latitude: Longitude:

4. Latitude: Longitude:

**Or**
**UTM References**
Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

1. Zone: Easting: Northing:

2. Zone: Easting: Northing:

3. Zone: Easting: Northing:

4. Zone: Easting : Northing:

**Verbal Boundary Description** (Describe the boundaries of the property.)

The lot located at 1586 Lexington Avenue is the property boundary. It is bordered by Lexington Avenue to the east, two adjacent houses to the north and south, and watershed land to the west.

**Boundary Justification** (Explain why the boundaries were selected.)

The boundary was chosen because it is the property occupied by the X-100 and its lot.

**11. Form Prepared By**

name/title: Dave Weinstein, Freelance writer
organization:
street & number: 155 Ashbury Avenue
city or town El Cerrito state: California zip code: 94530
e-mail davidsweinstein@yahoo.com
telephone: 510-524-1737
date: August 25, 2015

**Additional Documentation**

Submit the following items with the completed form:

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

**Figure 1: Google Earth map showing property location in decimal degrees.**

**Latitude: 37.524984 N Longitude: -122.353420 W**

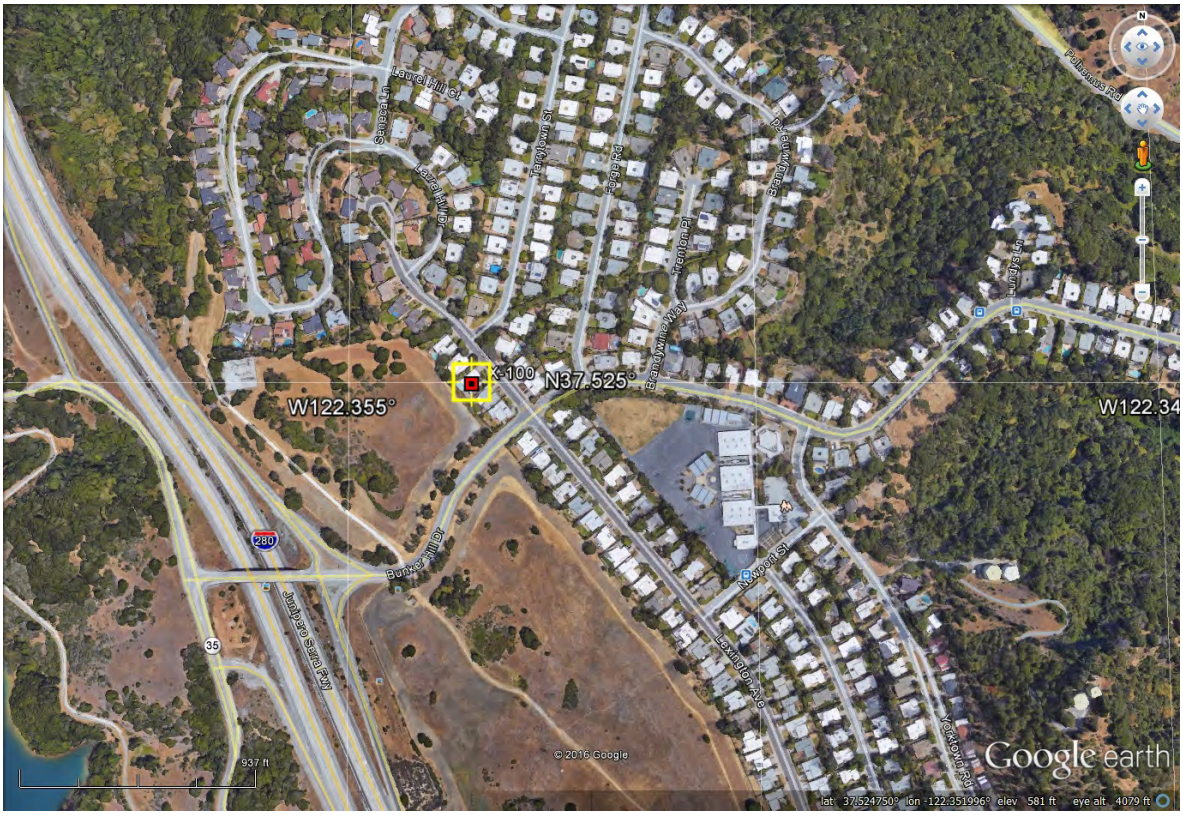

**Figure 2. Floor plan of the X-100:** Carport opens onto Lexington Avenue

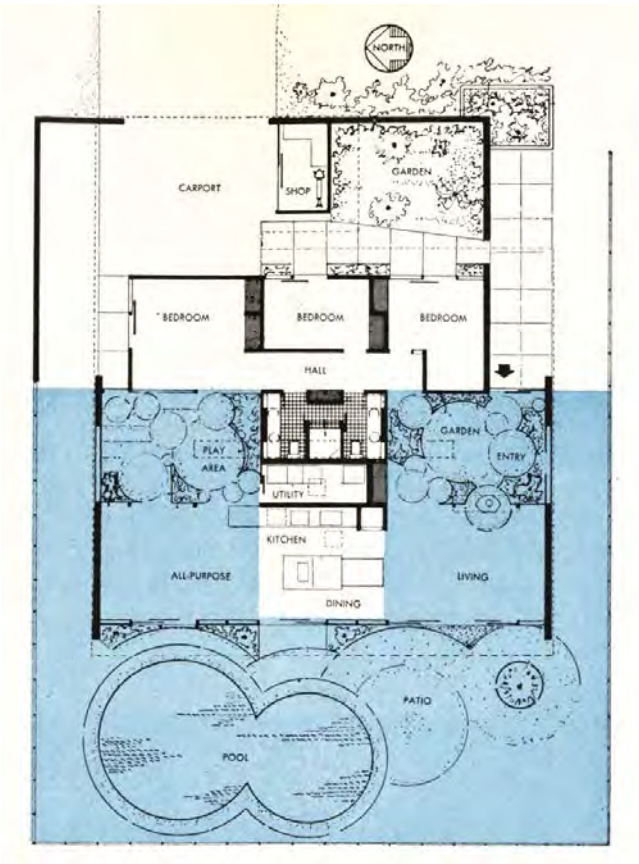

**Figure 3. Sketch Map: Floor and site plan showing location of accompanying photographs.**

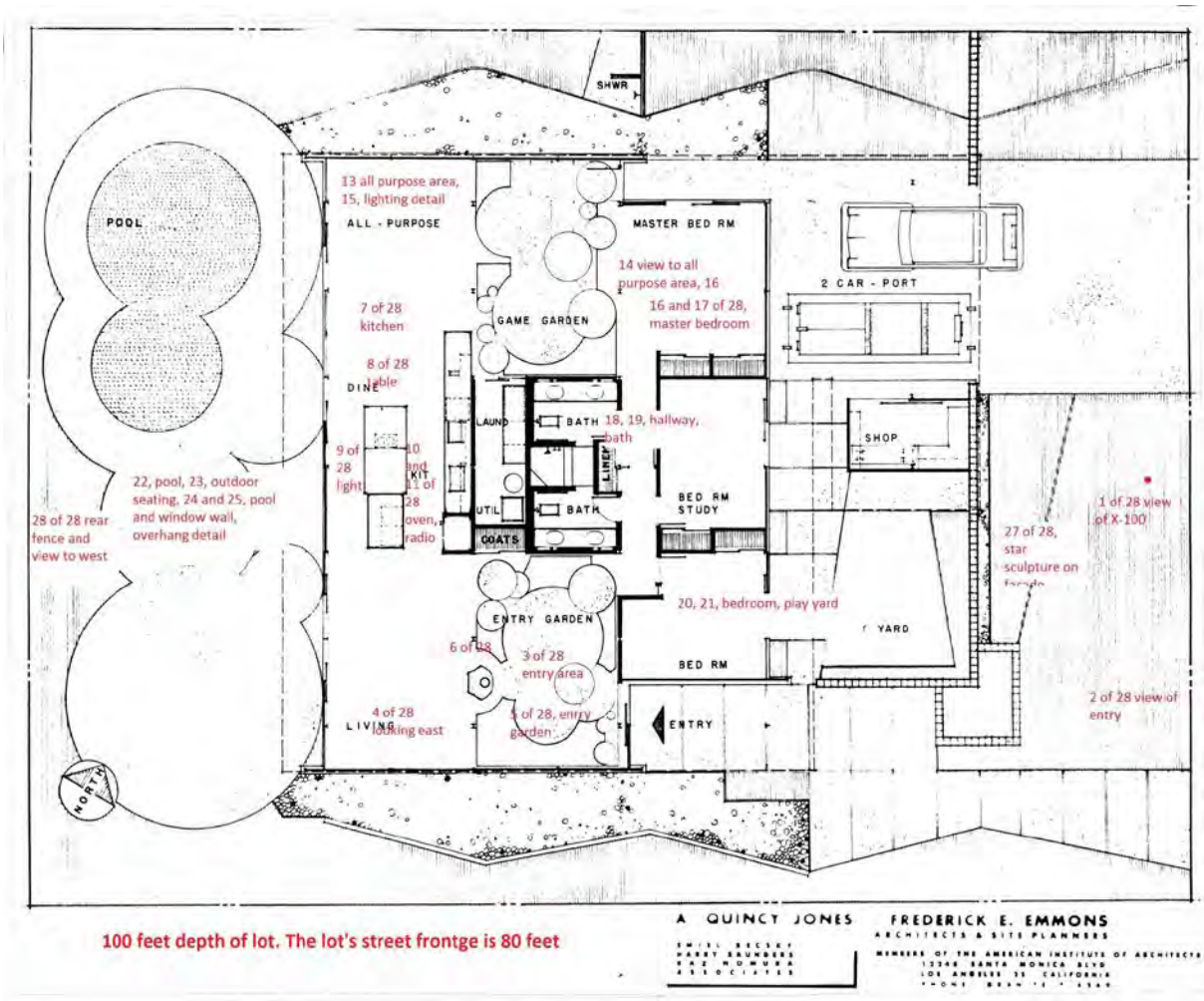

**Figure 4. Location of the house within its neighborhood.**

This photo is oriented north-south, with north on the top. The X-100 is on the west side of Lexington Avenue three houses north of Bunker Hill Road – the house with the figure-eight-shaped swimming (two intersecting circles).

**Figure 5. X-100 on cover of February 1957 Living for Young Homemakers magazine**

**Figure 6. façade of X-100 shown in original promotional brochure**

**Figure 7. façade of X-100 in mid 1950s photo from Eichler Homes**. Notice the sculpture of a star, probably created by artist Matt Kahn who was long associated with Eichler Homes. The star remains in place.

**Figure 6. Interior of X-100 living area. Photo by Eichler's photographer Ernie Braun, 1956, for Eichler Homes.**

**Figure 8. Photo by Ernie Braun, model in X-100 kitchen, for Eichler Homes, 1956.**

**Photographs**

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

**Photo Log**

Name of Property: 1586 Lexington Ave., San Mateo, X-100 House
City or Vicinity: San Mateo Highlands, unincorporated neighborhood adjacent to San Mateo
County: San Mateo State:
Photographer: Dave Weinstein
Date Photographed: February 12, 2014 and March 4, 2014

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

1 of 28. Exterior of house seen from Lexington Avenue, looking west
2 of 28. Front entry and wall on south side of secondary bedroom courtyard, looking west.
3 of 28. Living area, north wall around central utility core showing plasticized wall, looking north.
4 of 28. Living area and front door, looking east.
5 of 28. Interior "entry garden" by front entry, looking south
6 of 28. Living area, looking west from entry.
7 of 28. Kitchen-dining area, looking south.
8 of 28. Kitchen-dining area detail, table slides open to reveal burners.
9 of 28. Kitchen-dining area detail, original light over dining table.
10 of 28. Kitchen-dining area detail, original oven.
11 of 28. Kitchen-dining area detail, built-in radio.
12 of 28. Kitchen-dining area detail, original cabinets
13 of 28. "All-purpose area," northwest corner of house, looking north.
14 of 28. "All-purpose area" and "game garden" as seen from master bedroom, looking west.
15 of 28. "All-purpose area" detail, original lighting.
16 of 28. View of master bedroom courtyard from master bedroom, looking north.
17 of 28. Master bedroom showing curtain instead of solid wall, looking east.
18 of 28. Hallway between master bedroom and entryway, giving access to paired-bathroom and "bedroom-study," looking north.
19 of 28. Bathroom, detail, from hallway, looking west.
20 Of 28. View of bedroom-study courtyard seen from bedroom-study, looking east.
21 of 28. Courtyard of bedroom-study, looking south.

22 Of 28. Pool, looking north.
23 Of 28. Outdoor seating rear patio, looking south.
24 Of 28. View of northern façade and western window wall, facing south.
25 Of 28. Pool and western window wall, looking east.
26 Of 28. Detail of overhang, western window wall, looking north.
27 Of 28. Detail showing star sculpture on front façade
28 Of 28 Rear fence showing open space to west of house

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).
**Estimated Burden Statement**: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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