



JM Research and Consulting

Jennifer Mermilliod, M.A.

Architectural Historian | Historian | Principal Preservation Planner

MEMORANDUM

DATE: April 27, 2026
TO: Scott Watson
Historic Preservation Officer
City of Riverside
SUBJECT: HH&IC PROJECT SOIS ANALYSIS - HARADA HOUSE

JMRC is the Architectural Historian of Record for the Harada House and Interpretive Center (HH&IC) Project, under contract to Kritzinger+Rao (Architect), to provide historic preservation consultation for both phases of the project from conceptual design through completed construction.

Among its many distinctions at the local and state level, the Harada House is designated at the highest, federal level as a National Landmark and through listing in the National Register of Historic Places. Rehabilitation seeks to accommodate reuse as a house museum accessible to the widest possible audience or user. At the same time, to safeguard the property's historic character and integrity, the proposed project must adhere to the Secretary of the Interior's Standards (SOIS) for Rehabilitation. The SOIS allow for sensitively designed and located, minimal, and reversible modifications to support new use in ways that do not diminish or destroy the character-defining features, materials, spaces, and environment that contribute to its significance.

Further, the Harada House meets the definition of a qualified historic property under the California Historic Building Code (CHBC), which must be applied by the Building Official. This building code acknowledges unique construction and conditions inherent in historic buildings and provides alternative, less-invasive methods for code compliance than those for new construction, particularly for accessibility and rehabilitation projects. The CHBC facilitates the continued use, repair, and adaptation of historic structures by allowing solutions that preserve the building's historical character while achieving reasonable levels of safety, health, and accessibility.


As discussed in consultation for the project on many occasions and documented in a number of consultation memos to the Architect (see separately attached) that provide deep, feature-specific analysis, JMRC finds that the proposed project is in keeping with the SOIS. The project retains and preserves character-defining features, including materials, spatial relationships, and architectural details. Original features, materials, and finishes are being retained, repaired where feasible, and replaced only when deteriorated conditions preclude repair. When replacement is necessary, new materials match the old in design, dimension, profile, color, and texture to the greatest extent

possible, and if such in-kind replacement is not possible, compatible replacement with similar or style/period-appropriate material. Where features are missing, the project avoids conjectural reconstruction or introducing a false sense of historicity and bases rehabilitation work on physical evidence and documentation. Structural upgrades and systems improvements are integrated in a manner that does not damage or obscure historic materials or visually alter the historic aesthetic. The overall approach reflects a minimal, sensitive intervention strategy to support new use as a house museum, which is consistent with the SOIS and preservation best practices.

Applied at the historic district level, the proposed project consistent with the SOIS by maintaining the overall integrity of the Heritage Square Historic District. Spatial organization and visual cohesion are not disturbed, and the rehabilitation of the existing Contributor does not introduce new construction, lot changes, or site alterations that would disrupt established district patterns of development, scale, or streetscape rhythm. The project further preserves the historic character of the district by retaining character-defining features, materials, and spaces and avoiding removal or modification of critical elements that define the historic residential neighborhood. The approach supports continued visual and material compatibility within the broader district setting and preserves the district's overall integrity through appropriate rehabilitation of this Contributor and the safeguard of established historic residential relationships, thus sustaining the district's ability to convey its time and place.

Please do not hesitate to contact me should you require clarification as I will prioritize further assistance to timely support City and project goals.

Best Regards,



Jennifer Mermilliod, M.A., Principal
Architectural Historian | Historian | Preservation Planner

Statement of Qualifications

Jennifer Mermilliod, M.A., Principal Architectural Historian exceeds the Secretary of the Interior's Professional Qualifications Standards as a Historian and Architectural Historian based on her Master of Arts degree in History with a Focus in Historic Preservation from the University of California, Riverside, and more than 25 years of professional work in southern California. She has extensive experience in the production and management of a variety of projects, including National Register and California Register nominations, local designations, large-scale surveys, and Section 106 and CEQA reviews. She has engaged in policy and preservation planning, project management, and oversight of restoration work, served as a consultant and expert witness, developed training and educational programs, and presented professionally on historic preservation and related topics. Ms. Mermilliod is fluent in regulatory compliance and proficient at applying eligibility criteria, analyzing project impacts, and developing successful design solutions, mitigation, and specifications. With project size ranging from a single property to thousands of parcels, Ms. Mermilliod works extensively throughout the region and is thoroughly familiar with the history and development of the City of Covina and southern California.



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MEMORANDUM

DATE: September 5, 2025

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE ACCESSIBILITY

JMRC has analyzed potential design options for accessibility provided by Kritzinger+Rao (K+R) and provides the following consultation.

Among its many distinctions at the local and state level, the Harada House is designated at the highest, federal level as a National Landmark and through listing in the National Register of Historic Places. Rehabilitation seeks to accommodate reuse as a house museum accessible to the widest possible audience or user. At the same time, to safeguard the property's historic character and integrity, the proposed project must adhere to the Secretary of the Interior's Standards (SOIS) for Rehabilitation. The SOIS allow for sensitively designed and located, minimal, and reversible modifications to support new use in ways that do not diminish or destroy the character-defining features, materials, spaces, and environment that contribute to its significance.

The Harada House meets the definition of a qualified historic property under the California Historic Building Code (CHBC), which must be applied by the Building Official. This building code acknowledges unique construction and conditions inherent in historic buildings and provides alternative, less-invasive methods for code compliance than those for new construction, particularly for accessibility and rehabilitation projects. The CHBC facilitates the continued use, repair, and adaptation of historic structures by allowing solutions that preserve the building's historical character while achieving reasonable levels of safety, health, and accessibility.

Current investigation to determine the feasibility of accessible access has revealed that while all first-floor interior door openings are 29.5-inches or greater, all exterior door openings do not meet this minimum door clearance allowable under the CHBC. Use of the second story for public museum space has been previously eliminated by prior study due to the overwhelming limitations of existing conditions.



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MEMORANDUM

DATE: September 8, 2025
TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao
SUBJECT: HH&IC PROJECT DESIGN CONSULTATION – SITE FENCING

Site fencing is an important landscape component of the project that should seek to enhance the historic/period aesthetic of the historic neighborhood setting, promote property distinction while unifying the site, support path of travel, and contribute to overall security.

Landscape design concepts reviewed to date feature full-height perimeter wood fencing, lattice fencing, which recreates historic fencing previously extant along the rear and side rear property lines, and a 36-inch-tall wood picket fencing along the front and sides of the consolidated property.

Perimeter Fencing	Acceptable. Solid wood fencing is an appropriate material and design along rear/side property lines in the Heritage Square Historic District.
Lattice Fencing	Acceptable. This recreated historic rear yard perimeter fencing is an appropriate landscape element. The extent of installation should be limited to where it is documented to have existed, or it may be used as an appropriate accent piece in select rear yard spots.
Picket Fencing	Acceptable. Historically, the Harada House and Robinson House did not have front yard fencing, so while no such fencing is most appropriate, the addition of this common and easily reversible period landscape element is acceptable. Design should take inspiration from historic examples in the district or period-appropriate designs, which were low, open, and delicate and achieve a simple, homogenous design or a modest alternating pattern of varied height, picket size/shape, or top cut.

As confirmed by the City of Riverside Historic Preservation Officer on September 7, should these design elements constitute a deviation from the approved entitlements for the project under the current Certificate of Appropriateness (COA; DP-2023-01019), they would be reviewed administratively as a simple letter form COA Amendment for file.



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MEMORANDUM

DATE: September 8, 2025

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE EXTERIOR DOORS AND BUG SCREENS

JMRC provides the following consultation.

Front Main Entry

Existing Door	This historic door has a single glass light over two vertical panels on the lower portion and is painted black on the outside with wood graining on the inside. Hardware includes a likely original, ferrous metal lock set with Yale mortise dead bolt and a pair of decorative hinges. One sheer curtain held with horizontal rods and hardware on the top and bottom, which may date to the period of significance.
Existing Screen	The modern metal security screen is an inappropriate replacement. The screen present during the period of significance is photo documented in Rawitsch 2012 (see below for reference). The historic wood-framed screen featured simple, butt-joint construction, a thicker bottom rail, and full-height screen panel. Decorative, open wrought iron scrollwork in diamond-paned pattern covered a little more than half of the bottom portion of the screen. Each of the six metal sticks were flattened at the diamond connection points and finished in a loose curl on both ends. One surface mount flat hinge and a simple lever latch is visible in the reference photo.
Related Features	To the right of the entry, an extant historic metal doorbell is installed in the door casing and a historic copper alloy mail slot with hinged flap formerly installed through the west wall is missing.
Recommendation	The historic door and hardware should be repaired/restored as needed. The modern screen should be replaced with a salvaged, matching historic screen and hardware (preference) or a new, custom constructed screen that closely matches the original Harada House screen door and salvaged

historic or new period-appropriate hardware. Related historic doorbell should be repaired/restored, as needed. If found in storage, the missing mail slot should be reinstalled. If not in storage, a historic replacement may be sourced or custom fabricated, if desired.

Rear Kitchen

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|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Existing Door | This historic wood door with divided light glass over two vertical panels is in poor condition with the frame separating from rail to stile and the glazing separating from the muntins. Hardware includes a ferrous surface mounted lock set with black glass doorknob and no latch lock and a pair of decorative mortised hinges. There is hardware for a curtain rod and a modern surface mounted dead bolt. |
| Existing Screen | The modern metal screen is an inappropriate replacement, and the original screen almost certainly would have matched the laundry room screen, which is still extant (see below). |
| Recommendation | In consultation with the Architectural Historian of Record, the historic door should be further assessed for material integrity by a qualified contractor and restored, repaired, salvage reconstructed, or custom reconstructed to match, as needed. Hardware should be salvaged and restored for reuse to the extent possible and a period-appropriate locking mechanism sourced, as needed (preference), or replaced with historic hardware to match or new period-appropriate hardware, if necessary. The extant modern screen should be replaced with a custom constructed screen that closely matches the laundry room screen (see below). |

Rear Laundry Room

- | | |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Existing Door | Matching the kitchen door, this historic wood door with divided light glass over two vertical panels is in fair condition. Hardware includes a ferrous surface mounted lock set with white, possibly painted, knob of unknown material (appears replaced), an integrated mortised latch and skeleton keyhole deadbolt, and pair of decorative mortised hinges. Curtain rod hardware, which may be historic, is extant at top. |
| Existing Screen | Historic screen door with a large screen panel over two raised wood panels, which are pulling apart from the door frame. In very poor condition, the door has suffered extensive material loss and change (warping). Hardware includes two ferrous metal hinges (one a spring hinge) painted with exterior house paint and a small, circular pull. Per ARG 2007, three hinges and wooden pull. Hinge count may be an error, or the bottom hinge is now missing. Pull may have been replaced and should be field verified. |
| Recommendation | In consultation with the Architectural Historian of Record, the historic door and screen door should be further assessed for material integrity by a qualified contractor and restored, repaired, salvage reconstructed, or custom reconstructed to match, as needed. Hardware should be salvaged and restored for reuse to the extent possible and a period-appropriate locking mechanism sourced, as needed (preference), or replaced with historic hardware to match or new period-appropriate hardware, if necessary. |

Screened Porch

Existing Doors

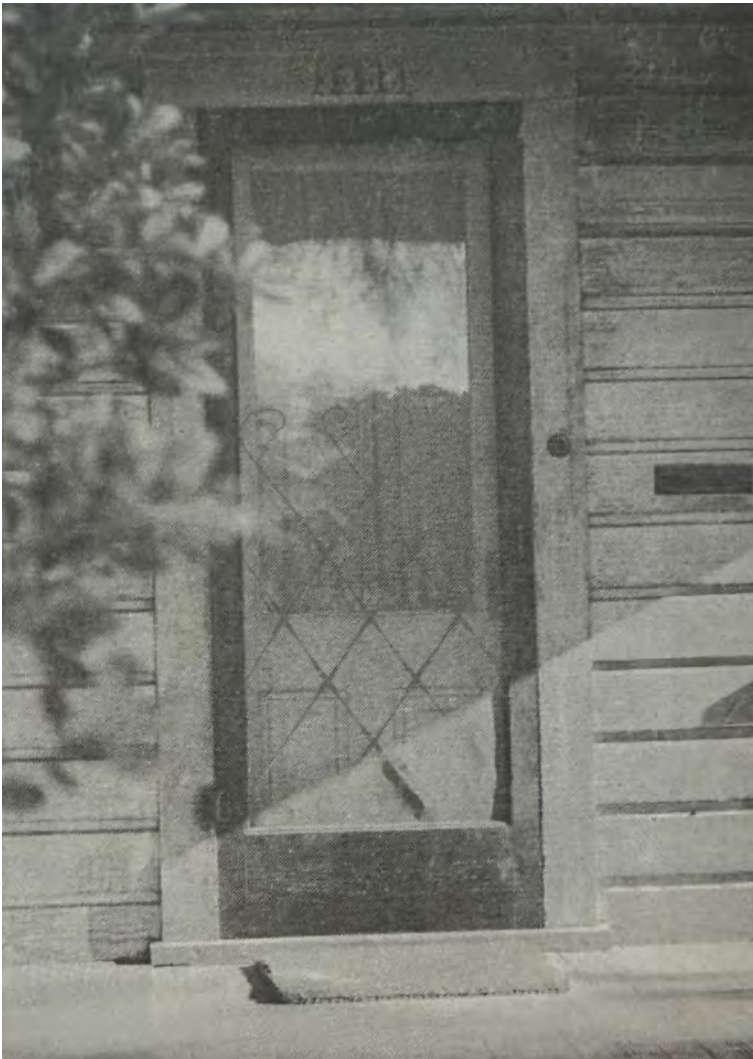
The softwood door has three horizontal panels below one glass panel; some decorative wood graining is extant. Hardware includes a ferrous metal lock set with mortised strike plate, round metal doorknobs, and a bolt lock and simple ferrous metal hinges.

Existing Screens

Historic screen doors with two horizontal panels below a large mesh screen formerly noted in good to fair condition - one is extant, and the matching screen door may be in storage. Hardware includes ferrous metal, surface mount spring hinges, a metal hook and loop receiver attached to the stile and door casing, respectively.

Recommendation

In consultation with the Architectural Historian of Record, historic doors, screen doors, and extant hardware should be further assessed for material integrity by a qualified contractor and restored, repaired, salvage reconstructed, or custom reconstructed to match, as needed. Hardware should be salvaged and restored for reuse to the extent possible. If found in storage, the missing screen door should be reinstalled. If not located, a new screen door should be custom reconstructed to match and fitted with matching historic or new period-appropriate hardware.



Original Front Main Entry Screen Door (Rawitsch 2012:282)

Several design options that have explored accessible access via ramp or lift at the front entry would not only necessitate modification of the front porch, entry path, and landscaping and create an inappropriate visual intrusion incongruent with historic design and period, they would also preclude the return of the original wood porch steps, require replacement of the original wood front door, and modify the original entry opening to meet even the more accommodating requirements of the CHBC. Per the SOIS and industry standards and guidelines, the front elevation is the least recommended location for any alterations, especially major changes that diminish historic character and irreversibly modify character-defining features. Such modifications are not in keeping with the SOIS. Further, should modification of the front elevation and main entry in this way be pursued, it is very unlikely to be supported by the City of Riverside Historic Preservation Officer or the Riverside Cultural Heritage Board for the granting of entitlements under a Certificate of Appropriateness, which would prompt appeal at the City Council level and/or a higher level of environmental review and uncertain outcome, expense, and time.

JMRC recommends proceeding with modification of the rear, kitchen door entry for accessible access to the Harada House. This reasonable and feasible option would modify the rear elevation, which is not visible from the public right-of-way, is highly preferred, and in keeping with the SOIS. The previously drawn, concrete path and ramp rear option appears congested. If possible, a path and ramp design should seek a more open posture and relationship with the Harada House to afford visitors the space and perspective to more fully view and experience the historic house and setting as well as room for historic and period appropriate landscape treatment.



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MEMORANDUM

DATE: October 13, 2025

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE
WALLPAPER

JMRC provides the following consultation.

Previous wallpaper studies include HRG 2007 with technical analysis by Donna Williams, Conservator, Williams Art Conservation, Inc.; ARG 2019; and IS Architecture 2023.

A range of conditions exist, from very poor to fair. Several treatment options have been put forward, including conservation, salvage removal and archive or partial reinstallation, and removal for collection archives and installation of reproduction wallpaper. Additionally, the material condition of the plaster substrate, its treatment needs, and anticipated methods are acknowledged and must be considered in tandem with the wallpaper treatment plan.

The anticipated roll of the wallpaper in interpretation and programming requires greater understanding. JMRC recommendations initiating a discussion with the Client that explores:

1. The wallpaper as an artifact of the Harada occupation and use of the residence, and therefore, its contribution to the significance of the property
2. Interpretation and education opportunities and potential for museum programming
3. Current integrity of the wallpaper, or the ability to convey its significance, as diminished by its material condition now and after recommended conservation/restoration treatments
4. Previously recommended conservation treatments and preservation options, time/scheduling requirements, and cost/budget
5. Selection of treatment approach by room

Regarding the kitchen, specifically, retention of all four wallpapers present should be planned until further discussion can clarify treatment approach, as it is believed that they all date to the period of significance and potentially contribute to museum programming related to the Harada family's home life. Additionally, high-resolution photographic documentation of all walls and ceilings wallpaper should be completed before lifting, prior to or as part of Phase I.



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MEMORANDUM

DATE: October 13, 2025

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE HVAC GRILLES

JMRC provides the following consultation.

Decorative design in metal and wood during the Victorian era features a wide variety of patterns such as interlaced circles, honeycomb, basket weaves, mixed geometrics, scrolls, arches, trefoils, quatrefoils, floral and botanical motifs, such as vines, leaves, and flowers for interiors and exteriors. Fretwork designs in wood provided complex and visually captivating compositions, often with stick or stick-and-ball fan designs, used in hallways, dining rooms and sitting rooms.

Where designs in metal are less confined, angular or spreading, botanical motifs tend to dominate, such as seen in the Harada House laundry tub brackets, although botanical design can be present in the smallest of square and rectangular metal hardware, such as is seen in the at least one pair of Harada House door hinges:



Harada House Botanical Designs in Metalwork

Square and rectangle grilles typically feature simple geometric shapes in tight formation, or a looser central geometric, botanical, quatrefoil, or other pattern surrounded by a simple, tighter-pattern geometric. Generally, geometrics prevailed after the turn of the century, and where two or more patterns are present, they are more fully integrated, creating a new composition.

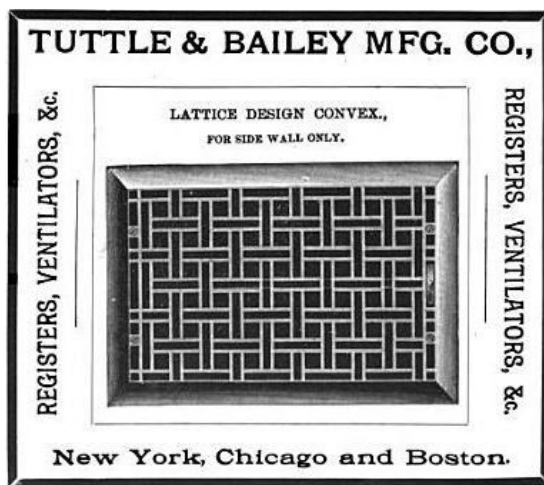
See historic examples below.



Cast iron late-Victorian round wall vents and 1890s Victorian Furnace vent grate cast iron



1890 Victorian Era Radiator Grate Cast Iron



Period Advertisements



Early 1900s cast iron cold air return floor grates

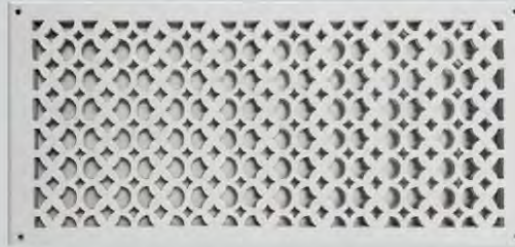
Although the association of the Harada family with the house began in 1915, the ca. 1884 residence would have retained many Victorian details then and throughout their association. Where grilles are being newly introduced, procurement of new, period-appropriate, rather than salvaged historic, vents in cast iron (most appropriate), brass, or bronze is recommended. Design should be in keeping with the late-Victorian period through the first decades of the 20th century, ideally featuring any one of the following motifs, without particular preference:

1. Single, simple geometric shape in tight formation
2. Looser central geometric, botanical, quatrefoil, or other pattern surrounded by a simple, tighter-pattern geometric
3. Integrated composition of two or more geometrics

This approach will ensure the compatible blending of new grilles into the existing historic environment without creating a false sense of historicity, in keeping with the SOIS, and discourage the distraction of modern systems and materials from the Harada House museum programming and experience.

See examples of several appropriate new iron grilles below:

PRIMA
Decorative Hardware



Air Return Grill:
Size 9"x20"

Model:
VR-100

Design:
Tudor Mashroom

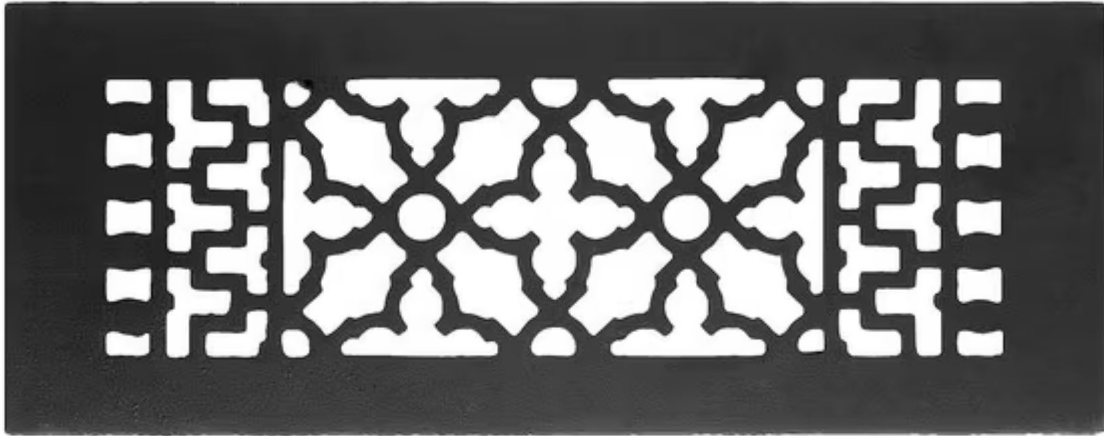
Metal:
Cast Aluminum & Cast Iron

Available Colors:
Black, Brown & White



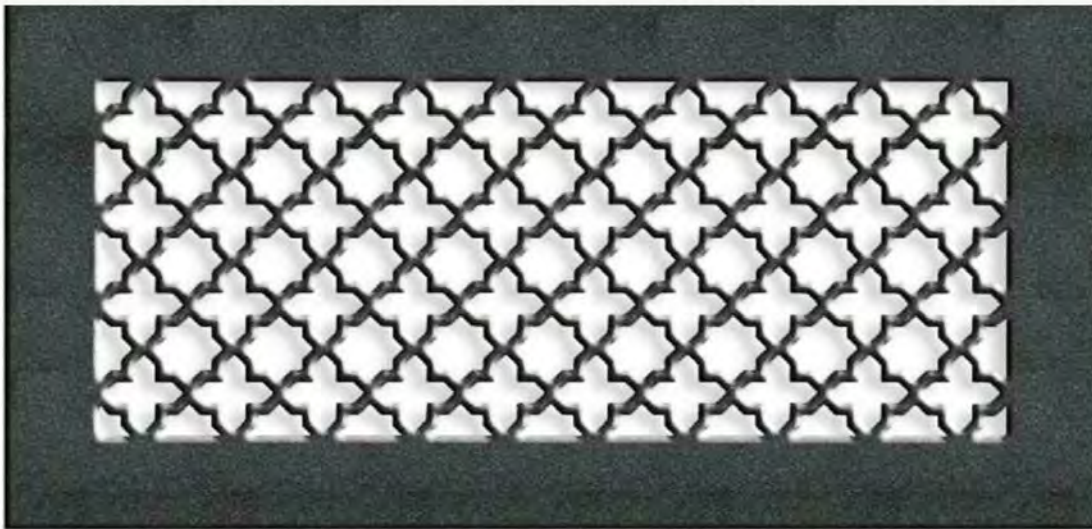
Reggio Registers

<https://www.reggioregister.com/blogs/news/maintaining-historical-architecture-with-vintage-air-vent-covers#:~:text=Victorian%20Patterns,perfect%20for%20Victorian%20era%20renovations.>

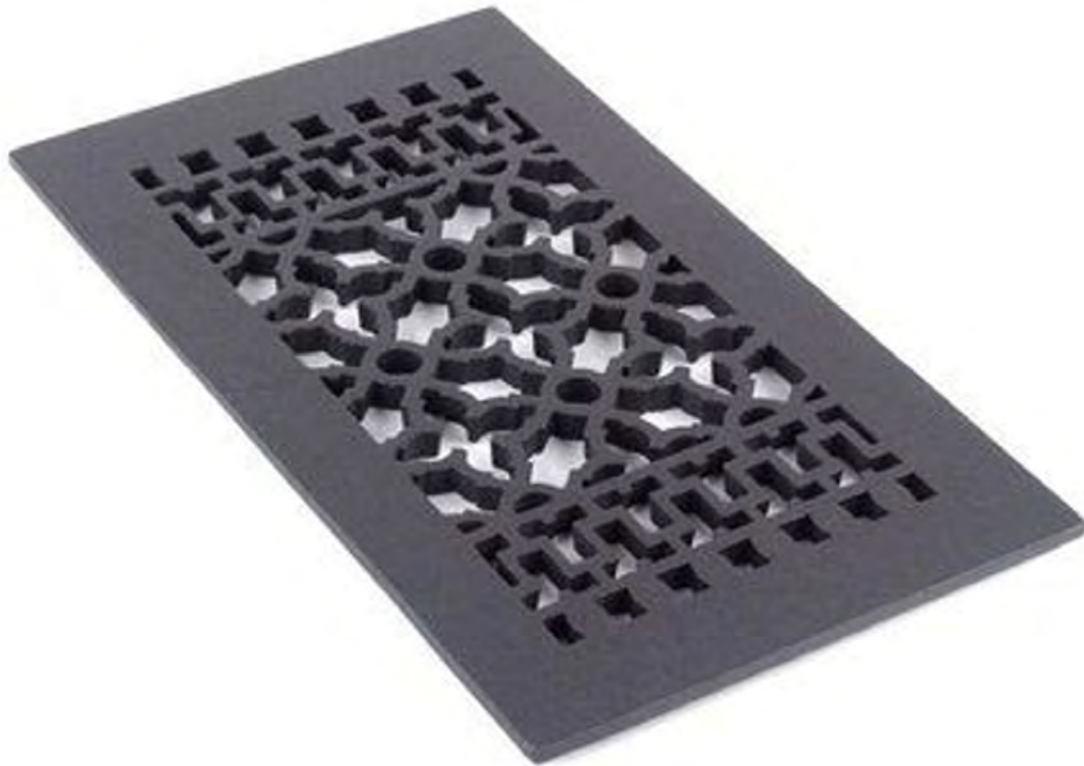


House of Antiques








https://www.houseofantiquehardware.com/cast-iron-floor-grills-victorian-grate?srsltid=AfmBOooqAtNTgP3xcnif0-S-fmmyRBL_VCeWt2meZ1R0xANx-FrSIfnb



https://ventandcover.com/products/victorian-metal-vent-cover.html?srsltid=AfmBOoqxyIdmmbIkIpbWaBi-FqS-Iujb1qQQMzcDYiYLT0s6QPX_316S



<https://ventandcover.com/products/scroll-aluminum-vent-cover.html>

IRON		BRASS	
 <p><u>With Damper</u></p>	 <p><u>Without Damper</u></p>	 <p><u>With Damper</u></p>	 <p><u>Without Damper</u></p>
 <p><u>With Damper</u></p>	 <p><u>Without Damper</u></p>	 <p><u>With Damper</u></p>	 <p><u>Without Damper</u></p>

JMRC can further confer with K+R to make a final proposed selection based on proposed locations and specific functional needs of each vent. Alternatively, a simplified version of this design intent be included in project narratives and plan drawing labels/notes, as needed, and representative example(s) be provided as part of the materials board for entitlements with final selection to be approved by JMRC as the Architectural Historian of Record during the submittal process in the construction phase.



JM Research and Consulting

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MEMORANDUM

DATE: November 7, 2025

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE ROOFING

JMRC provides the following consultation.

A cost estimate under the previous team provided for “fire-treated wood shingle,” suggesting this was the preferred or recommended material specification. JMRC concurs with the use of natural wood as the most authentic and historically appropriate material and aesthetic. In further examining earlier photos of the roof, it appears the original roofing material is most likely hand split wood shake rather than wood shingle, the difference being greater thickness, dimension, texture and irregularity with shake. Further, the rustic patina developed over the natural weathering process indicates that the species is cedar, which first fades the surface to a silvery gray due to ultraviolet exposure then deepens to a darker gray over time due to the effects of microfungi and moisture.



Harada House Main Roof South (ISA Site Analysis: Harada House Phase I)

Pressure treated, fire-retardant wood shakes with a Class A, B, or C fire rating approved by the State Fire Marshal are legal in California, and the Museum of Riverside has experience in managing wood shingle roofing on the Heritage House, another local house museum. JMRC recommends proceeding with fire-treated cedar wood shake roofing.

Should further conference with the client preclude the use of real wood shake roofing, individual synthetic cedar composite tile, such as Brava Synthetic Cedar Shake in Aged Cedar, or a premium architectural shingle product, such as GAF Timberline UHDZ, would be distant second and third choices but potentially acceptable alternatives among composition roofing material.



Research & Consulting

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MEMORANDUM

DATE: April 10, 2026

TO: Srinivas Rao, Architect
Andres Chavez, Associate
Kritzinger+Rao

SUBJECT: HH&IC PROJECT DESIGN CONSULTATION - HARADA HOUSE GUTTERS

JMRC provides the following consultation.

Existing installed gutters were replicated in 2006 from then-extant, simple ca. 1960s-1970s box gutters; no gutters are extant on the rear.



Existing Harada House Gutters and ca. 1960s-1970s Box Type Gutters (inset)

Roof	The flashing, roofing, gutters, rainleaders, and splash blocks were replaced with replicated materials in 2006. Therefore, at this time maintenance tasks are more important than preservation tasks.
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Given the time period, the type of gutters manufactured and commercially available, and the house's cornice line style, early gutters installed on the Harada House would have been one of two types: box gutter or eave trough. The more decorative box gutters were integrated with the roof structure and part of the roof edge/cornice line trim architecture with no visible hangers. The half-round eave trough utilized a visible, heavy-gauge twisted wire or curved bracket attachment to hang from the eave edge.



Hanging Half-Round Eave Troughs Available in 1905 and 1924

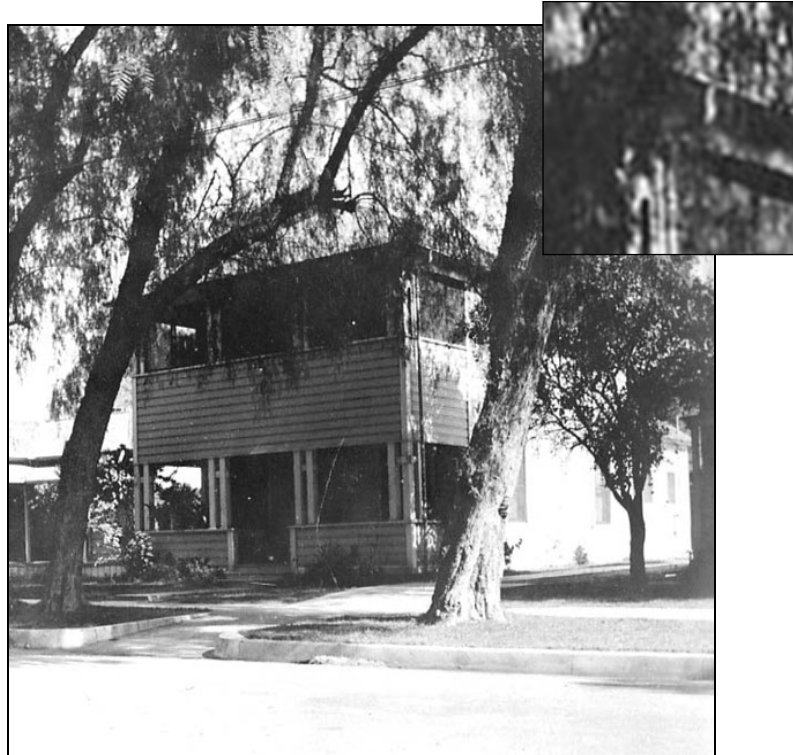
STYLE "G."				
LIST PRICE—EIGHT FOOT LENGTHS, NO. 28 GAUGE.				
3 1/2 inches.	6 inches.	7 inches.	9 inches.	
3 5/8 inches.	6 inches.	7 inches.	8 inches.	
4 inches.	18 inches.	20 inches.	24 inches.	
25c per foot.	45c per foot.	50c per foot.	60c per foot.	

STYLE "K."			
LIST PRICE—EIGHT FOOT LENGTHS.			
6 inches.	7 inches.	8 inches.	
5 3/4 inches.	6 inches.	6 inches.	
18 inches.	20 inches.	22 inches.	
45c per foot.	50c per foot.	55c per foot.	

STYLE "L."			
LIST PRICE—EIGHT FOOT LENGTHS.			
6 inches.	7 inches.	8 inches.	
5 3/4 inches.	6 inches.	6 inches.	
18 inches.	20 inches.	22 inches.	
45c per foot.	50c per foot.	55c per foot.	

ELLER'S QUARTER CIRCLE O. G. AND BOX GUTTERS							
Style C		Style D		Style E		Style F	
Min. 4 in.	2 1/2 in. deep.	10 1/2 in. girth.	Min. 5 in.	4 1/2 in. deep.	13 in. girth.	Min. 6 in.	5 in. deep.
Min. 6 in.	3 1/2 in. deep.	12 in. girth.	Min. 6 in.	5 in. deep.	15 in. girth.	Min. 8 in.	6 in. deep.
Min. 8 in.	4 in. deep.	14 in. girth.	Min. 8 in.	6 in. deep.	18 in. girth.	Min. 10 in.	7 in. deep.
Min. 10 in.	4 1/2 in. deep.	16 in. girth.	Min. 10 in.	7 in. deep.	20 in. girth.	Min. 12 in.	8 in. deep.
Min. 12 in.	5 in. deep.	18 in. girth.	Min. 12 in.	8 in. deep.	22 in. girth.	Min. 14 in.	9 in. deep.
Min. 14 in.	5 1/2 in. deep.	20 in. girth.	Min. 14 in.	9 in. deep.	24 in. girth.	Min. 16 in.	10 in. deep.
Min. 16 in.	6 in. deep.	22 in. girth.	Min. 16 in.	10 in. deep.	26 in. girth.	Min. 18 in.	11 in. deep.
Min. 18 in.	6 1/2 in. deep.	24 in. girth.	Min. 18 in.	11 in. deep.	28 in. girth.	Min. 20 in.	12 in. deep.
Min. 20 in.	7 in. deep.	26 in. girth.	Min. 20 in.	12 in. deep.	30 in. girth.	Min. 22 in.	13 in. deep.
Min. 22 in.	7 1/2 in. deep.	28 in. girth.	Min. 22 in.	13 in. deep.	32 in. girth.	Min. 24 in.	14 in. deep.
Min. 24 in.	8 in. deep.	30 in. girth.	Min. 24 in.	14 in. deep.	34 in. girth.	Min. 26 in.	15 in. deep.
Min. 26 in.	8 1/2 in. deep.	32 in. girth.	Min. 26 in.	15 in. deep.	36 in. girth.	Min. 28 in.	16 in. deep.
Min. 28 in.	9 in. deep.	34 in. girth.	Min. 28 in.	16 in. deep.	38 in. girth.	Min. 30 in.	17 in. deep.
Min. 30 in.	9 1/2 in. deep.	36 in. girth.	Min. 30 in.	17 in. deep.	40 in. girth.	Min. 32 in.	18 in. deep.
Min. 32 in.	10 in. deep.	38 in. girth.	Min. 32 in.	18 in. deep.	42 in. girth.	Min. 34 in.	19 in. deep.
Min. 34 in.	10 1/2 in. deep.	40 in. girth.	Min. 34 in.	19 in. deep.	44 in. girth.	Min. 36 in.	20 in. deep.
Min. 36 in.	11 in. deep.	42 in. girth.	Min. 36 in.	20 in. deep.	46 in. girth.	Min. 38 in.	21 in. deep.
Min. 38 in.	11 1/2 in. deep.	44 in. girth.	Min. 38 in.	21 in. deep.	48 in. girth.	Min. 40 in.	22 in. deep.
Min. 40 in.	12 in. deep.	46 in. girth.	Min. 40 in.	22 in. deep.	50 in. girth.	Min. 42 in.	23 in. deep.
Min. 42 in.	12 1/2 in. deep.	48 in. girth.	Min. 42 in.	23 in. deep.	52 in. girth.	Min. 44 in.	24 in. deep.
Min. 44 in.	13 in. deep.	50 in. girth.	Min. 44 in.	24 in. deep.	54 in. girth.	Min. 46 in.	25 in. deep.
Min. 46 in.	13 1/2 in. deep.	52 in. girth.	Min. 46 in.	25 in. deep.	56 in. girth.	Min. 48 in.	26 in. deep.
Min. 48 in.	14 in. deep.	54 in. girth.	Min. 48 in.	26 in. deep.	58 in. girth.	Min. 50 in.	27 in. deep.
Min. 50 in.	14 1/2 in. deep.	56 in. girth.	Min. 50 in.	27 in. deep.	60 in. girth.	Min. 52 in.	28 in. deep.
Min. 52 in.	15 in. deep.	58 in. girth.	Min. 52 in.	28 in. deep.	62 in. girth.	Min. 54 in.	29 in. deep.
Min. 54 in.	15 1/2 in. deep.	60 in. girth.	Min. 54 in.	29 in. deep.	64 in. girth.	Min. 56 in.	30 in. deep.
Min. 56 in.	16 in. deep.	62 in. girth.	Min. 56 in.	30 in. deep.	66 in. girth.	Min. 58 in.	31 in. deep.
Min. 58 in.	16 1/2 in. deep.	64 in. girth.	Min. 58 in.	31 in. deep.	68 in. girth.	Min. 60 in.	32 in. deep.
Min. 60 in.	17 in. deep.	66 in. girth.	Min. 60 in.	32 in. deep.	70 in. girth.	Min. 62 in.	33 in. deep.
Min. 62 in.	17 1/2 in. deep.	68 in. girth.	Min. 62 in.	33 in. deep.	72 in. girth.	Min. 64 in.	34 in. deep.
Min. 64 in.	18 in. deep.	70 in. girth.	Min. 64 in.	34 in. deep.	74 in. girth.	Min. 66 in.	35 in. deep.
Min. 66 in.	18 1/2 in. deep.	72 in. girth.	Min. 66 in.	35 in. deep.	76 in. girth.	Min. 68 in.	36 in. deep.
Min. 68 in.	19 in. deep.	74 in. girth.	Min. 68 in.	36 in. deep.	78 in. girth.	Min. 70 in.	37 in. deep.
Min. 70 in.	19 1/2 in. deep.	76 in. girth.	Min. 70 in.	37 in. deep.	80 in. girth.	Min. 72 in.	38 in. deep.
Min. 72 in.	20 in. deep.	78 in. girth.	Min. 72 in.	38 in. deep.	82 in. girth.	Min. 74 in.	39 in. deep.
Min. 74 in.	20 1/2 in. deep.	80 in. girth.	Min. 74 in.	39 in. deep.	84 in. girth.	Min. 76 in.	40 in. deep.
Min. 76 in.	21 in. deep.	82 in. girth.	Min. 76 in.	40 in. deep.	86 in. girth.	Min. 78 in.	41 in. deep.
Min. 78 in.	21 1/2 in. deep.	84 in. girth.	Min. 78 in.	41 in. deep.	88 in. girth.	Min. 80 in.	42 in. deep.
Min. 80 in.	22 in. deep.	86 in. girth.	Min. 80 in.	42 in. deep.	90 in. girth.	Min. 82 in.	43 in. deep.
Min. 82 in.	22 1/2 in. deep.	88 in. girth.	Min. 82 in.	43 in. deep.	92 in. girth.	Min. 84 in.	44 in. deep.
Min. 84 in.	23 in. deep.	90 in. girth.	Min. 84 in.	44 in. deep.	94 in. girth.	Min. 86 in.	45 in. deep.
Min. 86 in.	23 1/2 in. deep.	92 in. girth.	Min. 86 in.	45 in. deep.	96 in. girth.	Min. 88 in.	46 in. deep.
Min. 88 in.	24 in. deep.	94 in. girth.	Min. 88 in.	46 in. deep.	98 in. girth.	Min. 90 in.	47 in. deep.
Min. 90 in.	24 1/2 in. deep.	96 in. girth.	Min. 90 in.	47 in. deep.	100 in. girth.	Min. 92 in.	48 in. deep.
Min. 92 in.	25 in. deep.	98 in. girth.	Min. 92 in.	48 in. deep.	102 in. girth.	Min. 94 in.	49 in. deep.
Min. 94 in.	25 1/2 in. deep.	100 in. girth.	Min. 94 in.	49 in. deep.	104 in. girth.	Min. 96 in.	50 in. deep.
Min. 96 in.	26 in. deep.	102 in. girth.	Min. 96 in.	50 in. deep.	106 in. girth.	Min. 98 in.	51 in. deep.
Min. 98 in.	26 1/2 in. deep.	104 in. girth.	Min. 98 in.	51 in. deep.	108 in. girth.	Min. 100 in.	52 in. deep.
Min. 100 in.	27 in. deep.	106 in. girth.	Min. 100 in.	52 in. deep.	110 in. girth.	Min. 102 in.	53 in. deep.
Min. 102 in.	27 1/2 in. deep.	108 in. girth.	Min. 102 in.	53 in. deep.	112 in. girth.	Min. 104 in.	54 in. deep.
Min. 104 in.	28 in. deep.	110 in. girth.	Min. 104 in.	54 in. deep.	114 in. girth.	Min. 106 in.	55 in. deep.
Min. 106 in.	28 1/2 in. deep.	112 in. girth.	Min. 106 in.	55 in. deep.	116 in. girth.	Min. 108 in.	56 in. deep.
Min. 108 in.	29 in. deep.	114 in. girth.	Min. 108 in.	56 in. deep.	118 in. girth.	Min. 110 in.	57 in. deep.
Min. 110 in.	29 1/2 in. deep.	116 in. girth.	Min. 110 in.	57 in. deep.	120 in. girth.	Min. 112 in.	58 in. deep.
Min. 112 in.	30 in. deep.	118 in. girth.	Min. 112 in.	58 in. deep.	122 in. girth.	Min. 114 in.	59 in. deep.
Min. 114 in.	30 1/2 in. deep.	120 in. girth.	Min. 114 in.	59 in. deep.	124 in. girth.	Min. 116 in.	60 in. deep.
Min. 116 in.	31 in. deep.	122 in. girth.	Min. 116 in.	60 in. deep.	126 in. girth.	Min. 118 in.	61 in. deep.
Min. 118 in.	31 1/2 in. deep.	124 in. girth.	Min. 118 in.	61 in. deep.	128 in. girth.	Min. 120 in.	62 in. deep.
Min. 120 in.	32 in. deep.	126 in. girth.	Min. 120 in.	62 in. deep.	130 in. girth.	Min. 122 in.	63 in. deep.
Min. 122 in.	32 1/2 in. deep.	128 in. girth.	Min. 122 in.	63 in. deep.	132 in. girth.	Min. 124 in.	64 in. deep.
Min. 124 in.	33 in. deep.	130 in. girth.	Min. 124 in.	64 in. deep.	134 in. girth.	Min. 126 in.	65 in. deep.
Min. 126 in.	33 1/2 in. deep.	132 in. girth.	Min. 126 in.	65 in. deep.	136 in. girth.	Min. 128 in.	66 in. deep.
Min. 128 in.	34 in. deep.	134 in. girth.	Min. 128 in.	66 in. deep.	138 in. girth.	Min. 130 in.	67 in. deep.
Min. 130 in.	34 1/2 in. deep.	136 in. girth.	Min. 130 in.	67 in. deep.	140 in. girth.	Min. 132 in.	68 in. deep.
Min. 132 in.	35 in. deep.	138 in. girth.	Min. 132 in.	68 in. deep.	142 in. girth.	Min. 134 in.	69 in. deep.
Min. 134 in.	35 1/2 in. deep.	140 in. girth.	Min. 134 in.	69 in. deep.	144 in. girth.	Min. 136 in.	70 in. deep.
Min. 136 in.	36 in. deep.	142 in. girth.	Min. 136 in.	70 in. deep.	146 in. girth.	Min. 138 in.	71 in. deep.
Min. 138 in.	36 1/2 in. deep.	144 in. girth.	Min. 138 in.	71 in. deep.	148 in. girth.	Min. 140 in.	72 in. deep.
Min. 140 in.	37 in. deep.	146 in. girth.	Min. 140 in.	72 in. deep.	150 in. girth.	Min. 142 in.	73 in. deep.
Min. 142 in.	37 1/2 in. deep.	148 in. girth.	Min. 142 in.	73 in. deep.	152 in. girth.	Min. 144 in.	74 in. deep.
Min. 144 in.	38 in. deep.	150 in. girth.	Min. 144 in.	74 in. deep.	154 in. girth.	Min. 146 in.	75 in. deep.
Min. 146 in.	38 1/2 in. deep.	152 in. girth.	Min. 146 in.	75 in. deep.	156 in. girth.	Min. 148 in.	76 in. deep.
Min. 148 in.	39 in. deep.	154 in. girth.	Min. 148 in.	76 in. deep.	158 in. girth.	Min. 150 in.	77 in. deep.
Min. 150 in.	39 1/2 in. deep.	156 in. girth.	Min. 150 in.	77 in. deep.	160 in. girth.	Min. 152 in.	78 in. deep.
Min. 152 in.	40 in. deep.	158 in. girth.	Min. 152 in.	78 in. deep.	162 in. girth.	Min. 154 in.	79 in. deep.
Min. 154 in.	40 1/2 in. deep.	160 in. girth.	Min. 154 in.	79 in. deep.	164 in. girth.	Min. 156 in.	80 in. deep.
Min. 156 in.	41 in. deep.	162 in. girth.	Min. 156 in.	80 in. deep.	166 in. girth.	Min. 158 in.	81 in. deep.
Min. 158 in.	41 1/2 in. deep.	164 in. girth.	Min. 158 in.	81 in. deep.	168 in. girth.	Min. 160 in.	82 in. deep.
Min. 160 in.	42 in. deep.	166 in. girth.	Min. 160 in.	82 in. deep.	170 in. girth.	Min. 162 in.	83 in. deep.
Min. 162 in.	42 1/2 in. deep.	168 in. girth.	Min. 162 in.	83 in. deep.	172 in. girth.	Min. 164 in.	84 in. deep.
Min. 164 in.	43 in. deep.	170 in. girth.	Min. 164 in.	84 in. deep.	174 in. girth.	Min. 166 in.	85 in. deep.
Min. 166 in.	43 1/2 in. deep.	172 in. girth.	Min. 166 in.	85 in. deep.	176 in. girth.	Min. 168 in.	86 in. deep.
Min. 168 in.	44 in. deep.	174 in. girth.	Min. 168 in.	86 in. deep.	178 in. girth.	Min. 170 in.	87 in. deep.
Min. 170 in.	44 1/2 in. deep.	176 in. girth.	Min. 170 in.	87 in. deep.	180 in. girth.	Min. 172 in.	88 in. deep.
Min. 172 in.	45 in. deep.	178 in. girth.	Min. 172 in.	88 in. deep.	182 in. girth.	Min. 174 in.	89 in. deep.
Min. 174 in.	45 1/2 in. deep.	180 in. girth.	Min. 174 in.	89 in. deep.	184 in. girth.	Min. 176 in.	90 in. deep.
Min. 176 in.	46 in. deep.	182 in. girth.	Min. 176 in.	90 in. deep.	186 in. girth.	Min. 178 in.	91 in. deep.
Min. 178 in.	46 1/2 in. deep.	184 in. girth.	Min. 178 in.	91 in. deep.	188 in. girth.	Min. 180 in.	92 in. deep.
Min. 180 in.	47 in. deep.	186 in. girth.	Min. 180 in.	92 in. deep.	190 in. girth.	Min. 182 in.	93 in. deep.
Min. 182 in.	47 1/2 in. deep.	188 in. girth.	Min. 182 in.	93 in. deep.	192 in. girth.	Min. 184 in.	94 in. deep.
Min. 184 in.	48 in. deep.	190 in. girth.	Min. 184 in.	94 in. deep.	194 in. girth.	Min. 186 in.	95 in. deep.
Min. 186 in.	48 1/2 in. deep.	192 in. girth.	Min. 186 in.	95 in. deep.	196 in. girth.	Min. 188 in.	96 in. deep.
Min. 188 in.	49 in. deep.	194 in. girth.	Min. 188 in.	96 in. deep.	198 in. girth.	Min. 190 in.	97 in. deep.
Min. 190 in.	49 1/2 in. deep.	196 in. girth.	Min. 190 in.	97 in. deep.	200 in. girth.	Min. 192 in.	98 in. deep.
Min. 192 in.	50 in. deep.	198 in. girth.	Min. 192 in.	98 in. deep.	202 in. girth.	Min. 194 in.	99 in. deep.
Min. 194 in.	50 1/2 in. deep.	200 in. girth.	Min. 194 in.	99 in. deep.	204 in. girth.	Min. 196 in.	100 in. deep.
Min. 196 in.	51 in. deep.	202 in. girth.	Min. 196 in.	100 in. deep.	206 in. girth.	Min. 198 in.	101 in. deep.
Min. 198 in.	51 1/2 in. deep.	204 in. girth.	Min. 198 in.	101 in. deep.	208 in. girth.	Min. 200 in.	102 in. deep.
Min. 200 in.	52 in. deep.	206 in. girth.	Min. 200 in.	102 in. deep.	210 in. girth.	Min. 202 in.	103 in. deep.
Min. 202 in.	52 1/2 in. deep.	208 in. girth.	Min. 202 in.	103 in. deep.	212 in. girth.	Min. 204 in.	104 in. deep.
Min. 204 in.	53 in. deep.	210 in. girth.	Min. 204 in.	104 in. deep.	214 in. girth.	Min. 206 in.	105 in. deep.
Min. 206 in.	53 1/2 in. deep.	212 in. girth.	Min. 206 in.	105 in. deep.	216 in. girth.	Min. 208 in.	106 in. deep.
Min. 208 in.	54 in. deep.	214 in. girth.	Min. 208 in.	106 in. deep.	218 in. girth.	Min. 210 in.	107 in. deep.
Min. 210 in.	54 1/2 in. deep.	216 in. girth.	Min. 210 in.	107 in. deep.	220 in. girth.	Min. 212 in.	108 in. deep.
Min. 212 in.	55 in. deep.	218 in. girth.	Min. 212 in.	108 in. deep.	222 in. girth.	Min. 214 in.	109 in. deep.
Min. 214 in.	55 1/2 in. deep.	220 in. girth.	Min. 214 in.	109 in. deep.	224 in. girth.	Min. 216 in.	110 in. deep.
Min. 216 in.	56 in. deep.	222 in. girth.					

It is unlikely the Harada House had gutters originally as they are not visible in the newspaper photograph of the one-story house form. The contract for the second story addition commissioned by the Harada family in 1916 was not available for review; however, gutters were installed by ca. 1932. Closer examination of the ca. 1932 historic photo reveals that these ca. 1916-1932 gutters were the hanging eave trough type. Copper gutters and downspouts would have been out of place on such a modest home, suggesting these were likely galvanized iron or steel, tin, lead plated copper, or terne (tin/lead) and painted or unpainted.



Harada House ca. 1932 Showing Eave Trough Gutters

The basic box type (in general, K-style) that we use today, and the one on the Harada House now, are similar to the historic box ones integrated into roof/cornice but began being hung from the eaves in the mid-1940s at the very earliest and became common by 1960, or no earlier than mid-1950s. Photo evidence in Rawitsch 2012 show this gutter type was installed by 1976; it was these gutters that likely replaced the first 1916-1930s iteration of hanging eave trough gutters. This later aesthetic also appears to have been the prototype for the 2006 replication effort.

If existing gutters are in poor condition and require replacement, this presents an opportunity to elevate the overall period aesthetic and museum visitor experience by returning to the ca. 1916-1932 eave trough gutter. Gutter styles have changed very little in the last century, and half trough hanging eave type gutters are still manufactured. Modern metals, hanging mechanisms, seamless fabrication that minimizes welded joints, and factory painting or bonderizing will assist in returning a period aesthetic at reasonable cost and without causing a false sense of historicity or maintenance and durability difficulties.

The following specifications will assist in providing an appropriate balance between period aesthetic and modern material, execution, and needs:

- Half-round eave trough
- Standard gauge range (.032-.027)
- Galvanized steel or aluminum
- Factory coated to match eave trim color or to mimic unpainted gray metal
- 3.5-inch to 8-inch trough width, per Architect

- ½-inch single bead (not reverse) on outside edge
- Visible (preferred) or hidden (acceptable) attachment bracket
- Round downspout and accessories

Final selection/details, including attachment bracket, should be made by material sample in the submittal process during the Construction Phase. Should closer examination of the roof/eave edge at that time reveal a roof/cornice line-integrated box type gutter was once present; the RFI/submittal process will also provide an opportunity for additional consultation and consideration.

Examples of appropriate modern gutters:



Galvanized Steel Half Round Single Bead Gutters

Sizes Available:

5", 6", 7", 8"

<https://www.guttersupply.com/gutters/half-round>



https://sunrisehalfround.com/products/half-round-galvanized-steel-gutter?variant=41477215453393&country=US¤cy=USD&utm_medium=product_sync&utm_source=google&utm_content=sag_organic&utm_campaign=sag_organic&srsltid=AfmBOooXWqeW4VEqX5odWtefoZ2QzlgNIUW8fmbQrgXaCUskaeGgGQLpYdk&com_cvv=8fb3d522dc163aeadb66e08cd7450cbbdddc64c6cf2e8891f6d48747c6d56d2c