DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT

COUNTY OF MAUI

Adoption of Chapter 15-110
Rules Pertaining to Indigenous Hawaiian Architecture Structures

Chapter 15-110 entitled "Rules Pertaining to Indigenous Hawaiian Architecture Structures", is adopted to read as follows:
TITLE MC-15

DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT

SUBTITLE 01

DIRECTOR OF THE DEPARTMENT
OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

CHAPTER 110

RULES PERTAINING TO INDIGENOUS
HAWAIIAN ARCHITECTURE STRUCTURES

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SUBCHAPTER 1

GENERAL PROVISIONS

§15-110-1 Title. The rules in this chapter shall be known as the "Rules Pertaining to Indigenous Hawaiian Architecture Structures". [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-2 Purpose. The purpose of these rules is to implement section 16.26.3600, Maui County Code, relating to indigenous Hawaiian architecture, and to establish procedures for permitting, constructing, and inspecting indigenous Hawaiian architecture structures. The rules also further the County's interest in cultural, environmental, and historic preservation, energy efficiency, economic development, aesthetic beauty, and public safety. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-3 Incorporation by reference. "Hawaiian Thatched House" (1971), by Russell A. Apple, published by the United States Department of the Interior, and "Hale Construction Standards" (2000), by Francis Sinenci and Bill Sides, are incorporated by reference and made a part of these rules. Where there is a conflict between the references and these rules, these rules shall prevail. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-4 Definitions. For purposes of this chapter, and unless it is plainly evident from the context that a different meaning is intended, certain words and phrases used herein are defined as follows:

"Building code" means the building code under chapter 16.26, Maui County Code, as amended.

"Building official" means the director of public works and environmental management of the County of Maui or the building official's designated representative.

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"Certified hale builder" means a person who has obtained a certificate of completion for satisfactorily completing a course in Hawaiian hale construction from the University of Hawaii, or any of its community colleges.

"Director" means the director of public works and environmental management of the County of Maui or the director's designated representative.

"Group of structures" means a group of indigenous Hawaiian architecture structures that are in close proximity to each other and have an aggregate floor area of 1,800 square feet or less.

"Indigenous Hawaiian architecture structure" or "hale" means a structure that is consistent with the design, construction methods and uses of structures built by Hawaiians in the 1800's, which uses natural materials found in the Hawaiian islands and complies with the intent of the structural requirements of the building code.

"Separation" means the clear distance between two structures.

"Setback" means the clear distance between a structure and a property line. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: HRS §91-2; MCC §16.26.3600)
SUBCHAPTER 2
USES AND PROHIBITIONS

§15-110-5 General requirements. (a) Hale shall be constructed using only materials grown and harvested in the State of Hawaii. Except as provided in paragraph (7), the wood members for the hale, such as posts and rafters, shall be unmilled, straight sections of trunks or branches of the following:

(1) Casaurina equisitafolia (ironwood). Ironwood has become naturalized in coastal areas up to 3,000 feet elevation. It is a rapidly growing tree between 50 and 100 feet tall and 1-1/2 feet in diameter. It has a thin crown of drooping twigs. The bark is light gray and smooth when young, and becomes rough, thick, furrowed and shaggy reddish-brown when mature.

(2) Prosopis pallida (kiawe). Kiawe is the most common tree in the coastal lowland dry zone up to 2,000 feet elevation. It is a small to medium tree 30 to 60 feet tall with a trunk 1-1/2 feet or more in diameter. The bark is gray brown and finely fissured. The wood is a dark reddish brown, very heavy and extremely hard.

(3) Eucalyptus robusta (eucalyptus). There are many introduced types of eucalyptus in Hawaii. Robusta eucalyptus is the most common species planted here. It has thick, soft reddish brown bark, and broad lance shaped leaves. It is a moderately large tree, 80 to 100 feet high. The trunk is large, 3 to 4 feet in diameter, and straight.

(4) Psidium cattleianum (strawberry guava). Strawberry guava is a shrubby tree 10 to 20 feet high, with smooth cylindrical branches. The wood is hard, heavy and fine textured. The leaves are smooth and dark green. The fruit is purplish-red about an inch in diameter. It is an undesirable weed in pastures and forest.

(5) Metrosideros polymorpha (ohia). Ohia is the most common and wide-spread large native tree
in Hawaii’s wet forests. It is extremely variable and divided into numerous varieties based on leaf shape, and flower color. It can reach a height of 80 feet and diameter of 3 feet or larger. The trunks can be straight or twisted. The bark is light gray becoming rough and thick, and sometimes shaggy. The species is distributed from sea level to the timber line at 8,500 feet. It is most distinguished by its beautiful clusters of red flowers.

(6) Rizophora mangle (mangrove). Mangrove has naturalized on protected muddy seashores. Its arching stilt-like roots allow it to spread in shallow salt and brackish water. It is a small evergreen tree up to 33 feet high and 8 inches in diameter. The bark is gray or gray-brown, smooth and thin when young, becoming furrowed and thick on older trees. The wood is hard and very heavy. The fruit supports an attached odd cigar-like seedling that elongates hanging down.

(7) Ardisia elliptica (inkberry). Inkberry is a branched shrub up to 13 feet tall. The leaves are alternate and elliptical. The flowers are small, pinkish and star like. The rounded fruits are red when immature, ripening to black. The heartwood is pale brown with conspicuous darker rays showing on all surfaces. The wood is moderately dense and fine textured. It is an invasive species in moist, lowland areas. Ardisia elliptica (inkberry) may be used only for roof purlins as an alternative to specified woods listed in paragraphs (1) through (6).

(b) Thatched roofing and siding materials for the hale may be any grass or leaf material grown and harvested in the State of Hawaii.

(c) Natural or synthetic cord used for lashing structural members of the hale shall be 400 pound test. Cord used for tying floating purlins and thatched materials shall be 100 pound test. All cord used on the hale shall be shades of green, tan, brown or black.

(d) Any hale used for sleeping shall have a battery operated smoke detector installed in the hale.
(e) Metal shall not be used for the construction of the hale.
(f) Hale shall be one-story, detached structure(s) not to exceed 1,800 square feet.
(g) Hale shall comply with minimum yard requirements in the zoning codes.
(h) The minimum separation between a hale and another structure shall be at least 10 feet for a one-story structure; 15 feet for a two-story structure; or a distance equal to the height of the hale, whichever is more. The minimum separation between two hale shall be at least 10 feet or a distance equal to the height of the taller hale.
(i) The hale shall be periodically maintained by the owner to ensure structural integrity. Repairs for maintenance of the hale shall not require additional building permits.
(j) Hale noa may be constructed only on property where a separate residence exists on the property. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-6 Allowable uses. To the extent permitted by other applicable law, the various types of hale shall be used as follows:

<table>
<thead>
<tr>
<th>ALLOWABLE USES FOR EACH HALE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>hale halawai</td>
</tr>
<tr>
<td>eating (ai)</td>
</tr>
<tr>
<td>assembling (halawai)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>retailing (e.g., fruits) (ku‘ai)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

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§15-110-7 Prohibitions. (a) The following uses and activities shall be prohibited from occurring in or near the hale:
   (1) Cooking.
   (2) Open flames.
   (3) Generators.
   (4) Extension cords.
   (5) Electrical switches, fixtures, or outlets.
   (6) Plumbing faucets, fixtures, or drains.
   (7) Power tools.
   (b) No screen, mesh, plastic or any other similar material shall be attached to the hale.
   (c) Hale shall not be used as a food establishment as defined in title 11, chapter 12, of the administrative rules adopted by the State of Hawaii, department of health.
   (d) Signs regulated in chapters 16.12A and 16.13, Maui County Code, shall not be attached to or located within five feet of any hale. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-8 Maximum allowable sizes. The maximum allowable size for each type of hale shall be as follows:

<table>
<thead>
<tr>
<th>MAXIMUM ALLOWABLE SIZES (IN FEET) FOR EACH HALE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>hale halawai</td>
</tr>
<tr>
<td>30' X 60'</td>
</tr>
</tbody>
</table>

[Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)
§15-110-9 **Permits.** The following shall apply to the issuance of permits for the construction or reconstruction of any indigenous Hawaiian architecture structure:

(1) An application for permit shall be on a written form furnished by the director.

(2) Permits shall be issued only to a contractor licensed in the State of Hawaii or to an owner-builder pursuant to section 444-2(7), Hawaii Revised Statutes.

(3) The applicant shall submit a copy of the certificate of completion of the certified hale builder who will be primarily responsible for the construction of the hale.

(4) The director may suspend or revoke a permit issued under these rules whenever the permit is:
   (A) Issued in error.
   (B) Issued on the basis of incorrect information.
   (C) In violation of these rules or of any law.

(5) The valuation of any indigenous Hawaiian architecture structure shall be calculated using $20 per square foot of floor area. The plan review fee and permit fee shall be based upon the calculated valuation. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-10 **Indemnification and responsibility.** The owner shall defend, indemnify and hold harmless the County, its officers and agents, from all claims, demands, suits, actions or proceedings of every name, character, and description which may be brought against the County for or on account of any injuries or damages to any person or property as a consequence of any work done under a permit issued under these rules. The owner shall execute an agreement in a form approved by the
department of the corporation counsel, and record it with
the bureau of conveyances of the State of Hawaii. The
indemnification agreement shall run with the land. [Eff
5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC
§16.25.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-11 Certification. The certified hale
builder shall submit a letter of certification to the
building official stating that the work authorized by the
permit was completed in accordance with these rules.
[Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC
§16.25.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-12 Final inspection. Upon submittal of the
certifications under section 15-110-11, the building
official shall inspect the hale for compliance with these
rules. No hale shall be used or occupied until the
building official has given final approval that the hale
has been constructed in compliance with these rules.
[Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC
§16.25.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-13 Permit expiration and time extension.
A permit issued under these rules shall expire if final
inspection under section 15-110-12 is not obtained within
one year from the issuance date of such permit. The
applicant may request a single one-year time extension
for good cause. No further time extensions beyond the
initial one-year time extension shall be granted. [Eff
5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC

§15-110-14 Electrical and plumbing systems. Except
for electrical and plumbing components for automatic fire
sprinkler and smoke detection systems, all improvements
regulated by the electrical and plumbing codes under
title 16 of the Maui County Code shall not be allowed in
any hale. The applicant shall obtain an electrical
permit for fire sprinkler control systems. The applicant
shall obtain final inspection approvals for fire and
electrical code compliance prior to requesting final

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§15-110-15  Fire protection requirements.  (a) Indigenous Hawaiian architecture structures shall be categorized into the following two classes for fire protection requirements:
<table>
<thead>
<tr>
<th>Class</th>
<th>Setback Requirements</th>
<th>Fire Protection Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The structure (or a group of structures) is: 1. Located at least 100 feet from any existing structure on the same or neighboring properties; and 2. Located at least 100 feet from any property line, except as follows: a. if the property line abuts a public way, the 100 feet minimum setback for that property line shall be reduced by the width of the public way, b. if the property line abuts the shoreline, the minimum setback for that property line shall be the shoreline setback, or c. for any hale ku'ai in the agricultural district that is less than 200 square feet, that is completely open on three sides, and that is used as an agricultural products stand and if the property line abuts a public way, the minimum setback for that property line shall be 15 feet.</td>
<td>No fire protection is required for the structure.</td>
</tr>
<tr>
<td>SETBACK REQUIREMENTS</td>
<td>FIRE PROTECTION REQUIREMENTS</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Class B</td>
<td>Automatic fire sprinkler system shall be installed in accordance with design standards in section 15-110-15(b) of these rules. An electrical permit is required for fire sprinkler systems.</td>
<td></td>
</tr>
<tr>
<td>The structure (or a group of structures) that conforms with applicable zoning setback requirements but does not satisfy Class A setback requirements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) The design standards for automatic fire sprinklers for class B indigenous Hawaiian architecture structures shall be as follows:

1. 18 gallons per minute for a single head at 140 square feet maximum coverage of roof area.
2. 13 gallons per minute for each subsequent head at 140 square feet maximum coverage of roof area per head.
3. The minimum supply pressure at the base of the riser shall not be less than 40 pounds per square inch.
4. The minimum residual pressure at the highest sprinkler shall be not less than 12 pounds per square inch.
5. Sprinkler heads spacing shall not exceed 14 feet.
6. Sprinkler heads shall be open type upright, pendent, or sidewall with 1/2-inch or 17/32-inch orifice and have a wax corrosion resistant coating.
7. The total number of sprinklers on a branch shall not exceed 6 heads.
8. The total number of sprinklers shall not exceed the following schedule:

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Number of Sprinklers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-inch diameter</td>
<td>2</td>
</tr>
<tr>
<td>1-1/4 inch diameter</td>
<td>3</td>
</tr>
<tr>
<td>1-1/2 inch diameter</td>
<td>5</td>
</tr>
<tr>
<td>2-inch diameter</td>
<td>10</td>
</tr>
</tbody>
</table>

110-14
<table>
<thead>
<tr>
<th>Diameter</th>
<th>Sprinklers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2 inch diameter</td>
<td>30</td>
</tr>
<tr>
<td>3-inch diameter</td>
<td>60</td>
</tr>
</tbody>
</table>

(9) The above pipe schedule shall not apply to hydraulically designed systems.
(10) The water density shall not be less than 0.10 gpm per square foot.
(11) The source of water may be by domestic water meters, detector check meter, underground well, storage tank, swimming pool, ponds, etc., but must meet the design requirements for adequate pressure and duration.
(12) Water supply shall be sufficient to provide 30 minutes duration.
(13) If domestic water meters are used as the source of water for the fire sprinklers, without a storage tank and booster pump, the maximum number of heads shall not exceed the following table:

<table>
<thead>
<tr>
<th>Water Meter Diameter</th>
<th>Sprinklers</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8-inch</td>
<td>1</td>
</tr>
<tr>
<td>3/4-inch</td>
<td>2</td>
</tr>
<tr>
<td>1-inch</td>
<td>3</td>
</tr>
<tr>
<td>1-1/2 inch</td>
<td>7</td>
</tr>
<tr>
<td>2-inch</td>
<td>11</td>
</tr>
<tr>
<td>3-inch</td>
<td>27</td>
</tr>
</tbody>
</table>

(14) The piping material shall be hard drawn copper with silver solder or brazed fittings, or carbon steel with corrosion-resistant coatings. Plastic pipes shall not be allowed, except for below grade supply pipes.
(15) Fire sprinkler system shall be actuated by smoke detectors located at the highest points of the roof and spaced as recommended by the manufacturer.
(16) Flow control valves shall be either hydraulically or electrically operated with a manual override switch.

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(17) Where the width of a roof exceeds the width allowed for one row of sprinklers, two or more rows of sprinklers shall be placed such that the entire roof area is protected.

(18) Prevailing wind direction shall be considered in the placement of sprinklers.

(19) Deflectors for sprinklers shall be parallel with the roof surface or tilted slightly towards the peak of the roof.

(20) Fire sprinklers system shall have a local alarm activated by a smoke detector.

(c) For any hale that requires fire protection pursuant to subsection (a), the applicant shall provide a certification from a licensed mechanical engineer or a licensed C-20 contractor that the water supply for the fire sprinkler system has been tested and is capable of delivering the required fire flow for 30 minutes duration. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-16 Design standards. (a) All types of hale shall be designed and constructed in accordance with the standards set out in this section.

(1) The minimum diameter size of all structural members shall be measured at the member’s midpoint, except that the minimum diameter size of posts shall be measured at the smaller end. For structure sizes not specifically shown in the tables, the requirements in the next larger width size shall be applicable.

(2) The specifications for structural members were estimated based on exposure B and no wind loads. Hale shall be constructed to allow all thatching materials to separate from the structure prior to adding significant loads.

(3) The mix formula for mortar specified in these rules shall be one part portland cement, four parts clean sand, and sufficient fresh water to make the mixture workable.

(4) Every hale, except hale noa, shall have at least two sides completely open.

(b) Hale shall be designed and constructed in accordance with the schematics and illustrations that follow:
(1) Hale Halawai.
Each end of the hale halawai may be open or thatched. The ends may also be constructed with a thatched roof hip as an alternate design.

HALE HALAWAI
Open End Style
HALE HALAWAI
Thatched End Style
### Framing Schematic

![Diagram of a traditional Hawaiian house structure with labels for important elements: POUOMANU (center post), KIU A IOLE (upper ridge pole), KAUHUHU (main ridge pole), POU HANA (ridge post), ILIQ (spandrel), A' A (rollers), HOLO (diagonal brace), LOHELALU KUA (wall plate), LOHELALU (wall plate), POU KAHU (wall posts), POU KIHI (corner post), and POU KUKUNA (wall posts).]

### Hale Halawai

<table>
<thead>
<tr>
<th>W x L x H</th>
<th>pou kihi</th>
<th>pou kukuna &amp; pou kaha</th>
<th>pou hana</th>
<th>pou o'ama</th>
<th>o' a</th>
<th>kua'iole &amp; holo</th>
<th>kauhuhu</th>
<th>lohelau</th>
<th>post spacing</th>
<th>rafter spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>12' x 20' x 7'</td>
<td>4&quot;</td>
<td>3 1/8&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>3 1/8&quot;</td>
<td>2 1/4&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>5'</td>
<td>3'</td>
</tr>
<tr>
<td>14' x 24' x 7'</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>4 1/8&quot;</td>
<td>4 1/8&quot;</td>
<td>3 1/4&quot;</td>
<td>2 1/4&quot;</td>
<td>3&quot;</td>
<td>3 1/4&quot;</td>
<td>5'</td>
<td>3'</td>
</tr>
<tr>
<td>24' x 30' x 7'</td>
<td>5&quot;</td>
<td>4 1/8&quot;</td>
<td>4 1/8&quot;</td>
<td>4 1/8&quot;</td>
<td>4&quot;</td>
<td>2 1/4&quot;</td>
<td>3&quot;</td>
<td>3 1/4&quot;</td>
<td>5'</td>
<td>3'</td>
</tr>
<tr>
<td>25' x 50' x 7'</td>
<td>5 1/8&quot;</td>
<td>5&quot;</td>
<td>5 1/8&quot;</td>
<td>5 1/8&quot;</td>
<td>4&quot;</td>
<td>2 1/4&quot;</td>
<td>3&quot;</td>
<td>3 1/4&quot;</td>
<td>5'</td>
<td>3'</td>
</tr>
<tr>
<td>30' x 60' x 7'</td>
<td>6&quot;</td>
<td>5 1/8&quot;</td>
<td>6&quot;</td>
<td>4 1/8&quot;</td>
<td>2 1/4&quot;</td>
<td>3&quot;</td>
<td>4&quot;</td>
<td>5'</td>
<td>3'</td>
<td></td>
</tr>
<tr>
<td>Size of Hale Halawai (W x L x H)</td>
<td>Foundation Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><em>kahua</em> Diameter x Height</td>
<td><em>pa pohaku</em> Width x Height x Length</td>
<td><em>pou kanu</em> Diameter x Depth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12' x 20' x 7'</td>
<td>3'6&quot;Φ x 24&quot;H</td>
<td>2'6&quot;W x 2'8&quot;H x 4'0&quot;L</td>
<td>30&quot;Φ x 2'8&quot;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14' x 24' x 7'</td>
<td>3'8&quot;Φ x 24&quot;H</td>
<td>2'6&quot;W x 2'8&quot;H x 4'0&quot;L</td>
<td>30&quot;Φ x 2'9&quot;D</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24' x 30' x 7'</td>
<td>4'0&quot;Φ x 30&quot;H</td>
<td>3'0&quot;W x 3'0&quot;H x 4'0&quot;L</td>
<td>36&quot;Φ x 3'0&quot;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25' x 50' x 7'</td>
<td>4'0&quot;Φ x 30&quot;H</td>
<td>3'0&quot;W x 3'0&quot;H x 4'0&quot;L</td>
<td>36&quot;Φ x 3'0&quot;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30' x 60' x 7'</td>
<td>4'0&quot;Φ x 30&quot;H</td>
<td>3'0&quot;W x 3'3&quot;H x 4'0&quot;L</td>
<td>36&quot;Φ x 3'3&quot;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(2) Hale Ku'ai.

HALE KU'AI
SHED STYLE

HALE KU'AI
GABLE STYLE
FRAMING SCHEMATIC

110-22
<table>
<thead>
<tr>
<th>W x L x H</th>
<th>pou kahi</th>
<th>pou kaha</th>
<th>pou hana</th>
<th>pou manu</th>
<th>o’a</th>
<th>kua’icle &amp; holo</th>
<th>kauhulu</th>
<th>lobelu</th>
<th>rafter spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>5'x10'x5'</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>2&quot;</td>
<td>3&quot;</td>
<td>2&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>9'x12'x5'</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>2&quot;</td>
<td>3 1/4&quot;</td>
<td>2&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>12'x16'x5'</td>
<td>4 1/4&quot;</td>
<td>3 1/4&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>3 1/4&quot;</td>
<td>2&quot;</td>
<td>4&quot;</td>
<td>2 1/4&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>14'x20'x5'</td>
<td>4 1/4&quot;</td>
<td>3 1/4&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>3 1/4&quot;</td>
<td>2 1/4&quot;</td>
<td>4 1/4&quot;</td>
<td>2 1/4&quot;</td>
<td>4'</td>
</tr>
</tbody>
</table>

NOTE: The maximum post spacing for pou kahi and pou kaha is five feet. The maximum post spacing for pou hana and pou manu is twelve feet.
FILL DRY SAND AROUND POST

GROUT JOINTS

FILL SPACES BETWEEN OUTER ROCKS WITH MORTAR

HEIGHT (H)

DIAMETER (D)

KUMU POHAKU (BASE ROCK)

KAHUA (PEDESTAL)

FILL DRY SAND AROUND POST

FILL SPACES BETWEEN OUTER ROCKS WITH MORTAR

POST SHALL BE NO CLOSER THAN 18" TO OPENING IN WALL

HEIGHT (H)

WIDTH (W)

KUMU POHAKU (BASE ROCK)

PA POHAKU (FOUNDATION WALL)

110-25
<table>
<thead>
<tr>
<th>SIZE OF HALE KU’AI W x L x H</th>
<th>FOUNDERATION TYPE kahua Diameter x Height</th>
<th>pa pohaku Width x Height x Length</th>
<th>pou kanu Diameter x Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5’ x 10’ x 5’</td>
<td>3’0”Φ x 24”H</td>
<td>2’6”W x 2’0”H x 4’0”L</td>
<td>30”Φ x 2’6”D</td>
</tr>
<tr>
<td>9’ x 12’ x 5’</td>
<td>3’4”Φ x 24”H</td>
<td>2’6”W x 2’0”H x 4’0”L</td>
<td>30”Φ x 2’6”D</td>
</tr>
<tr>
<td>12’ x 16’ x 5’</td>
<td>3’6”Φ x 24”H</td>
<td>2’6”W x 2’8”H x 4’0”L</td>
<td>30”Φ x 2’8”D</td>
</tr>
<tr>
<td>14’ x 20’ x 5’</td>
<td>3’8”Φ x 24”H</td>
<td>2’6”W x 2’8”H x 4’0”L</td>
<td>30”Φ x 2’9”D</td>
</tr>
</tbody>
</table>
(3) Hale Noa.
Hale Noa shall have at least two openings. One opening shall be at least 3 feet wide and 5 feet high, and the other opening shall be at least 2 feet wide and 3 feet high.
HALE NOA

<table>
<thead>
<tr>
<th>W x L x H</th>
<th>pou kihi</th>
<th>pou kukuna &amp; pou kaha</th>
<th>pou hana</th>
<th>pou manu</th>
<th>o'a</th>
<th>kua'iole &amp; holo</th>
<th>kauhulu</th>
<th>lohelau</th>
<th>post spacing</th>
<th>rafter spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>9'x12'x7'</td>
<td>3¼&quot;</td>
<td>3&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>2¼&quot;</td>
<td>3½&quot;</td>
<td>2¾&quot;</td>
<td>6'</td>
<td>4'</td>
</tr>
<tr>
<td>12'x20'x7'</td>
<td>4&quot;</td>
<td>4½&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3¼&quot;</td>
<td>2¾&quot;</td>
<td>3½&quot;</td>
<td>2¾&quot;</td>
<td>6'</td>
<td>4'</td>
</tr>
<tr>
<td>4'x24'x7'</td>
<td>5½&quot;</td>
<td>4½&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3½&quot;</td>
<td>2¾&quot;</td>
<td>3½&quot;</td>
<td>3&quot;</td>
<td>6'</td>
<td>4'</td>
</tr>
</tbody>
</table>

110-29
(4) Hale Wa`a.

HALE WA`A

110-30
FRAMING SCHEMATIC

HALE WA`A

<table>
<thead>
<tr>
<th>W x L</th>
<th>O`a</th>
<th>KUA`IOLE &amp; KAUHUU</th>
<th>RAFTER SPACING</th>
<th>RIDGE HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>minimum diameter</td>
<td>minimum diameter</td>
<td>maximum spacing</td>
<td>minimum height, H</td>
</tr>
<tr>
<td>20' x 60'</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>4' to 5'</td>
<td>22'</td>
</tr>
<tr>
<td>25' x 60'</td>
<td>5&quot;</td>
<td>3&quot;</td>
<td>4' to 5'</td>
<td>27 3/4'</td>
</tr>
<tr>
<td>30' x 60'</td>
<td>5 1/4&quot;</td>
<td>3&quot;</td>
<td>4' to 5'</td>
<td>27 3/4'</td>
</tr>
</tbody>
</table>

110-31
[Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)
SUBCHAPTER 5

PENALTIES AND APPEALS

§15-110-17 Penalties. Any person who violates any provision of these rules shall be subject to the penalties provided for under titles 12, 14, 16, 18, 19, and 20, Maui County Code. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-18 Appeals. Any person aggrieved by a decision of the director may appeal to the board of variances and appeals pursuant to §19.530.030(C), Maui County Code. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-19 Exceptions. Any person who desires an exception from any provision of these rules shall seek approval from the board of code appeals, pursuant to section 16.26.105, Maui County Code. [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

§15-110-20 Applicability. The issuance or granting of a permit under these rules shall not be construed to be a permit for, or an approval of, any violation of any other law or ordinance, including, but not limited to, the zoning code of the County of Maui." [Eff 5/7/04] (Auth: §91-2; Charter §8-5.3(1); MCC §16.26.3600) (Imp: §91-2; MCC §16.26.3600)

Chapter 15-110, Rules Pertaining to Indigenous Hawaiian Architecture Structures, shall take effect ten days after filing with the Office of the County Clerk.
ADOPTED THIS 2nd day of April, 2004, at Wailuku, Maui, Hawaii.

DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

By GILBERT S. COLOMA-AGARAN
Director

ALAN M. ARAKAWA
Mayor, County of Maui

Approved this 20 day of April, 2004.

APPROVED AS TO FORM AND LEGALITY:

CINDY Y. YOUNG
Deputy Corporation Counsel
County of Maui

Received this 27th day of April, 2004.

ROY T. HIRAGA
County Clerk, County of Maui

110-34
CERTIFICATION

I, GILBERT S. COLOMA-AGARAN, Director, Department of Public Works and Environmental Management, County of Maui, do hereby certify:

1. That the foregoing is a full, true and correct copy of the rules drafted in Ramseyer format, pursuant to the requirements of Section 91-4.1, Hawaii Revised Statutes, which was adopted by the Director of the Department of Public Works and Environmental Management, on the __2__nd day of __April__, 2004, following public hearings that closed on October 27, 2003, October 29, 2003, November 5, 2003, and November 7, 2003, and which were filed with the Office of the County Clerk.

2. That the notice of public hearings on the foregoing Rules, which notices included the substance of such Rules, were published as follows:

   Molokai Advertiser News   September 10, 2003
   The Maui News            September 12, 20, and 22, 2003
   The Honolulu Advertiser  September 12, 2003
   The Molokai Dispatch     September 11, 2003
   Honolulu Star Bulletin   September 12, 2003
   Hawaii Tribune Herald Ltd. September 12, 2003
   West Hawaii Today        September 12, 2003
   The Garden Island        September 12, 2003


[Signature]

GILBERT S. COLOMA-AGARAN
Director of Public Works and Environmental Management

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