

Krisana Park Pattern Book

ideas for a midcentury modern neighborhood, denver, colorado



COLLEGE OF ARCHITECTURE AND PLANNING
Center of Preservation Research
UNIVERSITY OF COLORADO DENVER



National Trust *for*
Historic Preservation™

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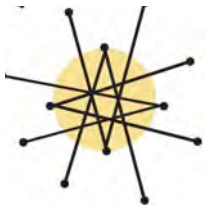
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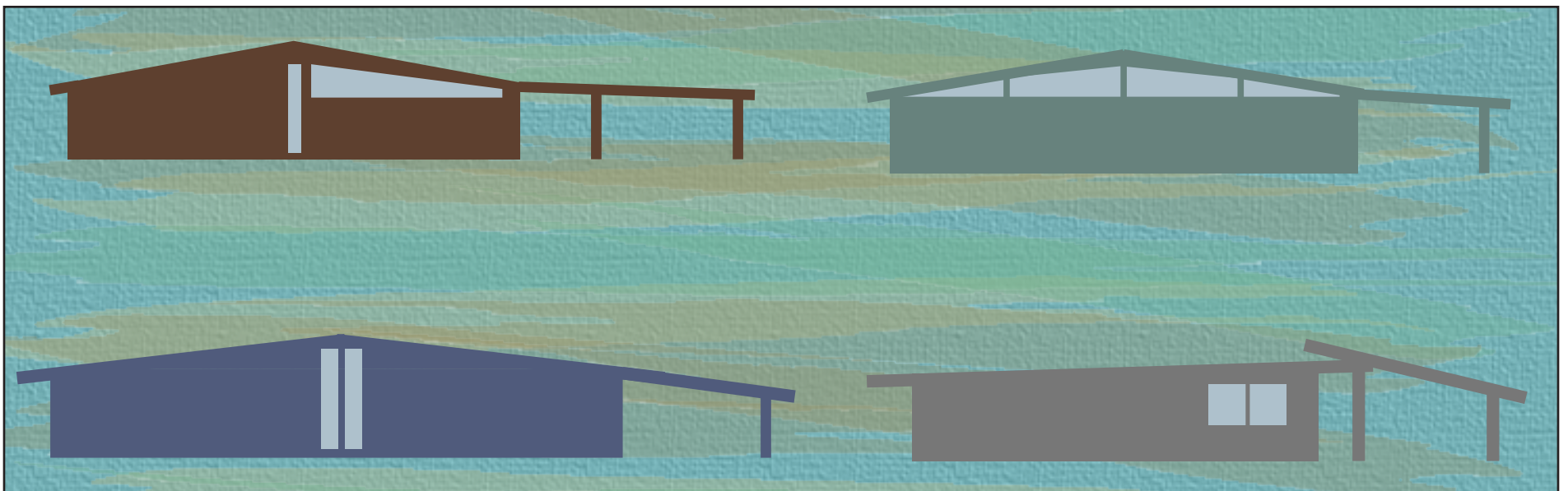
This project was funded by Historic Denver's Action Fund, residents of Krisana Park, and a grant from the National Trust for Historic Preservation's Peter Grant Preservation Fund for Colorado. Historic Denver's Action Fund is designed to catalyze innovative neighborhood and community projects that enhance the city's unique identity, promote and maintain authentic character, and honor cultural heritage as reflected in the built environment.

Introduction:

Krisana Park is a unique and well-loved neighborhood. Its special mid-century character, from the streetscapes to the individual homes, has served long-time residents well and continues to attract newcomers. This Pattern Book was born out of a desire among neighbors to better understand what makes the neighborhood special so that those characteristics can be valued and maintained. The book provides a history and contextual description of the neighborhood and gives visual descriptions, accompanied by photographs, of the features that make it unique. The book will also answer common questions about maintenance issues and often-desired modifications, providing advice on how to make your home work for your family while also retaining the overall character of Krisana Park.

This is a book of ideas, inspiration and encouragement. The recommendations included here are only suggestions, and it is not intended as a critique of previous alterations made to homes in Krisana Park. There are currently no guidelines regulating the treatment of these homes, but a common understanding of the neighborhood's key characteristics, and a common commitment to honor those characteristics can support the on-going success of Krisana Park.

Thank you to the Krisana Park residents for their support of the project, especially Carol March, Karen Flanagan, and Angelo Marasco of Cadence Design Studio who opened their houses to the project team.





Krisana Park Historic Context



Denver at Midcentury

In the late 1940s, Brad Wolff and his father, developer H.B. Wolff, acquired an alfalfa field in southeast Denver. Responding to Denver's post-war housing shortage, they planned the construction of a new subdivision. The design of Krisana Park, however, stood out. Unlike the more common cul-de-sacs of Ranch Style houses under development across metro Denver, the Wolffs were inspired by the modernist designs of California developer Joseph Eichler. They named their development Krisana Park, and began construction on its 175 homes in 1954. Marketing their homes as "3-D Contemporaries," prices started at \$15,950. Financing was offered. With the GI Bill, returning soldiers could pay a \$50 down payment and monthly payments of \$104.02. According to the promotional brochure, Krisana Park offered:

- New materials and new methods of construction
- A new perspective in living at a popular price
- A house planned to permit the maximum enjoyment of outdoor living
- The first properly-planned subdivision built in the city of Denver
- Homes designed by a Builder-Designer-Landscape Architect team to achieve proper balance of exterior designs; colors of sidings and roofs; and combinations of masonry, redwood, and glass
- Economy of large-scale building without sameness or monotony
- Features that reduce upkeep and make housework easier for women with busy schedules



Post-War Building Boom

The mid-twentieth century saw large cultural shifts in the United States. A new consumer culture arose in the 1950s. After the frugality, savings, and self-denial of the Great Depression and World War II, the post-war period brought a celebration of consumer goods and increased consumer spending. The growth of mass popular culture led to a rapid spread of design ideas. A model domestic life emphasizing a well-planned home and family domesticity was promoted through magazines, television, and advertising. Key features of the midcentury home included informal designs; labor-saving materials and appliances; combined living room/dining room; prominent kitchen; addition of a family room; patios instead of porches; large windows and sliding glass doors; and attached carports or garages.

The post-war period saw a massive building boom across the United States. After limited construction during the Great Depression and World War II, there was a pent-up demand for housing. Housing demands increased as soldiers returned home, married, and the Baby Boom began. Returning servicemen were entitled to low-interest, insured “GI Loans,” which made home ownership more widely accessible. Metro Denver experienced a 146 percent increase in its population between 1940 and the end of 1965, growing from 407,962 inhabitants to just over a million. In order to meet the demand, there was a shift from the majority of houses being built by owners or small contractors to the production of entire subdivisions by large developers.

The need for rapidly built housing for the masses encouraged the development of functional, practical, and economical designs. Several adaptations were made to new houses to reduce cost and increase speed including: minimal ornamentation; building directly on concrete slab without a basement; standardizing windows and doors; centralizing plumbing; open floor plan to maximize space; removing or shortening hallways; and single story construction. New homes were designed with the idea that they could be expanded in the future to meet the needs of a growing family. Developers built what new families could afford, while encouraging future additions and expansions when money became available. In order to make small houses feel more spacious, designers used large windows and patio doors to connect to outdoor space.

Developers were responsible for landscaping, water, electricity, and platting streets. Since speed of construction was achieved through the use of standardized plans, a sense of variety was achieved through curvilinear street layouts, variations in color and materials, the rotation of floor plans, and changes in window patterns. Eliminating alleys saved time and money. Instead, carports and garages were incorporated into the design of the house.

Midcentury Housing Features

The dominant style of post-war suburbs was the Ranch Style House, which was developed in California by Cliff May, a custom home designer and suburban developer. The majority of Denver's developers built Ranch Style homes, but a few developers decided to build in a more explicitly modern style. In Denver, Contemporary Style subdivisions included Krisana Park and Harvey Park. Both housing styles featured a single story design, an open and casual layout, wide eave overhangs, and attached carports or garages.



Ranch Style

- Inspired by vernacular architecture of California ranches
- Side gable or hipped roof
- Large picture window facing the street
- Prominent entrance on façade
- May include some decorative features like shutters or planters
- Rectangular plan set parallel to the street

Contemporary Style

- Elements of the International Style softened into a more widespread, popular style
- Flat or low-pitch gabled roof
- Large windows face interior courtyard or backyard, few windows on the façade
- Entrance often hidden on the side
- Contrasting wall materials and textures
- Irregular plan with varied orientation to the street
- Post and beam construction

Midcentury Design Trends

- Informal, casual lifestyle promoted
- Incorporate automobile into home
- Centralized plumbing
- Emphasis on the ability of modern technology to create simpler living
- Open floor plan to maximize space and create flexibility
- Eliminated decorative details and replaced with bright colors
- New materials promoted for affordability, ease of installation, and reduced maintenance
- Integrated indoor and outdoor space through patios and large windows
- Kitchens became a central feature of the home
- Do-it-yourself home updates and remodeling promoted



Eichler and the California Contemporary

The California Contemporary style was popularized by Joseph Eichler, a California real estate developer. Working with several architects (Anshen & Allen, then Jones & Emmons, and later Claude Oakland), Eichler built more than 10,000 homes in the San Francisco Bay area between 1949 and 1966. Eichler's developments were designed to bring sophisticated modern architecture within the reach of middle class families with prices starting at \$9,400. Eichler marketed his houses as not just as a place to live, but a lifestyle. Advertisements promised that "You'll live better in the wonderful world of Eichler." In an Eichler you could:

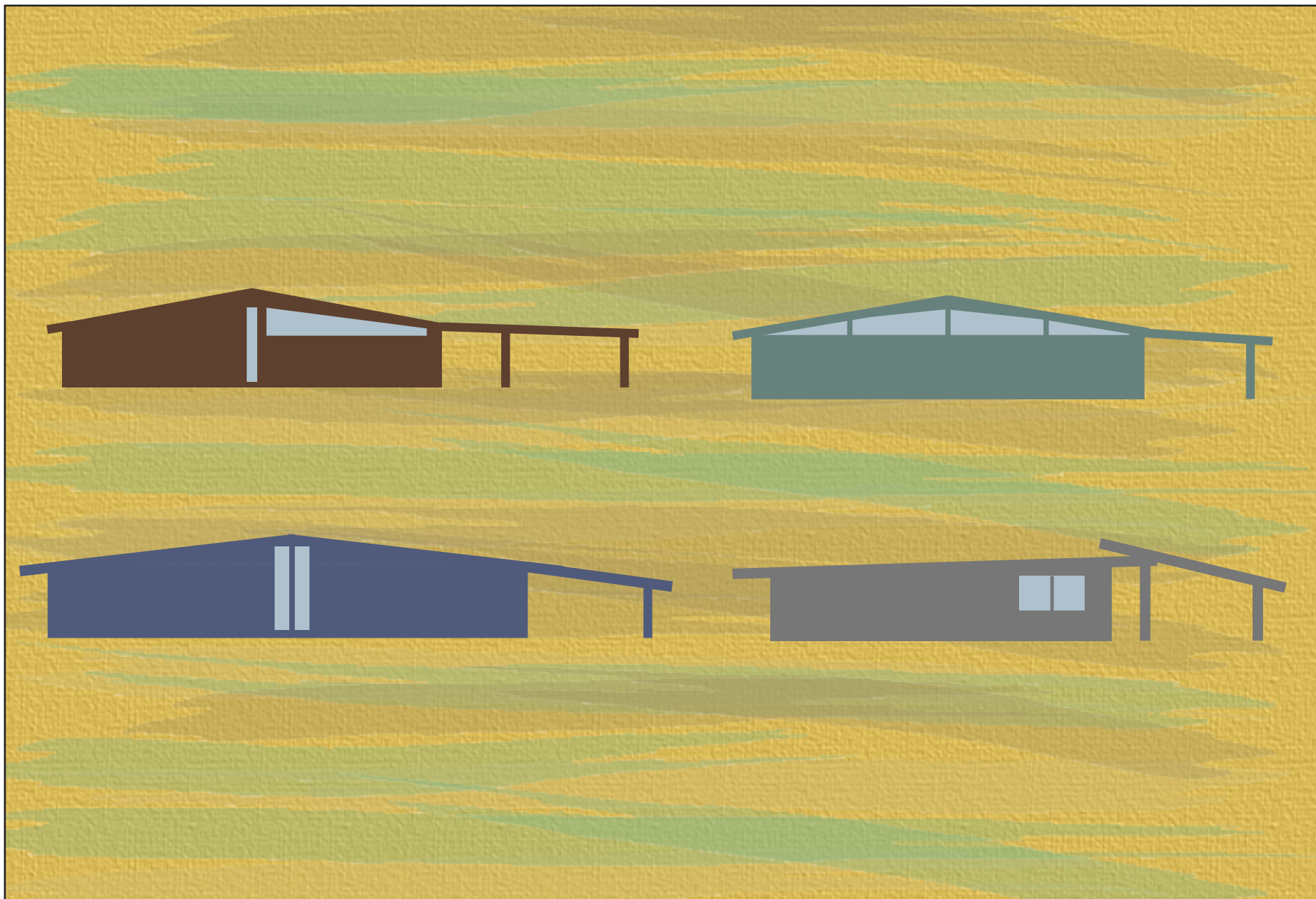
- "Live your New Way of Life surrounded by every convenience imaginable! Step-saving, work-saving space-arrangement . . . construction and material innovations . . . and the latest built-in appliances . . . add time to your day and years to your life."
- "Live the California way in your own secluded terrace, right off the living-dining area. Every Eichler Home . . . is carefully placed on its lot to give maximum privacy for outdoor living, maximum protection from prevailing winds and hot afternoon sun."



The trademark features of Eichler developments included:

- Post and beam construction with exposed roof beams
- Slab-on-grade foundation
- Indoor/outdoor connections including central atriums and large windows looking onto private yards
- Modern, geometric forms
- Attached garages and carports
- Flat and low-pitched roofs with wide eave overhangs
- Vertical-grooved wood siding with concrete block accent walls and chimneys
- Few window openings on the façade; narrow, vertical windows on façade common
- Horizontal and triangular windows at roof eaves
- Recessed entrances featuring unadorned wood flush doors framed by sidelights
- Simple garage doors faced with vertical-grooved siding to match the house





Visual Guide to Krisana Park

Krisana Park Design Features

Intrigued by Eichler's new developments in California, the Wolffs decided to replicate them in Denver. Brad Wolff traveled to California to look at Eichler houses under construction. Working with their architect Frenchie Gratts, the Wolffs brought nearly exact copies of Eichler's houses to Colorado. Adapting to the colder climate, additional insulation was added to the roof and the central atriums were eliminated. Slab-on-grade construction was also replaced with a concrete foundation supporting floor joists over a crawlspace.

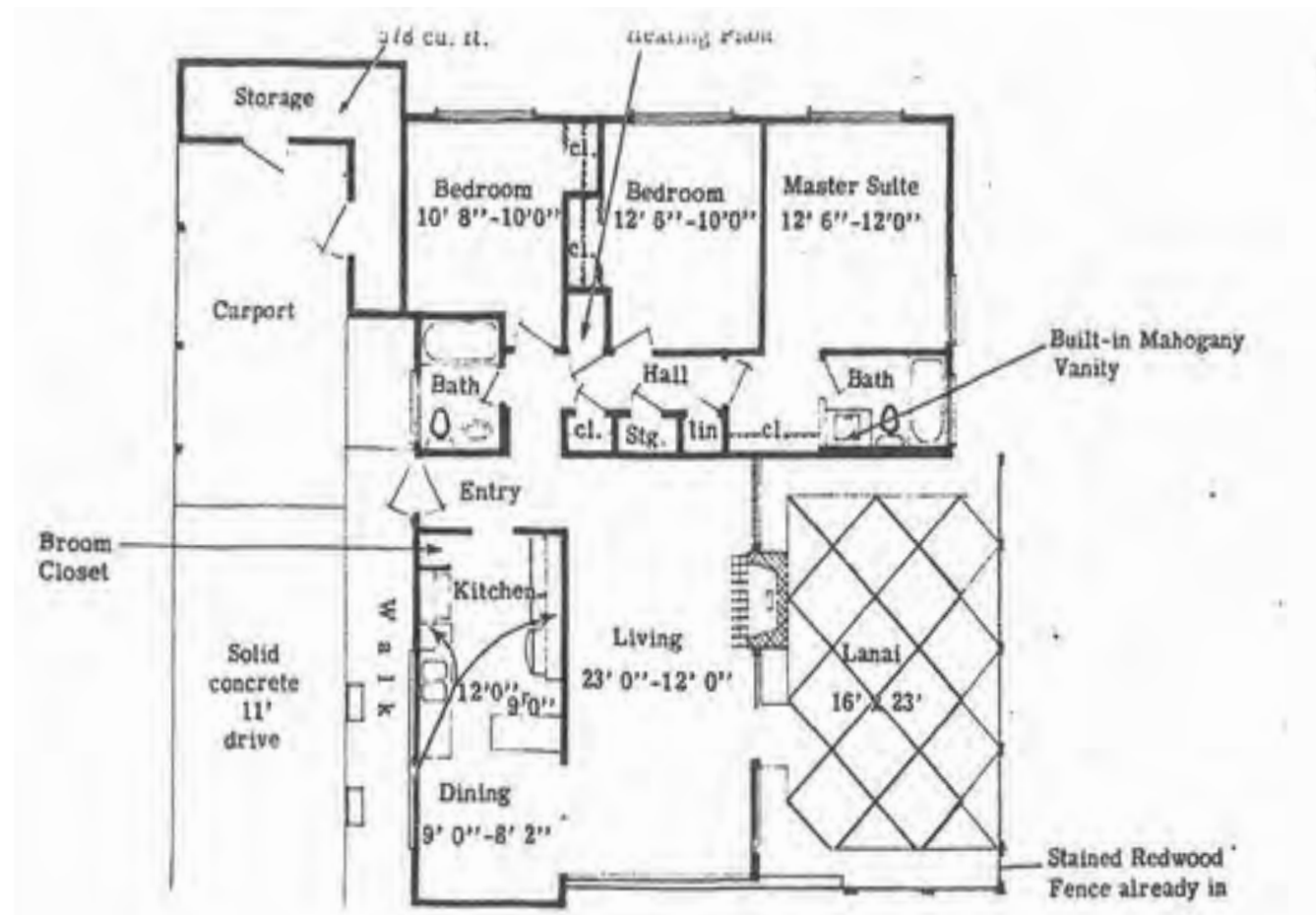
Key features of Krisana Park houses include:

- Post and beam construction
- Vertical redwood siding with concrete block accent walls
- Low pitched roofs with wide eave overhangs
- Attached carports
- Asymmetrical floor plans
- Emphasis on indoor-outdoor living
- Few windows facing street
- Aluminum windows
- Large window walls onto private yards
- Lanai
- Stained redwood fence
- Outside storage



Krisana Park homes were approximately 1200 square feet and included an open plan living room/dining room/kitchen, three bedrooms, two bathrooms, and five closets. Advertised features included:

- Waxed Philippine mahogany paneling
- Exposed beam ceilings
- Sliding glass doors and large windows that open onto the lanai
- Wood burning fireplace
- Linoleum floors
- Formica counter tops
- Hardwood floors
- Tiled baths



Low Pitched Roof

All homes in Krisana Park featured single-story designs with low-pitched roofs. The roofs are characterized by exposed beams and deep overhangs, creating a strong horizontal emphasis.





Attached Carports

Automobile transportation was key to the new, more dispersed housing developments being built in the mid-twentieth century. The prominent role of the automobile was reflected in its integration into the house with attached carports and garages replacing earlier detached garages. Many mid-century developments eliminated alleys, instead constructing driveways from the street to the carport or garage, making them a much more prominent feature. Though carports offered less storage than garages, Krisana Park's carports included integrated storage units.

Privacy

One of the key differences between Ranch Houses and Contemporary Houses is their relationship to the street. While the façades of Ranch Style houses featured large picture windows looking out onto the front yard, the façades of Contemporary Style houses were mostly blank with only narrow window openings, either vertical slot windows or bands of windows at the eaves. In Contemporary houses, large window openings were moved to the sides or rear, providing a greater sense of privacy.



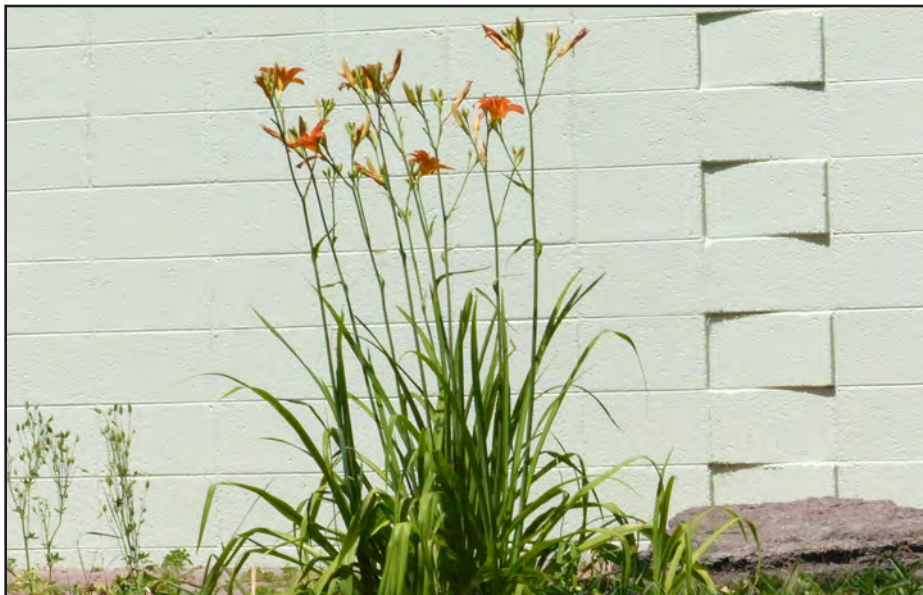
Asymmetrical Layout

While Ranch Style houses tended to be rectangular in plan, Contemporary Style houses featured asymmetrical layouts. This produced a variety of angles that emphasized the modern forms. It also helped to add variety to the streetscape. Though Krisana Park's houses were all based on a single floor plan, the houses could be arranged differently on the lots to create the appearance of diverse designs. The asymmetrical plan also created a series of setbacks that make the lots seem more spacious.



Materials

Following the model of Eichler's houses, Krisana Park houses were covered with vertical redwood siding. The original siding was stained, giving the neighborhood a natural, organic appearance. Most houses have now been painted; those with muted colors work best with the original design intent. The wood siding was accented with sections of concrete block for contrast.



Post and Beam Construction

Krisana Park houses utilized post and beam construction. This meant that the house was supported by a skeletal frame of posts and beams rather than the more common platform framing which used wood-framed bearing walls to support the roof. Post and beam construction allowed for a more open floor plan, higher ceilings, and more expansive exterior glazing. The exposed beams also became a key visual feature of the houses



Indoor-Outdoor Connections

Contemporary Style houses used windows and sliding glass doors to integrate outdoor space into the house and make small spaces feel larger. The large areas of glass also brought natural light into the home. Outdoor living and entertaining were often promoted as part of the midcentury lifestyle. The lanai was a key selling point of the Krisana Park house, extending the living room into the yard.



Landscape

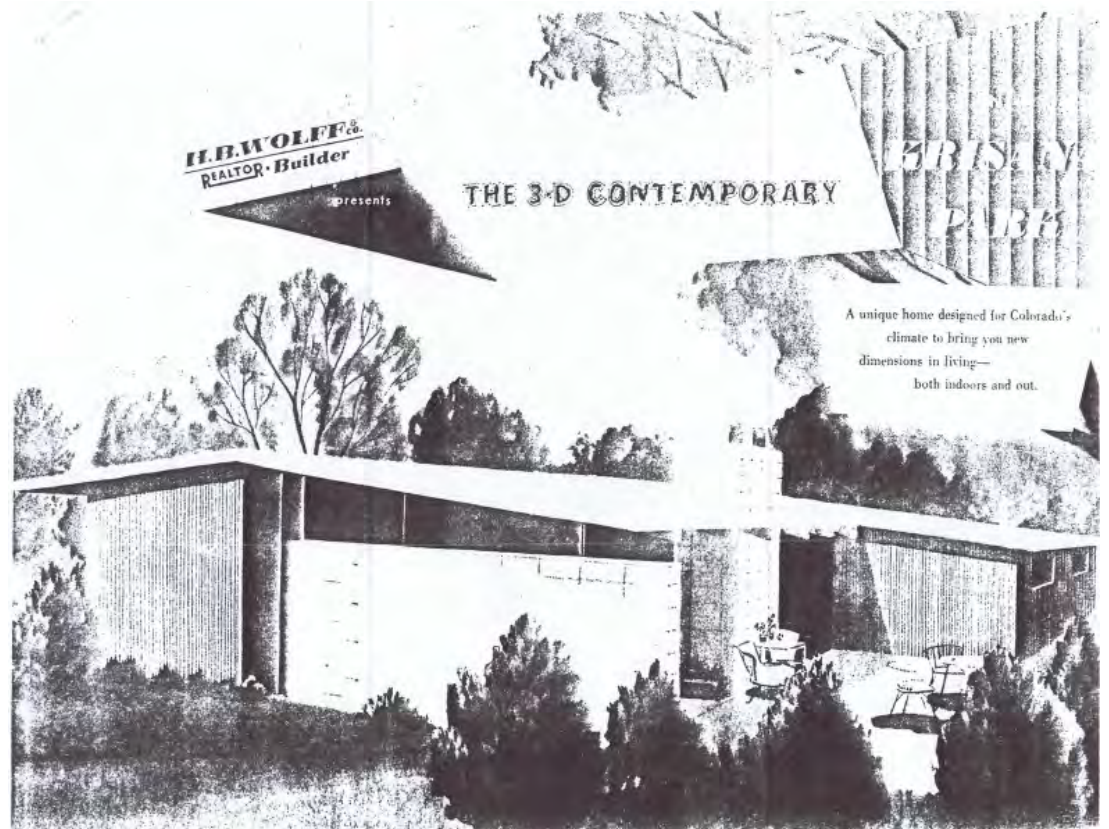
Landscaping on midcentury homes was generally minimal. A grass lawn was the primary feature. It was generally accented with shrubbery and a few trees. The front lawn was designed to be open, public space while the side and rear yards were private spaces; vegetation could be used to enhance the separation between public and private space. Fencing was also used to enclose the side and rear yards; the original stained redwood fencing was designed to blend with the house. Houses featured a fairly uniform setback from the street. Concrete driveways connected the road to the carports.



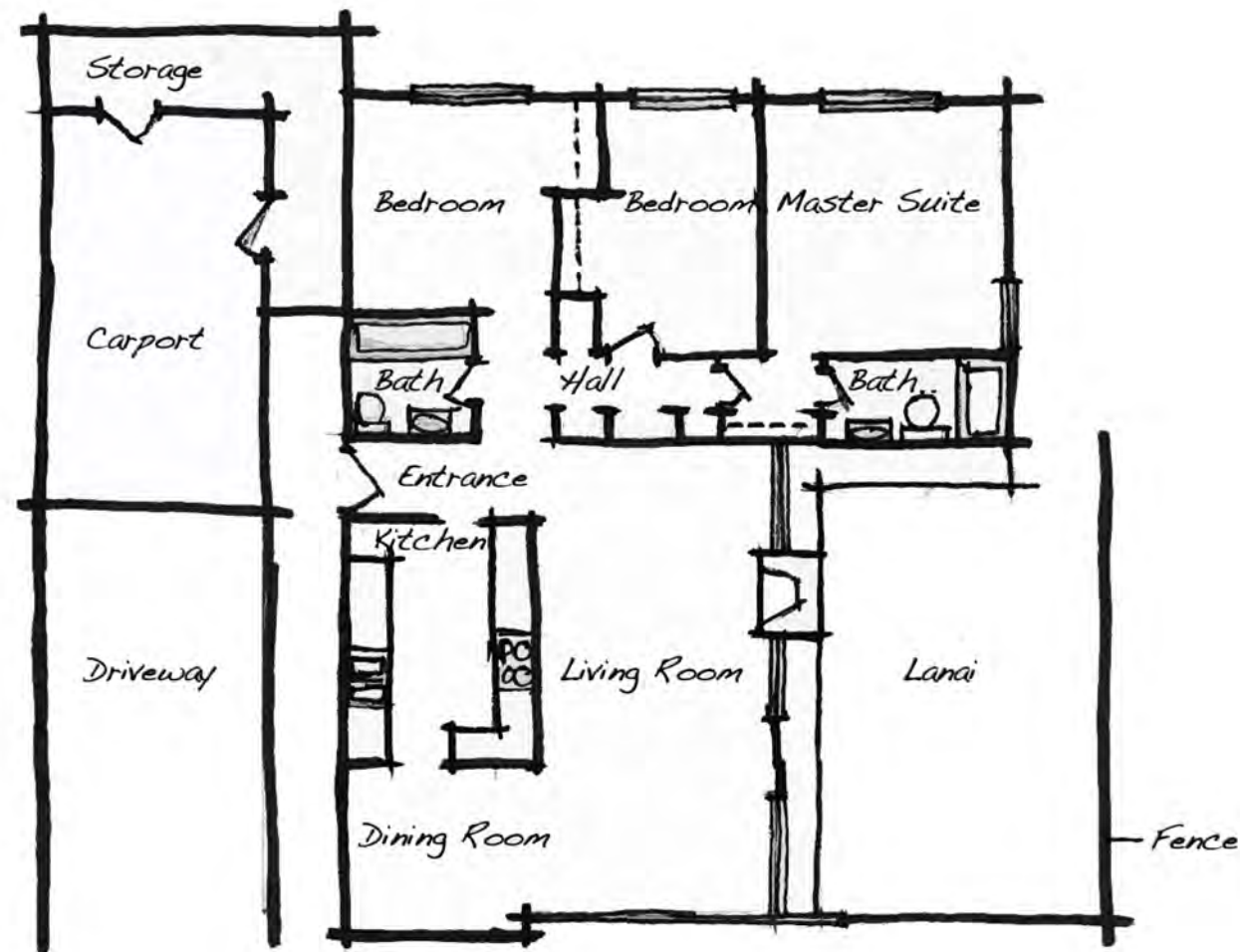
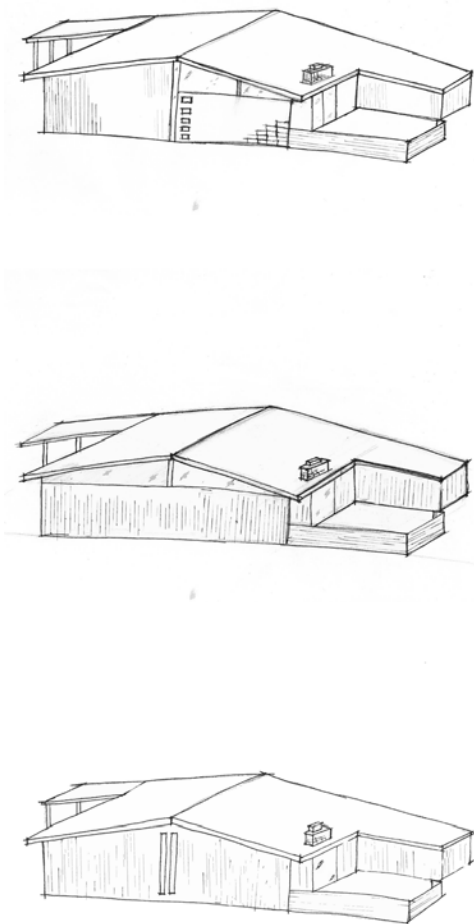
Models Available in Krisana Park

H.B. Wolff & Co.'s Krisana Park brochure advertised six house models, 2a through 2f. Each model was based on the same basic floorplan, but with variations to create a diverse streetscape. Each model featured unique window shapes and placements. The placement of the houses was also varied with some models rotated to place the carport at the front of the lot rather than towards the rear. Models could also be flipped, moving the carport from one side to the other. Each home contained the same rooms and features including three bedrooms, two baths, and an open-plan living room/kitchen/dining room opening onto a lanai.

Model	# Built
2a	45
2b	47
2c	28
2d	21
2e	15
2f	15



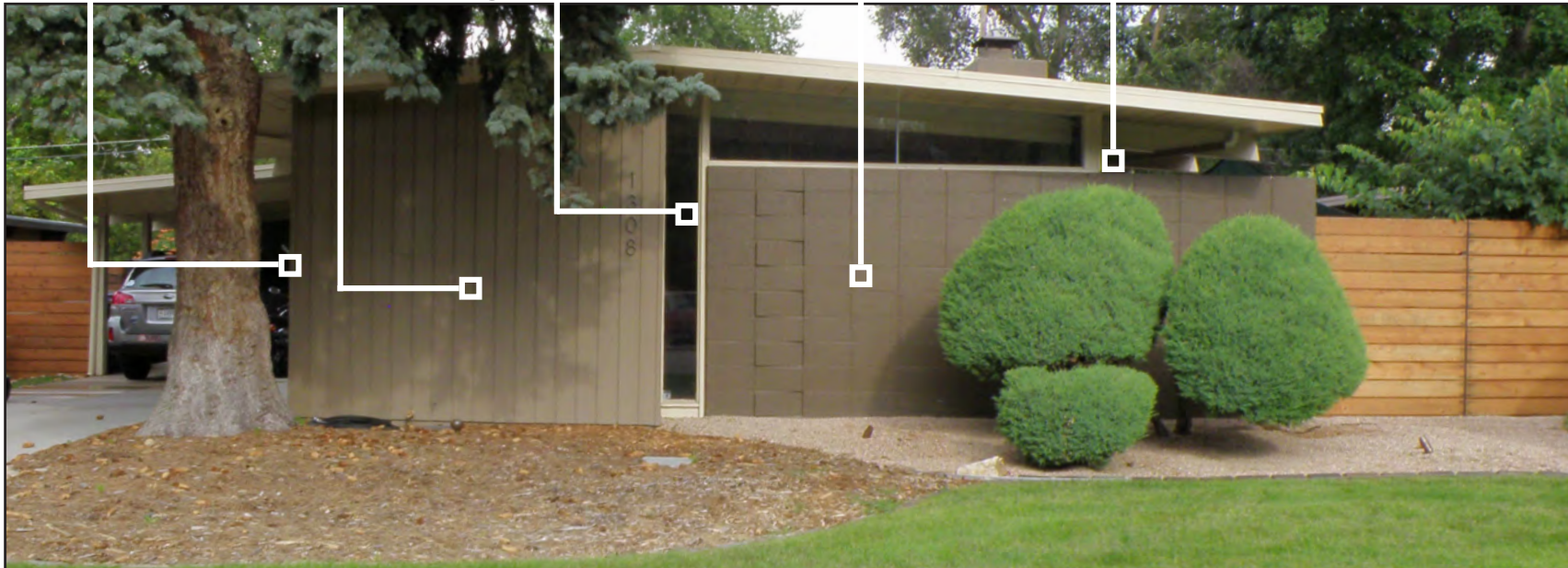
Standard Krisana Park Floor Plan



Model 2a House

- Front-facing, low-pitch gable roof
- Single vertical slot window on façade
- Windows at roof eaves on one side of façade
- Cement block wall with vertical row of angled blocks on façade
- Vertical wood siding wall with no window openings
- Side carport with storage at rear
- Driveway at side of lot
- Horizontal slider window at side looking onto driveway
- Side entrance
- Side lanai

side entrance blank wall, vertical siding vertical slot window angled cement block details window at roof eaves





Model 2b House

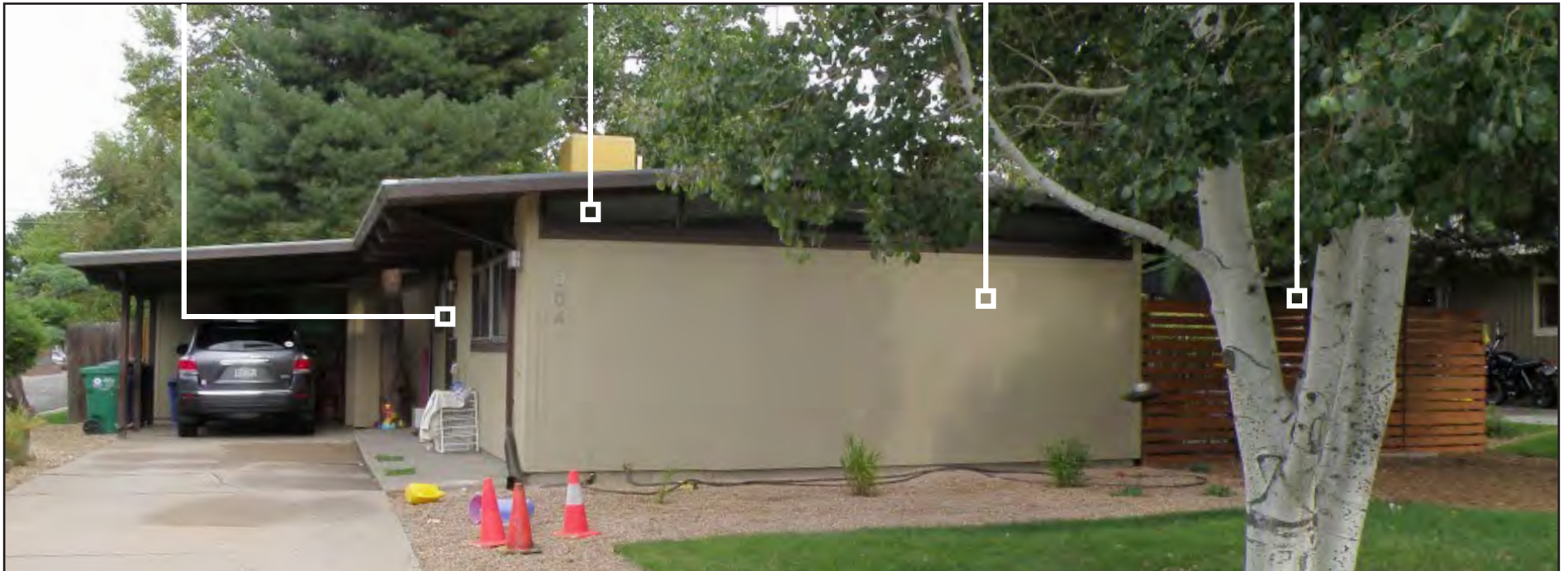
- Front-facing, low-pitch gable roof
- Windows at roof eaves extend across façade
- Vertical wood siding extends across the façade
- Side carport with storage at rear
- Driveway at side of lot
- Horizontal slider window at side looking onto driveway
- Side entrance
- Side lanai

side entrance

windows at roof eave

vertical siding

side lanai





Model 2c House

- Front-facing, low-pitch gable roof
- Paired vertical slot windows on façade
- Vertical wood siding extends across the façade
- Side carport with storage at rear
- Driveway at side of lot
- Horizontal slider window at side looking onto driveway
- Side entrance
- Side lanai

vertical siding

paired vertical slot
windows

horizontal slider
window on side

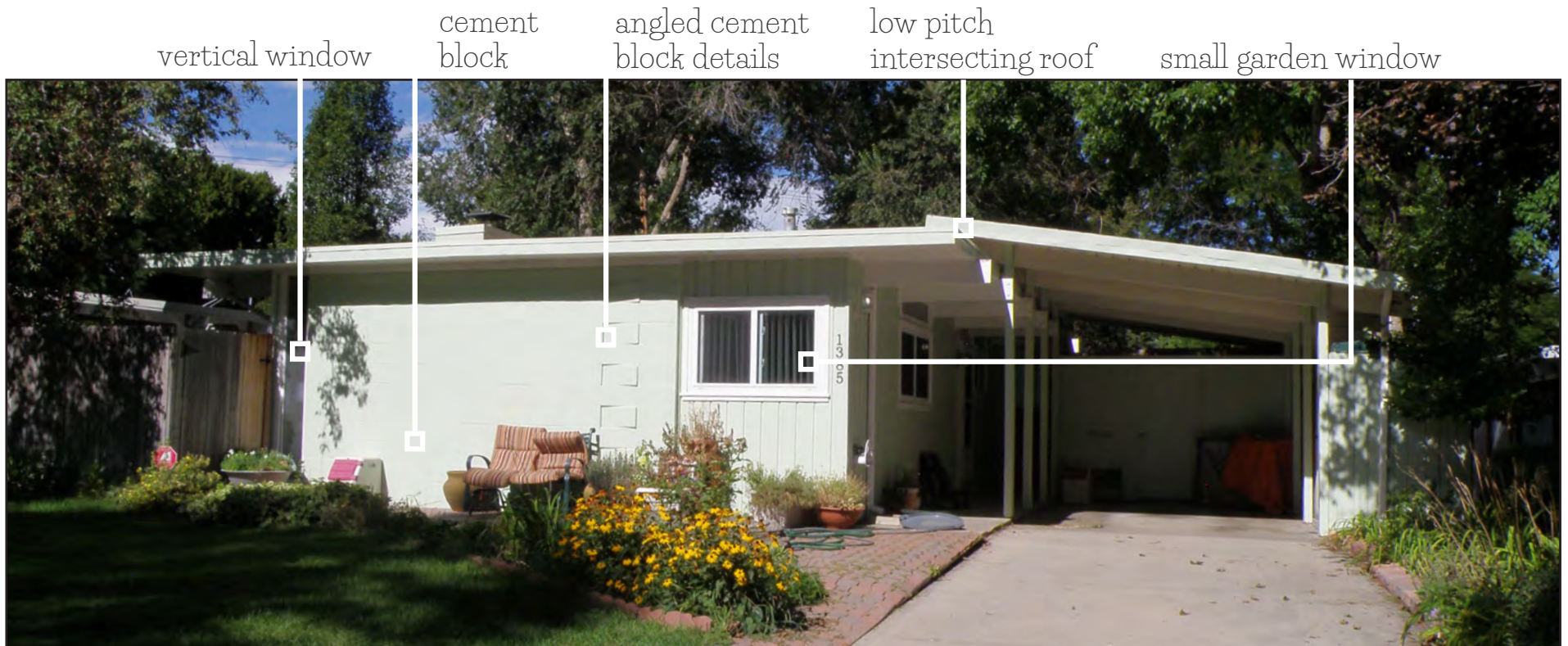
side carport





Model 2d House

- Low-pitch shed roof
- Cement block wall with vertical row of angled blocks on façade
- Vertical wood siding with horizontal slider window on small portion of façade
- Side carport with storage at rear
- Shed roof of carport intersects with roof of house
- Driveway at side of lot
- Side entrance
- Side lanai





Model 2e House

- Low-pitch shed roof
- Carport at front, located parallel to the façade
- Storage units located along the side of the carport and partially obscure façade of the house
- Front entrance
- Vertical wood siding extends across the facade
- Façade features a horizontal slider window with transom above
- Rear lanai
- Curved driveway at front of lot

transom window

front entrance

carport in front of
the house





Model 2f House

- Low-pitch, front-gable roof
- Carport located in front of the house
- Shed roof of carport intersects with gable roof of house
- Concrete block storage units located at side of carport
- Front entrance
- Vertical wood siding across the façade
- Horizontal slider window on façade
- Rear lanai
- Driveway leads to front of house

concrete block storage

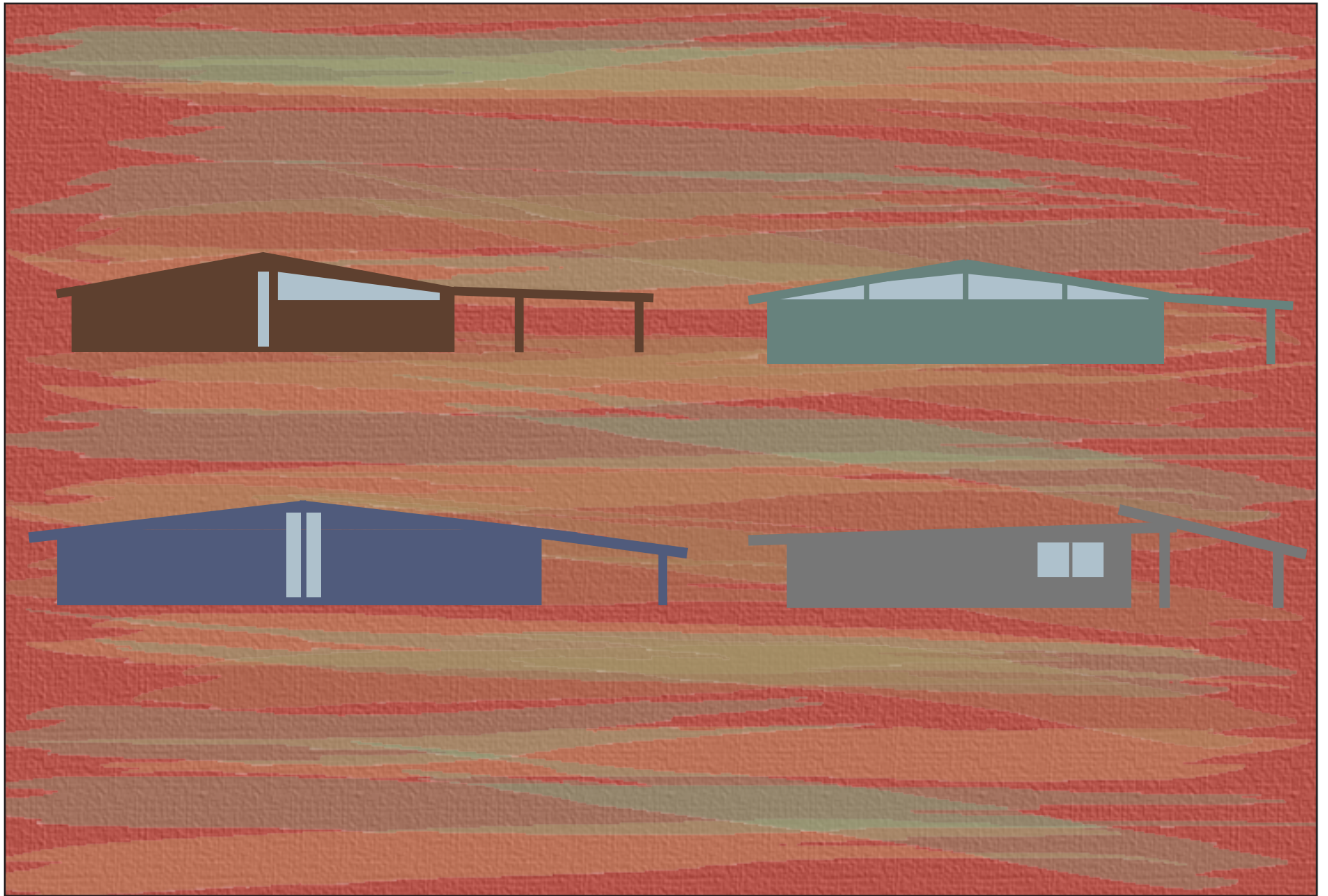
front entrance

intersecting roof lines

slider window







「Suggestions for Homeowners」

Siding & Exterior Materials

Krisana Park homes originally featured vertical redwood siding. Though most houses in Krisana Park have now been painted, the siding was initially stained. Replacing the original siding is not recommended, but if necessary due to material deterioration, it should be replaced with vertically oriented siding. Covering the walls with horizontal siding, vinyl siding, stucco, or stone is not compatible with the historic character of Krisana Park.

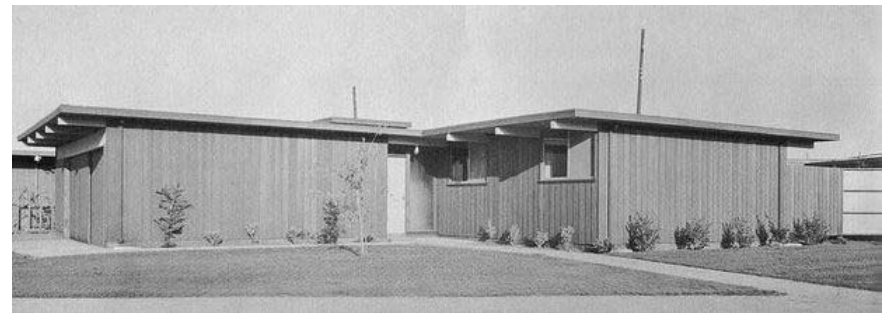
Paint

The original homes had complete home palettes with complementary interior and exterior colors. With stained redwood on the exterior and mahogany paneling on the interior, Krisana Park was initially much less colorful than it is today. A good rule of thumb for both interior and exterior is if it hasn't been already painted, don't paint it. The beauty of the natural wood both inside and out was integral to the harmony with nature emphasized by the Contemporary style. If using paint, a muted, natural color palette is most appropriate. Use matte or eggshell paint, shiny surfaces are inappropriate for these homes. Semi-gloss can be used in wet areas. Both original Cabot ranch house hues and Dunn-Edwards original colors have been translated into Benjamin Moore colors on the eichlernetwork.com.



Windows

The original windows were single-pane aluminum frame windows; according to H.B. Wolff & Company the windows would never need painting. Fixed window types included horizontal and triangular windows at the roof eaves; vertical slot windows on the façade; and window walls facing the lanai. Operable windows included horizontal sliding windows and sliding patio doors. Retention of the original windows is preferred; energy efficiency can be improved with the installation of a second pane of glass detailed to work with the original frame, or as a storm window on the exterior or interior. Aluminum window frames can now be thermally broken (with air between double panes stopping the conductive thermal energy from passing through the glass), greatly improving the resistance to condensation and the feeling of cold frames. If replacing windows, the original window configuration should be retained. Fake mullions or other window divisions are not suitable. Fiberglass frames matching the original window dimensions can be explored as an alternative to aluminum windows. Vinyl windows are not an appropriate choice—the thickness of their frames and the textural quality and surface finish of the material is not compatible with the historic character of Krisana Park homes.



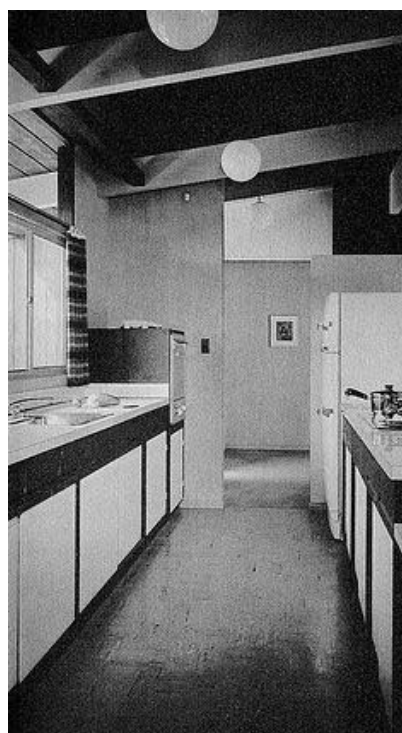
Bathrooms

The original bathrooms featured mahogany paneling, tile, formica countertops, and combination bath tubs/showers. Pastels were popular for tile and countertops. If you have original coordinating tile and fixtures, embrace them! Nothing else says mid-century modern like pastel tubs and sinks! Restore or clean the hardware and grout. Re-plumb and replace the “innards” to make everything more efficient. If the bathroom has original copper plumbing that doesn’t leak, it often doesn’t need to be replaced. Galvanized steel pipes are known to rust, requiring copper replacement. If you are enlarging a bathroom, look to maximize the spatial layout by eliminating interior walls, using glass walls around showers and consolidating storage. New accent tiles can liven up an older color scheme. The use of water sense fixtures and solar hot water heaters can add efficiency to an older bathroom.



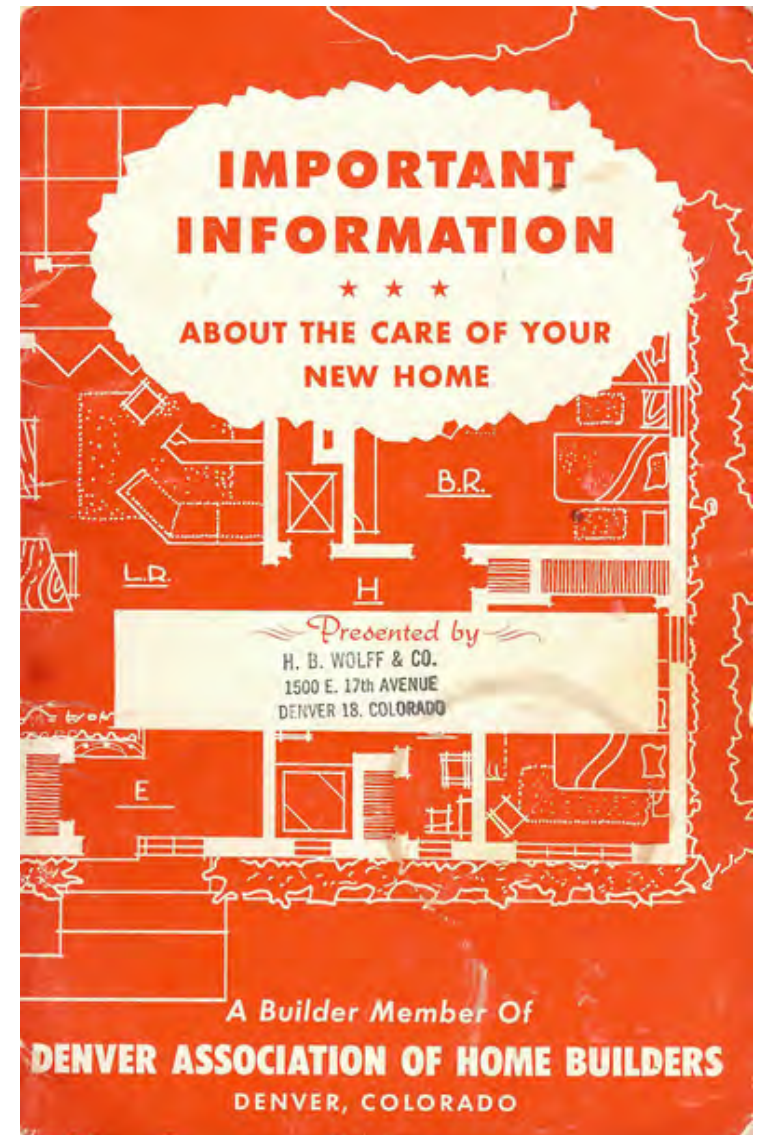
Kitchen

The original kitchens featured wood cabinets, linoleum floors, Formica countertops, and a breakfast bar. Automatic dishwashers were available as an upgrade. The original cabinet fronts should be maintained or replicated if possible to retain the original look of your home. You can build in modern conveniences behind the original cabinets and have fronts made to match for addition units. If you need to replace the cabinets, use fronts with clean lines- slabs only, no moldings or panels. Granite is not generally appropriate aesthetically for a mid-century modern kitchen. While Formica is the most historically appropriate counter surface, solid colors in materials like quartz, marble, concrete, or laminate are possible replacements. Restore and clean or find replica hardware for cabinet doors. Vintage materials, colors, and imprinted patterns are options for homeowners who want to capture the original aesthetics of their homes. Linoleum or wood are the best flooring options but resilient tiles, or porcelain or stone (particularly slate) could also be considered. Bigger is better when it comes to tile size it helps with the continuity of the spaces and keeps the simple, modern lines intact.



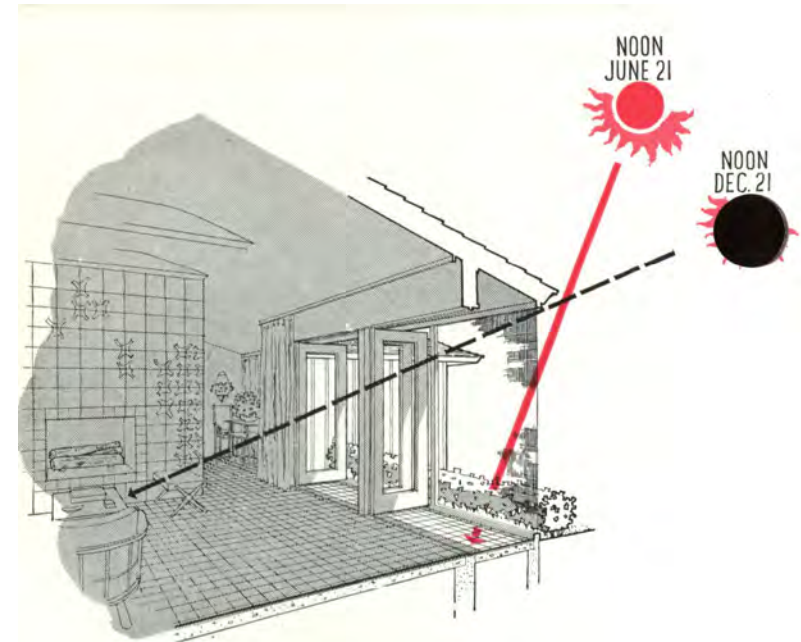
Environmental Concerns

Older homes may have lead and asbestos in materials you may not suspect. Before undergoing any renovation project, have your materials checked out by professionals to avoid any health hazards.



Energy Efficiency

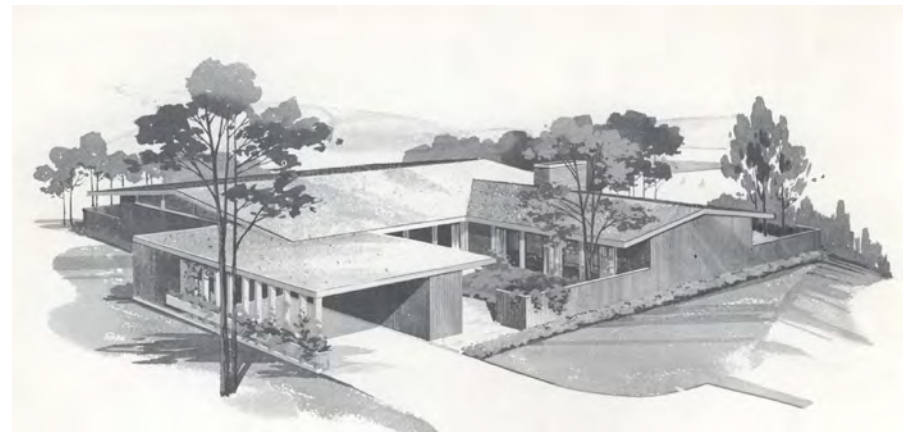
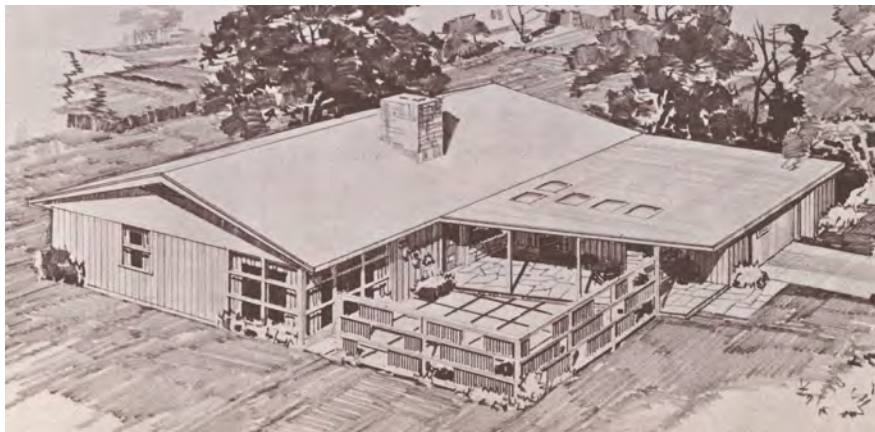
H.B. Wolff & Company promoted the homes of Krisana Park by highlighting design features that improved the efficiency of the home. This included windows designed to take full advantage of the sun with wide eave overhangs to cut down sky-glare, while admitting low winter sun. Although most homeowners want to improve the energy efficiency of their home, energy efficient upgrades in mid-century modern homes require extra caution. To preserve the original design intent, alterations should only be considered when they will significantly improve efficiency. Heating, ventilating, and air conditioning upgrades can generally be done with minimal impact on the character of the home. Super high efficiency furnaces, reduction of heat duct loss by insulating and sealing ducts, providing ventilation in bathrooms and kitchens, and installing energy efficient appliances are all upgrades that can make significant impacts to the efficiency of the home without altering its character. Whole house fans for continuous ventilation can supplement ventilation and cooling. Insulating wood framed walls is not recommended because the costs are high, the potential for damage to the building materials is higher, and the potential benefit is negligible. Insulation should not be installed unless a vapor barrier has been installed, and this can generally only be done if the exterior siding is removed, which is also not recommended. Insulation can be installed under floors and on the roof to improve the envelope. Solar panels are typically not appropriate on buildings with low-pitched roofs as they are quite visible due to the angles required for installation.



By careful attention to window placement and width of overhanging eaves, the Pace-Setter House is sunny, cheerful and comfortable the year 'round. Eaves shield the living room from high summer sun, keeping the room shaded and cool. Low winter sun fills room, affording maximum light and heat.

Roofing

Homes in Krisana Park originally featured a 7-layer built-up (tar and gravel) roof. Roof replacement is a necessary maintenance every 20 years or so depending on weathering, hail damage, water damage, etc. When replacing the roof, built-up roofs of tar and gravel are the most appropriate. These consist of a base layer covered with layers of felt hot-mopped together with asphalt. The top layer is covered with asphalt. Built-up roofs are one of the most affordable options, and the best for matching the original Eichler aesthetics. When installing a new roof, energy efficiency can be improved by filling rafter cavities with high density closed cell foam and then re-decking. Installing an energy star cool roof is another option; these are generally a lighter color which can reflect heat back into the sky. Single-ply membranes roofs can be more expensive, but are also suitable options. Single-ply systems mechanically attach sheets of the membrane to the roof.

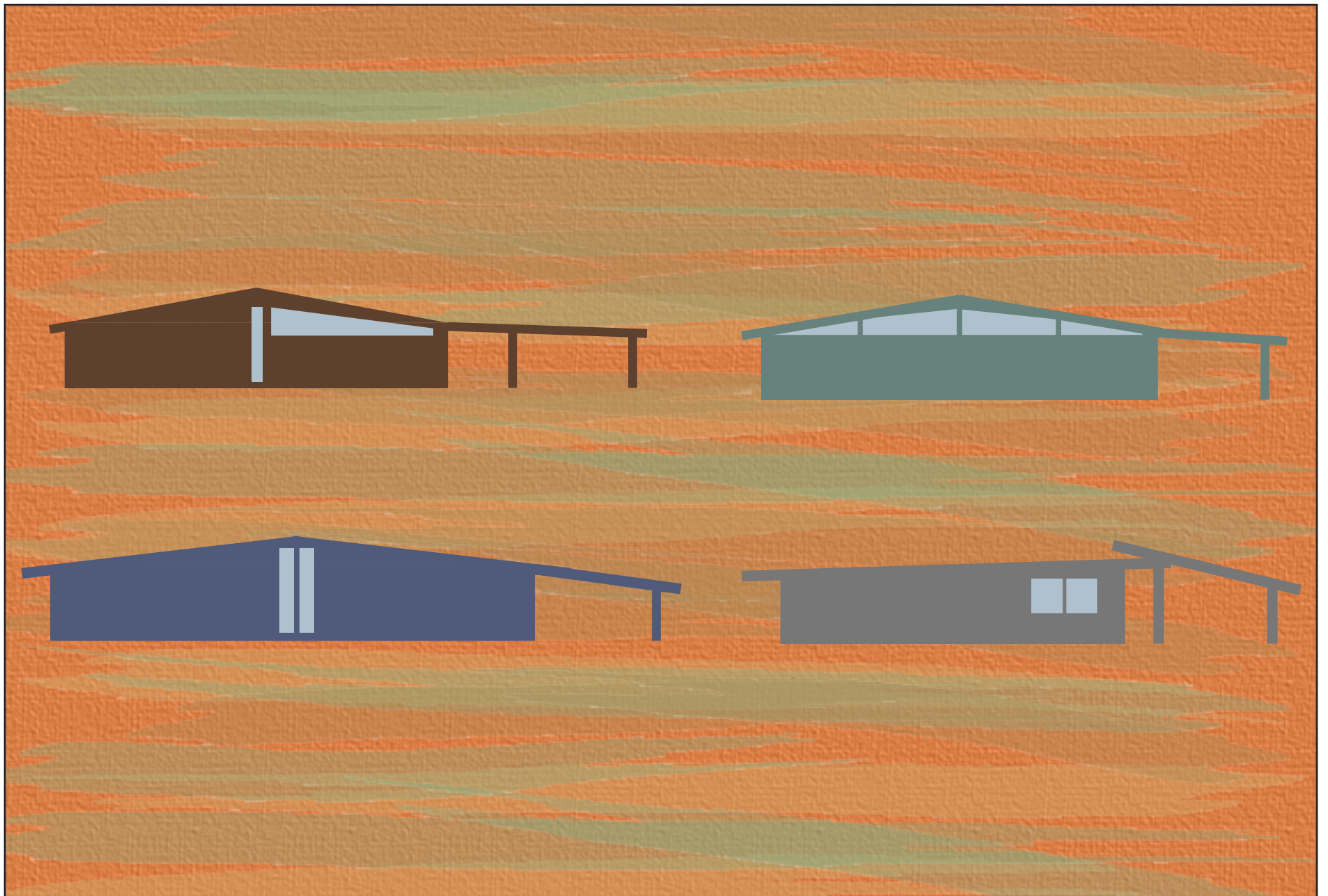


Landscape

In terms of landscaping, think minimal and think sustainable. Houses in Krisana Park originally featured grass lawns enhanced with trees and shrubbery. There are many styles of landscaping and many plants that are fitting for the mid-century modern house. Historic house catalogs have exterior images that can give inspiration. Modern landscapes with simple and textured plantings or Asian-influenced landscaping are two popular and proper options. Many original plantings are overgrown after 60 years and require extensive trimming or removal. Foundation plantings are appropriate, but they should be scaled correctly and layered with lower plantings in front of them. The landscaping should never obscure the house. Ideally, the landscaping will enhance the connection between inside and outside. The line of the lanai fence should be kept as an extension of the front façade. Vertical wood fencing is most appropriate. Horizontal wood fencing is acceptable. Wrought iron and wood picket fencing do not fit the neighborhood's modern aesthetic and should be avoided.

The original driveways were 11 feet-wide and composed of solid concrete. Since the entrance to the house was located adjacent to the driveway, the houses did not include separate walkways. Retaining or replacing the original driveways is most appropriate. Concrete ribbon driveways and walkways with pebbled or planted insets also fit the mid-century character of the neighborhood.







Adapting Your Home



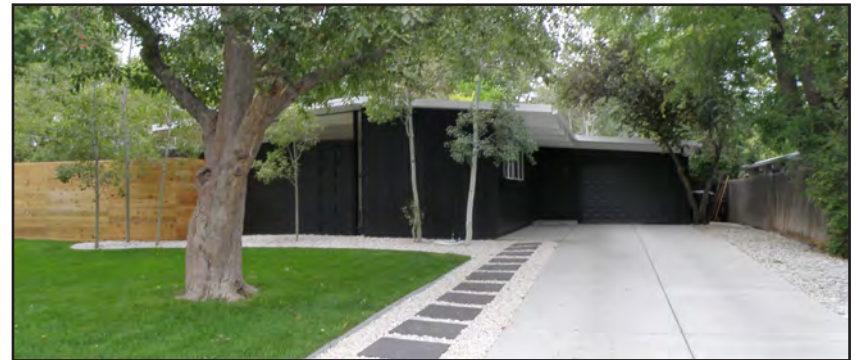
Adapting Your Home

Krisana Park homes present several challenges for current owners. Housing expectations have changed significantly since the mid-1950s, especially when it comes to space. Master suites, large kitchens, two-car garages, and plentiful storage have all become standard. Balancing the need for up-to-date amenities with the desire to retain the historic character is challenging, but can be done.

The houses of Krisana Park have evolved over time, reflecting changing tastes and trends. Some of the common changes include: converting the carport into a garage or additional living space, replacing the original siding, installing additional window openings, and building additions.

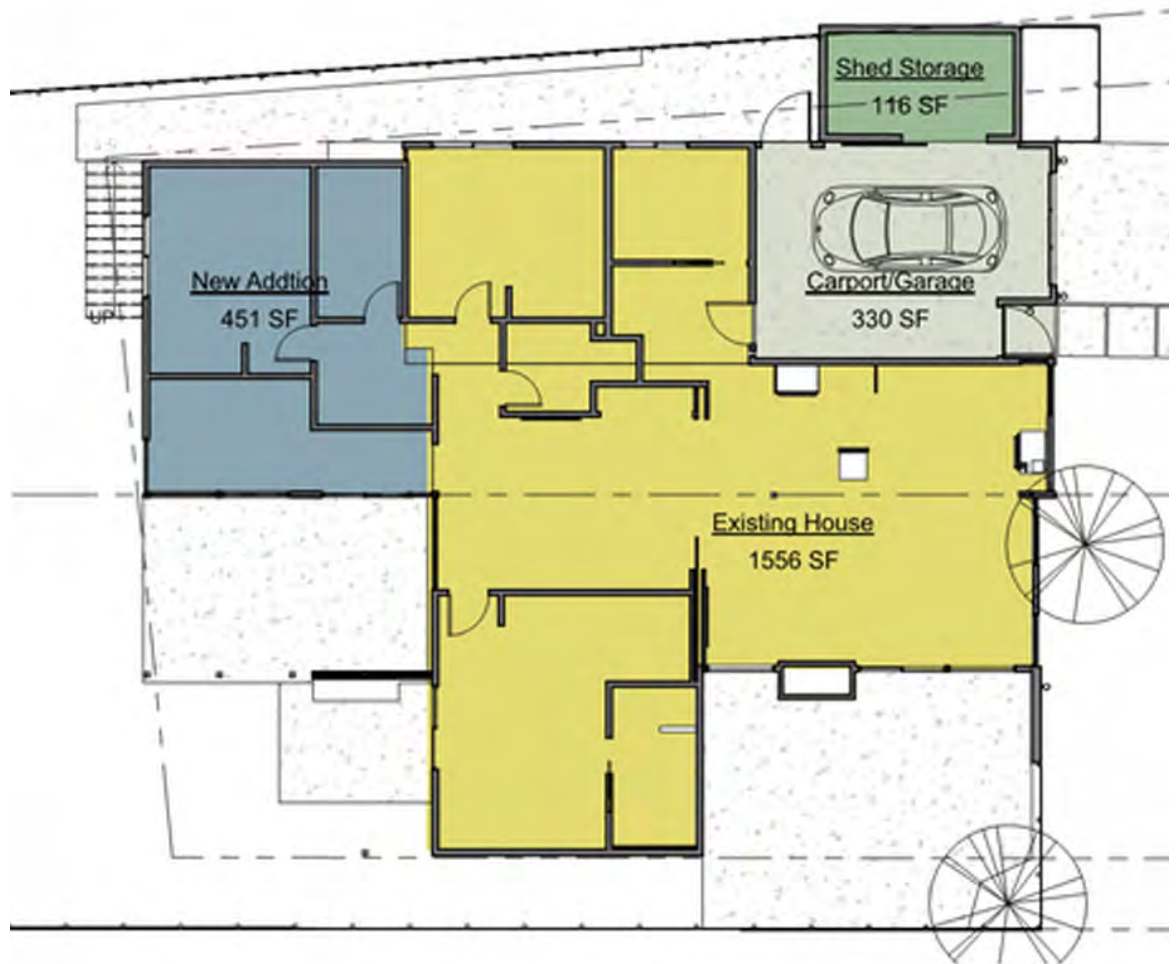
Sensitive Adaptations:

- Retain the historic character of the home
- Avoid the removal of distinctive materials, features, and spatial relationships
- When original materials cannot be retained, replace them with new materials matching the original in design
- Avoid changes that create a false sense of historical development, such as adding features or elements from other styles or periods
- Additions should be subordinate to the original building, be compatible in scale and proportion, and retain original spatial relationships



This plan illustrates some of the common alterations that have been made to Krisana Park homes. These include:

- Opening up the floor plan
- Building an addition where the carport was originally placed and moving the carport and/or garage forward onto the original driveway
- Constructing additional storage at the side of the house to replace the storage space lost when the original carport was removed.
- Constructing an addition at the rear of the house

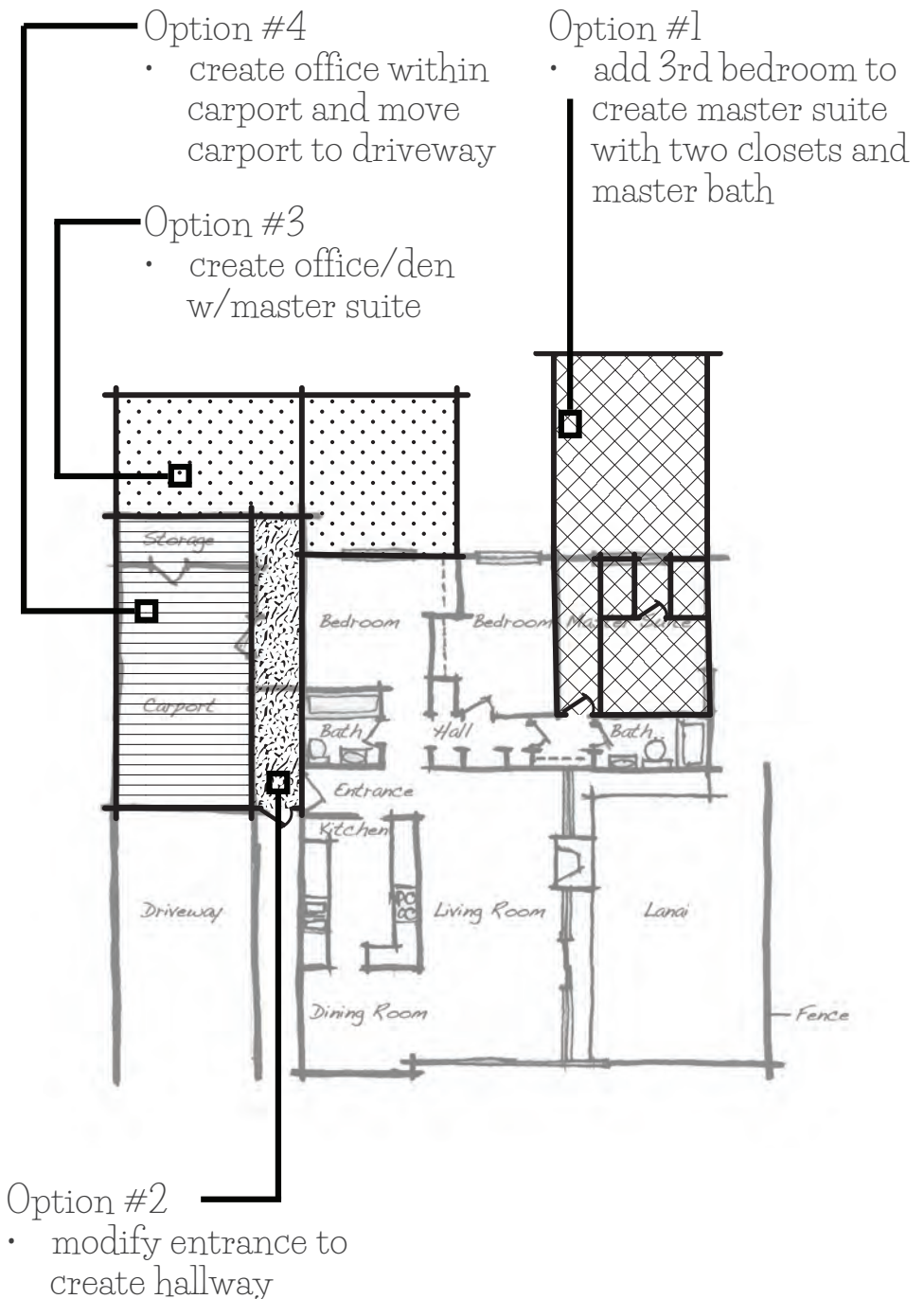


Courtesy of Cadence Design Studio

Additions

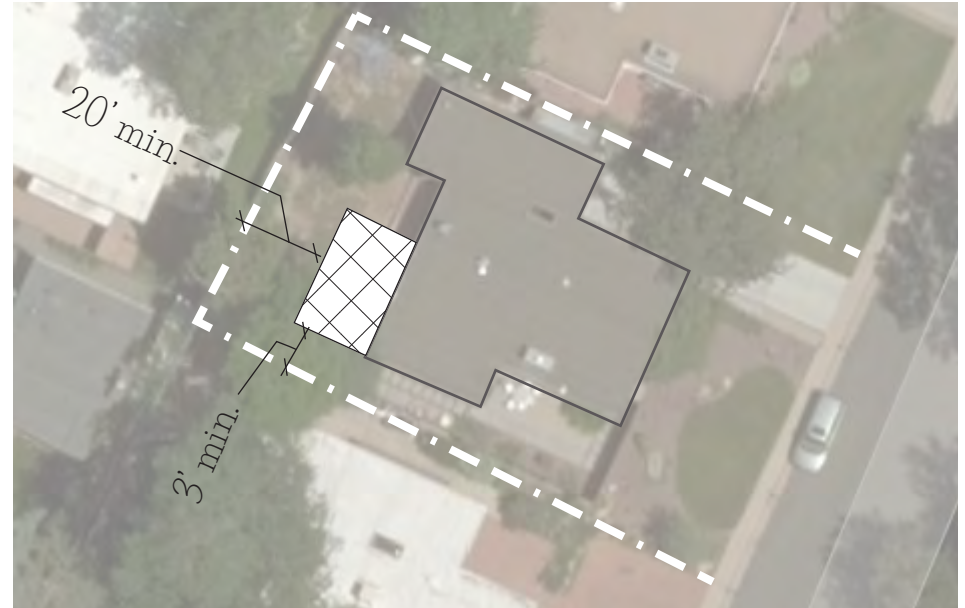
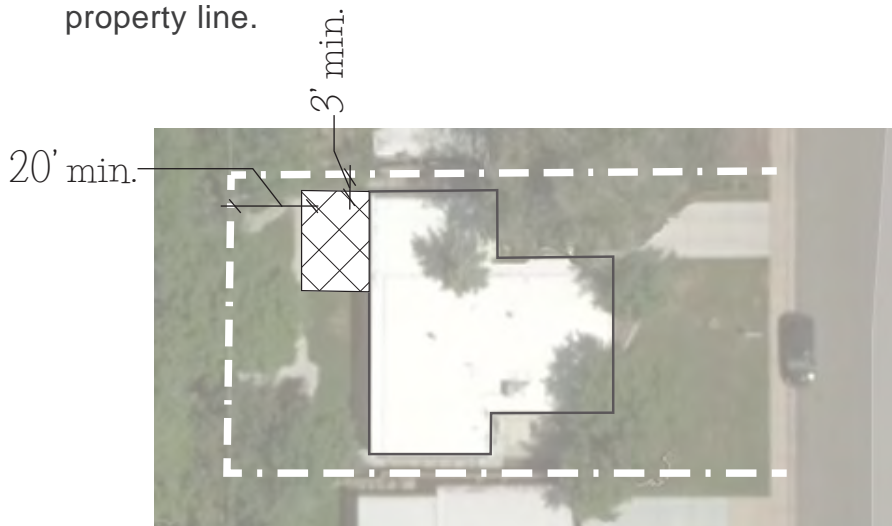
Many of Krisana Park's homes have been expanded beyond their original footprints. Consider these suggestions to help you expand your home while retaining its historic character:

- Additions should use similar, compatible materials to the original house. Vertical siding is ideal. The walls of the addition do not have to match the original, but they should blend with it.
- Additions should be modern in form and detailing.
- Additions should use similar window types to those on the original house. Windows should be placed in organized patterns and not randomly scattered.
- Additions should have low-pitched or flat roofs with a deep eave overhang. Roof lines should not conflict with or obscure the original roof form. All fascia should match the dimensions of the original roof.
- The most appropriate placement for additions is at the rear of the property. However, lots in Krisana Park vary widely in dimension, with some allowing for more space for rear additions than others.
- Retain the home's original front projecting gable (models 2a, 2b, and 2c)
- Retain the irregular footprint of the house, especially on the façade. The stepped facades of the houses in Krisana Park are an essential part of the historic character, adding variety and depth. If you construct an addition on the side of the house, it should be set back from the façade.

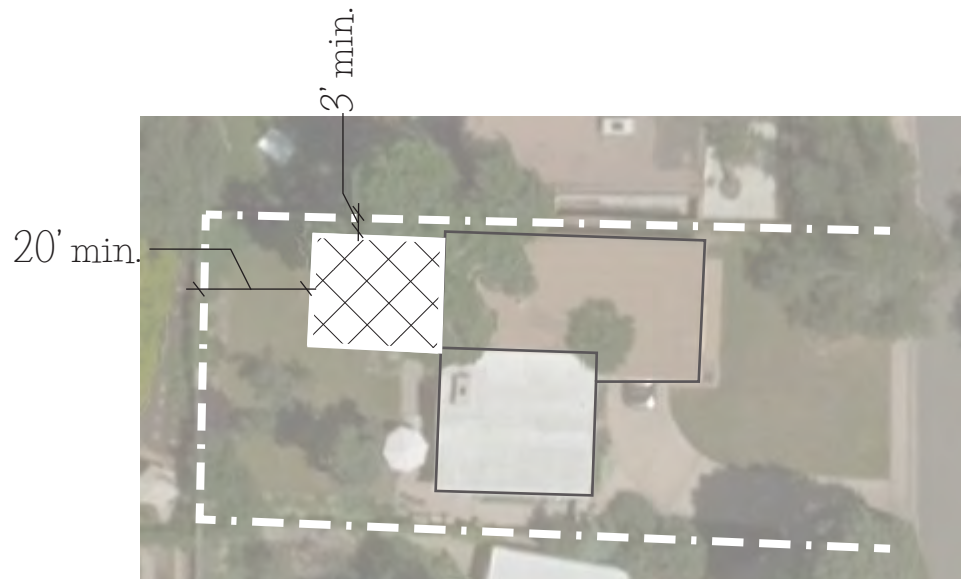


Additions - Zoning

The Denver zoning code is based on the concept that different neighborhoods have different contexts. Zoning defines many aspects of a property, such as size and location of structures, allowed uses, required parking, transportation, lot shapes, block patterns and more. As of 2015, zoning for Krisana Park is typically S-SU-D, or Suburban Single Unit with a minimum lot size of 6,000 square feet. The Suburban Neighborhood Context consists of curving streets with varied block shapes and sizes. It is predominantly single family with commercial uses accommodated in shopping centers. The City and County of Denver's Community Planning and Development website further clarifies what is allowed in this zone. Lots in Krisana Park vary in size so it is impossible to provide uniform guidelines for addition placement. Zoning currently requires a minimum of 20 feet between the rear of the house and the property line and 3 feet from the side of the property line.



These aerial images illustrate potential addition placement



Carport into Garage or Additional Living Space

In Krisana Park, the carport was integrated into the design of house. Either setback on the side of the house or located off center on the front of the house, the carports added depth and variety to the building footprints. The carports were designed to blend with the house, using the same post and beam construction, low-pitch roof, and vertical siding, and concrete block. One of the most common alterations in Krisana Park is to convert the carport to a garage. Since garage doors are a new feature, not part of the original design, the material of the door should be simple and blend with the rest of the house as much as possible. The garage door can be up to a third of the front façade, but should not be the most prominent feature. Glass and aluminum garage doors are another option to retain the original open look of the carport. Many carports in Krisana Park have also been converted into additional living space. This is the easiest and least intrusive solution to increasing the square footage of the home since it fits within the original footprint. In order to retain the original character of the house, the irregular footprints and setbacks of the original designs should be retained.





Adding a Second Story

Due to the low profile of Krisana Park homes, it is very difficult to construct a second story addition that fits with the character of the neighborhood and does not overwhelm the original house. Second story additions can also negatively impact the privacy of adjacent homes.

However, with careful planning (and a larger sized lot), a second story addition that fits the neighborhood character may be possible. Second story additions should follow these guidelines:

- Maintain a strong horizontal emphasis
- Be set back from the façade
- Be low in profile with a roof form (flat or shallow-pitched, 3:12 maximum) that blends with the original home
- Repeat the post and beam construction of the original house.
- Match the original house materials and details.
- Minimize second floor plate heights to maintain horizontal emphasis of the style.
- Use wide roof overhangs to emphasize the horizontally of the overall house form.
- Limit second floor windows where they would provide views into adjacent homes' living space and lanais.
- Avoid second floor balconies and bay windows on side and rear elevations.



Aging in Place and Making Your Midcentury Modern House Accessible

When remodeling your home, you may want to consider your future needs as you grow older. There are several key elements to creating a truly accessible home. Krisana Park homes already have an advantage since they are on a single level without a basement or stairs. Movement through the house should be as open as possible. Kitchens and bathrooms often need additional space, and specific designs to work for homeowners with differing abilities. Kitchens and bathrooms can have variable height countertops, low appliances and roll-in access, all of which can be done in harmony with the mid-century modern interior. The biggest challenge is generally entering the house. Modifications can fairly easily be made to the entrance from the carport/garage by combining the designated car space with the entry walkway. The entrance from the street to each house is unique due to the topography of the specific site, but gentle ramping from sidewalk to entrance is the ideal solution if possible. Doorways may also need to be widened.



The home was recently remodeled in order to create a house in which the owner could age gracefully.

Entrances

A key feature of California Contemporary homes is obscured entrances. Entry doors should be simple, without stained or decorative glass, motifs, panel trim or recessed panels. Flat slab in an accent color or flat slab with simple clear viewing panels are most appropriate. Stained wood doors do not last well in our climate due to UV rays and rain/snow weathering. Storm doors should avoid scrollwork and decorative motifs, and remain as simple and invisible as possible. On the models that originally featured side entrances, this feature should be retained if possible. If moving the entrance is required by internal modifications to the floorplan, an off-center, minimally ornamented entrance is most appropriate. If converting the original carport into additional living space, placing the entrance here works well.



Window Openings

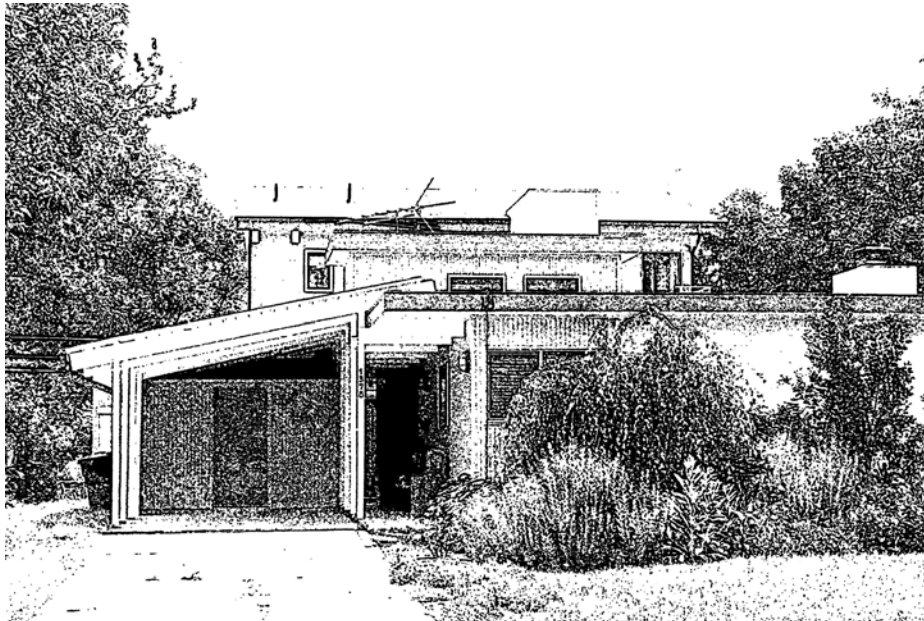
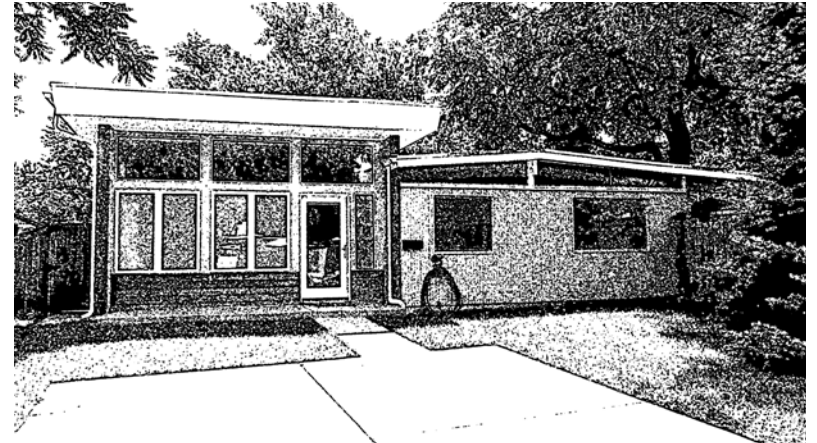
H.B. Wolff & Co. used distinctive window forms and placements to create a variety of house models in Krisana Park. Characteristic of the California Contemporary style, the windows were often narrow and placed high on the wall in order to create a sense of privacy. Window placement became a key design feature on an otherwise plain façade. As a result, the modification of the existing window openings or the creation of new window openings on the façade is not recommended. If more windows are desired, these should be placed on the sides or rear of the house. New windows that follow the example of the original windows in design and placement are recommended. Windows should be placed in organized patterns, not randomly scattered. Windows on new additions should also follow the example of the original windows with vertical slot windows, windows placed along the top of the wall, and horizontal slider windows being most compatible.



Insensitive Alterations

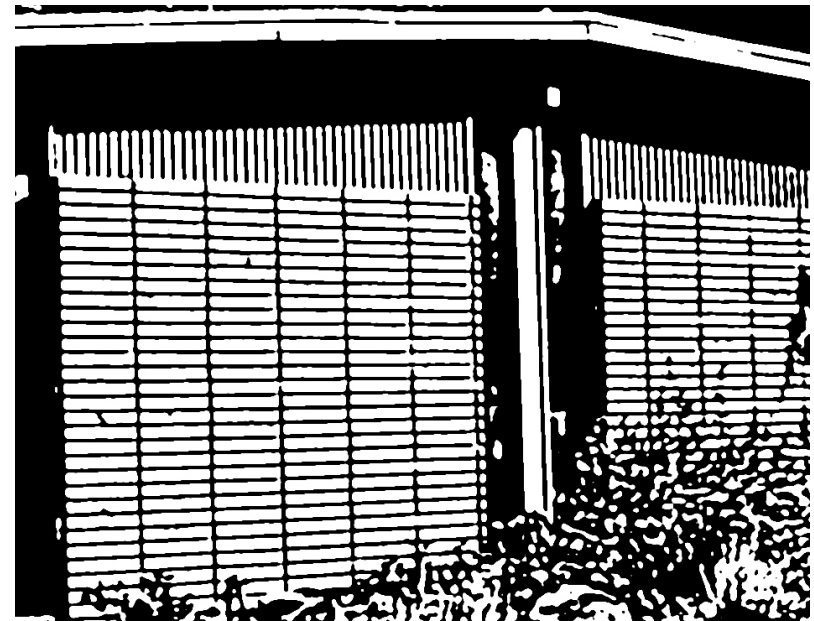
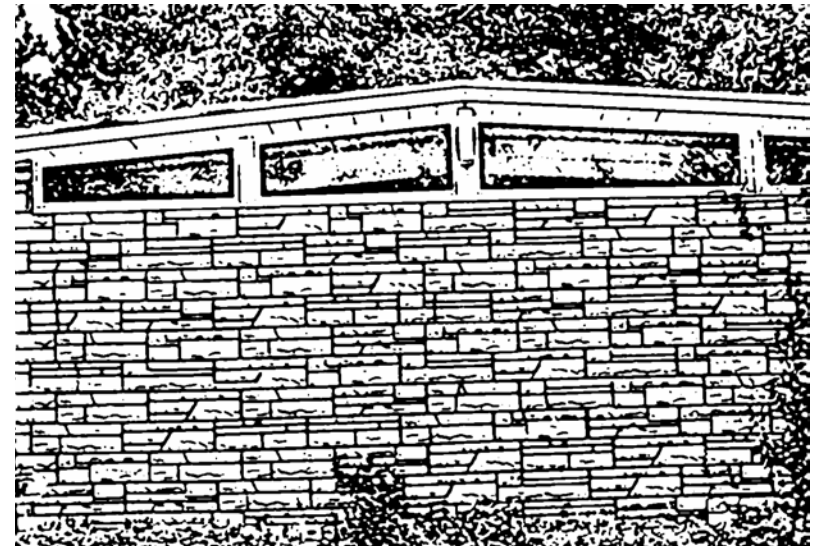
Changing Roof Line

Retaining roof lines of a mid-century modern home is key to preserving its character. Maintain shallow slope roof forms with a maximum slope of 3:12. Avoid hip roofs and other forms not common to the mid-century modern style. Retain and repeat wide roof overhangs and exposed beams consistent with the original designs. The thickness at the eave edge is critical. If adding insulation, taper at the edge to avoid major changes in the profile.



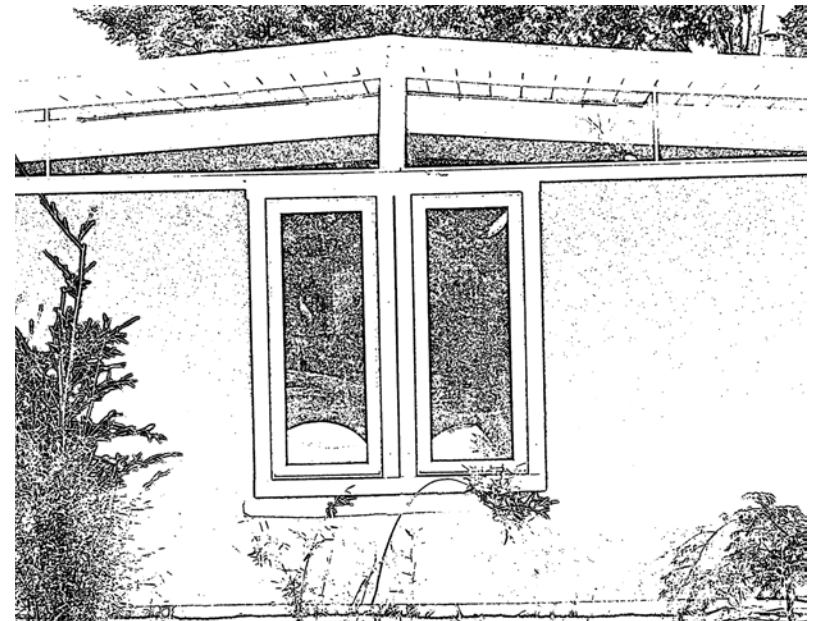
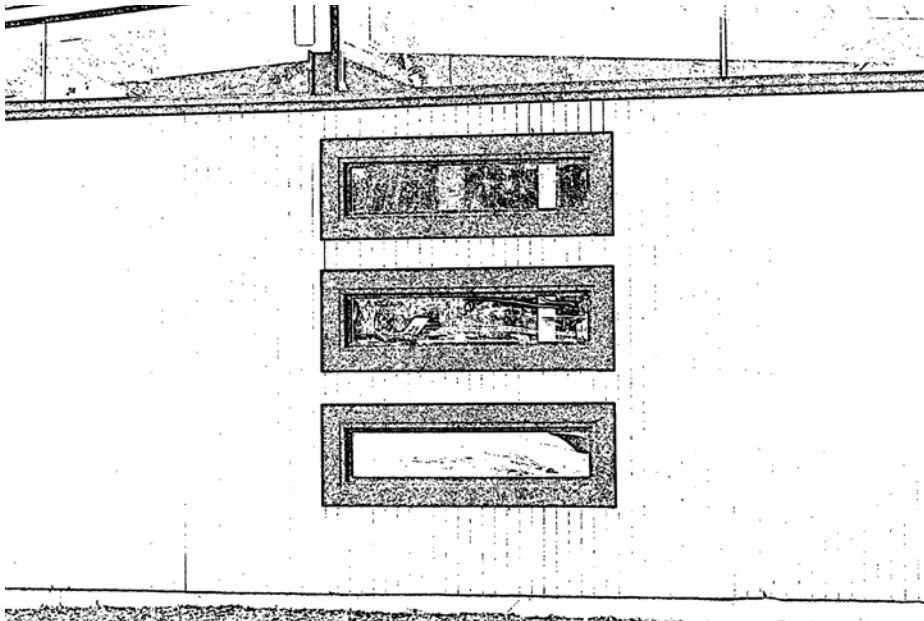
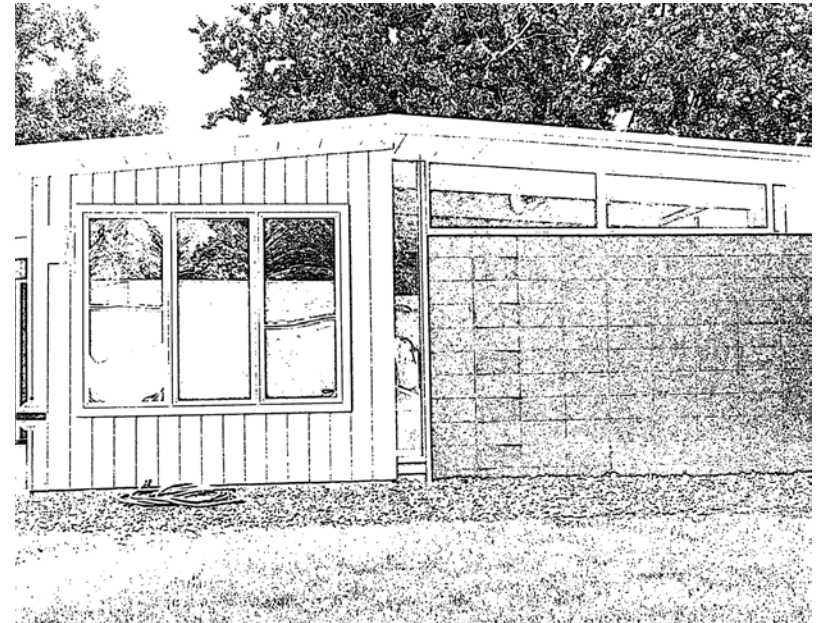
Wall Materials

When considering replacing the exterior materials on the house, using vertical-grooved wood siding and exposed concrete block is strongly encouraged. The vertical siding is an important character-defining feature and horizontal siding is typically incompatible with the overall style. Repair existing materials and details, wherever possible. Where the repair of the original materials and details is not possible, strive to match the original as closely as possible. Contractors can create custom profiles and custom panels to match original dimensions and profiles. Do not use stone facing with a rough or irregular texture or clapboard siding with overlapping edges that create a sawtooth profile.



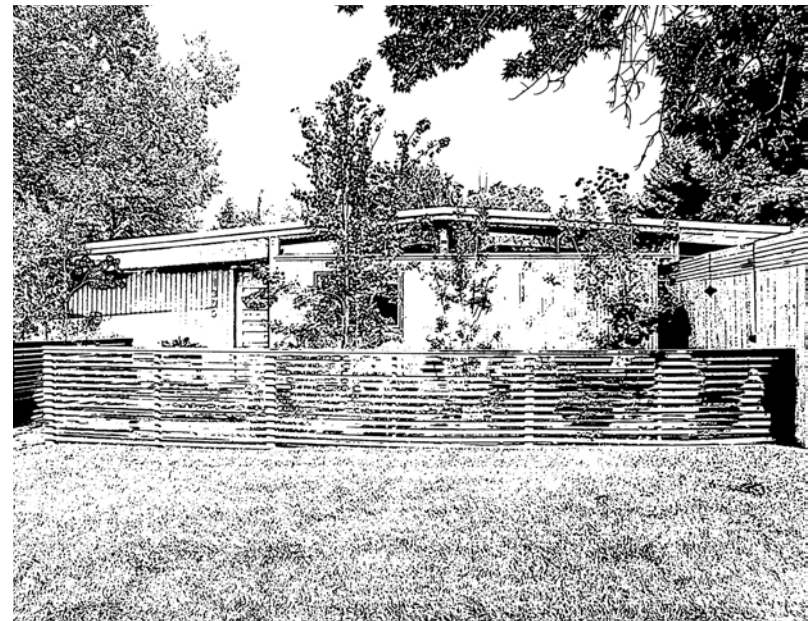
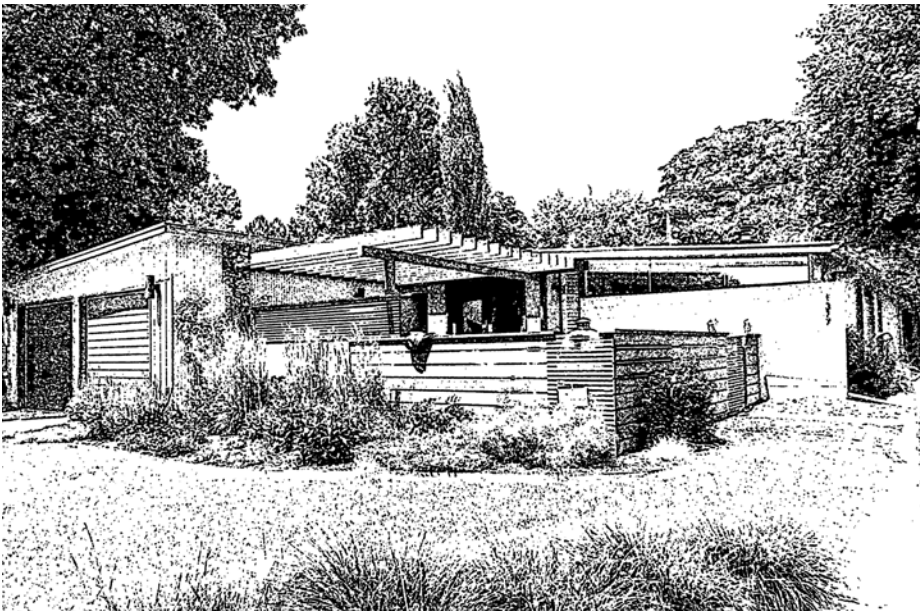
Windows

Adding picture windows, bay windows, or other large window openings can significantly alter the character of a Krisana Park home. Fake mullions or divisions are also unsuitable since these were not a feature of the original homes. The original windows were aluminum framed with narrow jamb, head, and sill profiles. Vinyl and wood windows are not a good substitute due to the thickness of their frames and their textural quality and surface finish. Stained or patterned glass, frosted glass, and glass block are also inappropriate. Bay windows and projecting garden windows should be avoided.



Site & Landscape Features

Open front yards with geometric landscaping are ideal. Plantings should not obscure the house. Fencing should be integrated with the rest of the house and should follow the original lanai footprint. Fences should be simple and modern in appearance. Fences with a vertical emphasis are ideal, but modern wood horizontal fencing could also be used. Using decorative or lattice fencing detracts from the minimalist style of the house and should be avoided. Extending the lanai into the front yard changes the relationship of the house to the exterior. The addition of decks or other fencing in the front yard should also be avoided. Concrete is the most appropriate material for driveways and walks. Smooth, modern stone could also be used. Brick or rustic stone does not fit the modern aesthetic.



Resources

General Information

<http://www.historicdenver.org>
<http://www.moderncoloradohomes.net/>
<http://www.eichlerforsale.com/eichler-remodeling-ideas.php>
<http://www.eichlernetwork.com>

Design Ideas

<http://www.houzz.com/mid-century-modern>
<http://retrorenovation.com/>
<http://www.destinationeichler.com/>

Garage Doors

http://www.amarr.com/residential/collection_options/vista
http://www.dynamicgaragedoor.com/custom-garage-doors_mid-century-contemporary.php

Doors

<http://www.raynor.com/products/styleview.cfm>
<http://www.overhaddoor.com/garage-doors/Pages/aluminum-collection.aspx>
<http://www.clopaydoor.com/avante>

Aging in Place

<http://afriendlyhouse.com/54/Architect-Karen-Braitmayer-makes-mid-century-accessible/>
<http://afriendlyhouse.com/76/10-things-you-should-know-about-Universal-Design/>

Architects, Contractors, and other assistance that are specific to midcentury modern homes

<http://www.5280mod.com/resources/>

Paint

<http://www.eichlernetwork.com/article/hues-say-you>
<http://blog.retroplanet.com/1950s-exterior-paint-colors/>

History

http://www.crt.state.la.us/assets/oed/hp/nationalregister/historic_contexts/contemporaryhousefeb2010.pdf
<http://totheweb.com/eichler/>

Understanding Architectural Terminology

<http://www.arapahoeacres.org/architect/style.html>
<http://architecturaltrust.org/outreach/education/glossary-of-architectural-terms/>
<http://recentpastnation.org>



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