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OFFICE OF THE COUNTY CLERK COUNTY OF KAUAI

NOTICE OF PUBLICATION AND NOTICE OF PUBLIC HEARING

Notice is hereby given that the Kaua'i County Council will hold a public hearing on Wednesday, August 28, 2024, at 8:30 a.m., or soon thereafter, at the Council Chambers, 4396 Rice Street, Room 201, Historic County Building, Līhu'e, on the following:

Bill No. 2926

A BILL FOR AN ORDINANCE AMENDING CHAPTER 12, KAUA'I COUNTY CODE 1987, AS AMENDED, RELATING TO THE BUILDING CODE

This Bill proposes to: (1) Repeal (pages 1-97) the existing Chapter 12, Kaua'i County Code 1987, as amended (Building Code) and formally adopt (pages 98-262) (along with "local amendments") the updated: (a) International Building Code, 2018 Edition, (b) International Residential Code for One- and Two-Family Dwellings, 2018 Edition, (c) International Existing Building Code, 2018 Edition, and (d) International Energy Conservation Code, 2018 Edition; and (2) Relocate administrative-type provisions to a separate and designated section of the Building Code that would apply generally to any construction-related reference to Chapter 12, Kaua'i County Code 1987, as amended, and supersede and survive any County adoption deadlines relating to various code effective dates pursuant to action of the State Building Code Council.

Any person may testify at the public hearing, and at any Council and Committee Meeting (at which time any Bill may be amended). Meeting notices and full-text Bills are available at least six (6) days in advance at the Office of the County Clerk, Council Services Division and kauai.gov/Government/Council/Webcast-Meetings. Written testimony may be submitted via counciltestimony@kauai.gov, mail, or fax. For further information, please call (808) 241-4188.

CERTIFICATE OF THE COUNTY CLERK

I hereby certify that the Kaua'i County Council passed on first reading and ordered to print Bill No. 2926 during the July 31, 2024 Council Meeting, by the following vote:

AYES:	Bulosan, Carvalho, Cowden, DeCosta, Kagawa, Kuali'i, Rapozo	TOTAL – 7,
NOES:	None	TOTAL – 0,
EXCUSED & NOT VOTING:	None	TOTAL – 0,
RECUSED & NOT VOTING:	None	TOTAL – 0.

Līhu'e, Hawai'i
July 31, 2024

/s/ Jade K. Fountain-Tanigawa
County Clerk, County of Kaua'i

NOTE: IF YOU NEED AN AUXILIARY AID/SERVICE, OTHER ACCOMMODATION DUE TO A DISABILITY, OR AN INTERPRETER FOR NON-ENGLISH SPEAKING PERSONS, PLEASE CONTACT THE OFFICE OF THE COUNTY CLERK, COUNCIL SERVICES DIVISION AT (808) 241-4188 OR COKCOUNCIL@KAUAI.GOV AS SOON AS POSSIBLE. REQUESTS MADE AS EARLY AS POSSIBLE WILL ALLOW ADEQUATE TIME TO FULFILL YOUR REQUEST.

UPON REQUEST, THIS NOTICE IS AVAILABLE IN ALTERNATE FORMATS SUCH AS LARGE PRINT, BRAILLE, OR ELECTRONIC COPY.

(One publication – The Garden Island – August 7, 2024)

ORDINANCE NO. _____ BILL NO. 2926

A BILL FOR AN ORDINANCE AMENDING CHAPTER 12, KAUA'I COUNTY CODE 1987, AS AMENDED, RELATING TO THE BUILDING CODE

BE IT ORDAINED BY THE COUNCIL OF THE COUNTY OF KAUA'I, STATE OF HAWAI'I:

SECTION 1. Purpose. The purpose of this Ordinance is to:

(1) Repeal (pages 1-97) the existing Chapter 12, Kaua'i County Code 1987, as amended (Building Code) and formally adopt (pages 98-262) (along with "local amendments") the updated:

(a) International Building Code, 2018 Edition,

(b) International Residential Code for One- and Two-Family Dwellings, 2018 Edition,

(c) International Existing Building Code, 2018 Edition, and

(d) International Energy Conservation Code, 2018 Edition; and

(2) Relocate administrative-type provisions to a separate and designated section of the Building Code that would apply generally to any construction-related reference to Chapter 12, Kaua'i County Code 1987, as amended, and supersede and survive any County adoption deadlines relating to various code effective dates pursuant to action of the State Building Code Council.

SECTION 2. Chapter 12, Kaua'i County Code 1987, as amended, is hereby repealed as follows:

"[**Chapter 12 BUILDING CODE**

Article 1. General Provisions

Sec. 12-1.1 Purpose.
Sec. 12-1.2 Title.

Article 2. Adoption of the International Building Codes and Amendments Thereto

Sec. 12-2.1 Adoption of the International Building Codes.
Sec. 12-2.2 Amendments to the International Building Code.
Sec. 12-2.3 Amendments to the International Residential Code for One- and Two-Family Dwellings.
Sec. 12-2.4 Tiny Houses

Article 3. Relocation of Buildings

Sec. 12-3.1 Applicability.
Sec. 12-3.2 Application for A Relocation Permit.
Sec. 12-3.3 Performance Security.

Article 1. General Provisions

Sec. 12-1.1 Purpose.

This Chapter is for the purpose of adopting and incorporation by reference the 2006 Edition of the International Building Code and International Residential Code for One- and Two-Family Dwellings of the International Code Council, Incorporated; providing amendments thereto, regulating the construction, alteration, equipment, moving or demolition of buildings or structures in the County of Kauaʻi; providing for the issuance of permits and collection of fees therefor and providing penalties for the violation thereof.

Sec. 12-1.2 Title.

This Chapter shall be known as the Building Code of the County of Kauaʻi and may be cited as the "Building Code."

Article 2. Adoption of the International Building Codes and Amendments Thereto

Sec. 12-2.1 Adoption of the International Building Codes.

The International Building Code, 2006 Edition, as copyrighted and published in 2006 and the International Residential Code for One- and Two-Family Dwellings, 2006 Edition, as copyrighted and published in 2006 by International Code Council, Incorporated, 500 New Jersey Avenue, 6th Floor,

Washington, DC 20001, is by reference incorporated herein and made a part hereof, subject to the following amendments. (Ord. No. 929, May 23, 2012)

Sec. 12-2.2 Amendments to the International Building Code.

(1) The International Building Code, 2006 Edition, is amended as follows:

(2) Section 101.1 is amended to read:

101.1 Title. These regulations shall be part of the Building Code of the County of Kauaʻi, hereafter referred to as "this code."

(3) Section 101.2 is amended to read:

101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures within the County inland of the shoreline, except:

- where located primarily in the public way;
- public utility towers or poles;
- electrical and mechanical equipment cabinets not specifically regulated in this code;
- bridges;
- hydraulic flood control structures; and
- recreational playground equipment.

Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress, and their accessory structures shall be permitted to comply with the International Residential Code, if adopted by the County jurisdiction.
2. Existing State-owned buildings undergoing repair, alterations or additions and changes of occupancy shall be permitted to comply with the International Existing Building Code, provided the extent of the work does not exceed 50 percent of the appraised value of the building.

(4) Section 101.2.1 is amended to read:

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

Exceptions:

1. Appendix U, Hawaiʻi Hurricane Sheltering Provisions for New Construction, shall be adopted.
2. Appendix W, Hawaiʻi Wind Design Provisions for New Construction, shall be adopted.
3. Appendix X, Hawaiʻi Provisions for Indigenous Hawaiian Architecture Structures, shall be adopted.

(5) Section 101.4 is amended to read:

101.4 Referenced codes. The other codes referenced elsewhere in this code shall be considered guidelines of this code to the prescribed extent of each such reference.

101.4.1 Conflicts with other codes. If a referenced code conflicts with another applicable law of the jurisdiction, then said applicable law shall prevail over the guideline in the referenced code.

101.4.1 Gas. The provisions of the *International Fuel Gas Code* shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.2 Fire prevention. Wherever the provisions of the International Fire Code are referenced, the International Fire Code shall apply to matters affecting or relating to structures, processes, and premises from the hazard of fire and explosion arising from the storage, handling, or use of structures, materials, or devices; from conditions hazardous to life, property, or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration, or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

(6) Section 102.2 is amended to read:

102.2 Other Codes and Ordinances. Building permit applications submitted no later than six months after the effective date of this code may follow either the previous effective code or the newly adopted code provided the issuance of the building permit for applications following the previous code are completed within 18 months of the effective date of this code.

Any provisions of this code to the contrary notwithstanding, the following shall be at all times in full force and effect, and in case of conflicting requirements, the stricter shall be complied with:

- Hawai‘i Revised Statutes;
- Ordinances of the County of Kaua‘i;
- Rules and Regulations of the Land Use Commission, State of Hawai‘i;
- Subdivision Rules and Regulations adopted pursuant to the Subdivision Ordinance;
- Rules and Regulations of the Department of Water, County of Kaua‘i;
- Public Health Regulations of the Department of Health, State of Hawai‘i;
- Rules and Regulations of the Department of Labor and Industrial Relations, State of Hawai‘i;
- Fire Code of the County of Kaua‘i;
- Airport Zoning Regulations of the Director of Transportation, State of Hawai‘i

(7) Section 102.6 is amended to read:

102.6 Existing structures. Buildings in existence at the effective date of this code may have their existing use or occupancy continued if such use or occupancy was legal at the effective date of this code, provided the continued use does not constitute a hazard to the general safety and welfare of the occupants and the public.

(8) Section 103 is amended to read:

SECTION 103 - ORGANIZATION AND ENFORCEMENT

103.1 Creation of Enforcement Agency. There is hereby established in this jurisdiction a code enforcement agency that shall be under the administrative operational control of the Building Official.

103.2 Deputies. In accordance with the prescribed procedures and with the approval of the appointing authority, the Building Official may appoint technical officers, inspectors, plans examiners and other employees. The Building Official may deputize such inspectors or employees as may be necessary. Such employees shall have powers as delegated by the Building Official The Building Official may temporarily deputize inspectors, employees or volunteers to carry out the functions of the code enforcement agency in the event of a natural disaster.

(9) Section 105.1 is amended to read:

105.1 Required. No person, firm or corporation shall erect, construct, enlarge, repair, move, alter, improve, remove, convert, or demolish any building or structure in the County of Kauaʻi, or cause the same to be done, without first obtaining a separate building permit for each such building or structure from the Building Official.

(10) Section 105.1.3 is added to read:

105.1.3 Solar Permit Required. No person shall install any solar energy system on any premises, building or structure within the County, or cause the foregoing to be done, without first obtaining a building permit, issued under the authority of this Section.

Exception: Solar energy system work by an electrical utility or serving agency operating under a franchise or charter granted by the State of Hawaiʻi.

(11) Section 105.2 is amended to read:

105.2 Work Exempt from Permit. A building permit shall not be required for the following; however, all other government agency codes and laws shall be complied with:

1. Work accepted under Section 101.2.
2. One-story detached accessory buildings used as tool and storage sheds, playhouses, animal shelters, green houses, trash enclosures and similar uses, provided the floor area does not exceed 200 square feet and complies to Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management, Kauaʻi County Code 1987, as amended and the Administrative Laws and Rules of the Department of Health, State of Hawaiʻi.
3. Fences and structures such as architectural barriers and planter boxes not over 6 feet in height, measured from the finish grade to the top of the structures and constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code, 1987, as amended.
4. Retaining walls, which are not over 4 feet in height, measured from the finish grade to the top of the wall. Rip-rap type retaining walls with a slope of not less than 1:1 and having a vertical dimension not over 4 feet in height, constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code, 1987, as amended.
5. Sidewalks, driveways, outside paving and curbs.
6. Painting, decorating, papering, floor covering, tiling, carpeting, cabinets, counter tops and similar finish work.

7. Installation of sidings over existing exterior walls of building of Group R-3 or U Occupancy. Reroofing work for Group R-3 or U Occupancy, roofing material shall be of similar type material or application.

8. Temporary construction buildings, sheds, platforms, fences and similar structures used during the construction project or for use as props for motion pictures, filming, television, theater stage sets, scenery and live play performances.

9. Prefabricated swimming pools accessory to Group R Occupancy in which the pool walls are entirely above the adjacent grade and the capacity of water does not exceed 5,000 gallons.

10. Tents or other similar coverings used for private parties or for camping. Tents or other similar coverings erected as accessory uses in relationship to Group R and Group U Occupancies, provided such tents or other similar covering is not used as a dwelling and erected in accordance with Chapter 8, Comprehensive Zoning Ordinance and Chapter 15, Article 1 Floodplain Management, Fire Code, Kauaʻi County Code, 1987, as amended.

11. Temporary tents or other similar coverings erected for commercial, ceremonial or religious purposes such as rallies, festivals and amusements provided no person, firm or corporation shall erect any tent or similar structure, which is to be used as a dwelling. Tents or other similar coverings shall be erected in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 15A, Fire Code, Kauaʻi County Code, 1987, as amended.

12. Awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support of Group R and Group U Occupancies.

13. Moveable cases, counters and partitions not over 5 feet 9 inches (1753mm) in height.

14. Home television and radio antennas. Standard electroliers and flagpoles not over 35 feet in height above the finish grade.

15. Repairs which involve only the replacement of component parts or existing work with similar material for the purpose of maintenance, and which do not aggregate over $10,000 in valuation in any 12-month period, and do not affect any electrical or mechanical installations. Repairs exempt from permit requirements shall not include any additions, change or modification in construction, exit facilities, or permanent fixtures or equipment.

16. Architectural barriers, curbs, retaining walls, fences and structures approved and constructed with roadway or highway construction, subdivision of lands and in accordance with plans approved by the County under subdivision rules and regulations or under a grading permit.

17. Structures such as decorative water features, lagoons, fishponds or aquatic ponds not used for human occupancy and constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management, Kauaʻi County Code, 1987 as amended and the Administrative Rules of the Department of Water, County of Kauaʻi.

18. Shade cloth structures constructed for nursery or agricultural purposes. Shade cloth structures or other similar coverings shall be erected in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 15A, Fire Code, Kauaʻi County Code, 1987, as amended.

19. Work on building or premises owned by or under the direct control of the United States or the State of Hawai‘i, except where permits are specially requested by said governmental agency.

(12) Sections 105.2.1, 105.2.2 and 105.2.3 are deleted.

(13) Section 105.3 item number 6 is amended to read:

6. Be signed by permittee, his authorized agent, or his successor in interest, which agent or successor may be required to prove such agency or succession.

(14) Sections 105.3.1 and 105.3.2 are deleted.

(15) The exception to Section 105.5 is amended to read:

105.5 Expiration. Every permit issued by the Building Official under the provisions of this Code shall expire by limitation and become null and void, if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the construction or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.

Where a permit has expired, been suspended or abandoned, a new permit shall be first obtained by the permittee, his agent, or his successor in interest, and a new permit fee equal to one-half the amount established from Table No. 1-A of this Code rounded off to the nearest dollar, based on the original valuation of such permit shall be paid, provided no changes have been made or will be made to the original plans and specifications for such work; and provided, further, that such permit has not exceeded a period of one year from the date of permit issuance or the date of suspension or abandonment of work authorized, whichever is later.

Any permittee, his agent or his successor in interest holding an unexpired permit, who is unable to commence work, may apply for an extension. Upon written request by the permittee, the Building Official may, in writing, extend the permit for a period of 180 days, however, in the event of strikes or other causes beyond the control of the building contractor or permittee, the Building Official may extend the permit for the duration of the event. No permit shall be extended more than once.

For building permits issued prior to July 1, 1984, the Building Official shall not activate and reissue a permit. If a permittee, his agent, or his successor in interest, desires to have the permitted building certified that it was done in compliance with all County of Kaua‘i or State of Hawai‘i laws, codes and ordinances at the time the original permit was issued, and that the building does not violate any laws, codes and ordinances, he may hire a duly registered licensed structural engineer or architect as required by Chapter 464, Hawai‘i Revised Statutes, as amended, to provide such certification.

Exception: The Building Official may activate and reissue an expired permit for the purpose of continuing the permit on an incomplete building or to secure all inspections required by this Code, the Electrical or Plumbing Codes, when the permittee complies with the following conditions:

1. For permit issued after July 1, 1984, the permittee, his agent, or his successor in interest, shall submit a minimum of three (3) copies of the original approved building plans. In the event the approved building plans are not available, the permittee shall submit a minimum of three (3) copies of plans prepared, approved and stamped by a duly registered licensed structural engineer or architect as required by Chapter 464, Hawai‘i Revised Statutes, as amended, certifying to the Building Official that the plans are the same as the original approved building

plans and complies to all County of Kauaʻi or State of Hawaiʻi laws, codes, and ordinances at the time the permit was issued.

2. All work that was started on an expired building permit and completed according to the approved building plans prior to the reissuance of such permit shall remain valid under the Building Code it was issued. Any new work shall conform to the current Building Code. The Building Official may waive the requirement for submitting building plans if the original are on file.

When a building permit is activated and reissued, a permit fee therefore shall be required as provided in this Section.

(16) Section 105.7 is amended to read:

105.7 Posting Building Permit Card. Work requiring a permit shall not commence until the building permit card is conspicuously posted on the building or structure where the work is to be done to allow the Building Official to conveniently make the required entries regarding inspection of the work. This building permit card shall be posted, maintained and made available by the permit holder until final inspection has been completed by the Building Official.

(17) Section 105.8 is added to read:

105.8 Transferability of Building Permit. Any assignment and/or transfer of any substantial interest in any building permit shall be subject to the approval and consent of the Department of Public Works. Such approval and consent shall not be unreasonably withheld provided that the assignee and/or transferee agrees in writing to the following:

1. To comply with the plans and specifications upon which the building permit was issued in the absence of any subsequent amendments to any applicable existing laws and ordinances as indicated in (2) below; or

2. To comply with the terms and provisions of any subsequent amendments to the Comprehensive Zoning Code, Building Code, as well as all relevant laws, ordinances, and rules and regulations which would affect either the development's height, floor area, lot coverage, fire safety and/or land use.

3. The stricter requirements prescribed in subsection (2) hereinabove shall not be applicable in situations where the permit holder can offer documented evidence to the Building Official that he has made, in good faith, a substantial and material change in position in reliance upon the issuance of the building permit.

Upon approval by the Building Official, he shall issue a transferability permit and receive payment of the required non-refundable transfer fee of fifty dollars ($50.00).

(18) Section 106 is amended to read:

SECTION 106 - CONSTRUCTION DOCUMENTS

106.1 Plans and Specifications. With each application for a building permit, five sets of plans shall be submitted and specifications as required by the Building Official. One of which shall be left with the Planning Department. One will be retained by the Building Official. One approved set will be returned as a job site copy to the applicant and one approved set will be submitted to the Department of Finance, Real Property Tax Division. An additional plan and specification shall be submitted for public, hotel and commercial buildings.

All plans and specifications relating to work which affects the public safety or health and for which a building permit is required shall be prepared, designed, approved and stamped by a duly registered professional licensed structural engineer or architect as required by Chapter 464 of the Hawai'i Revised Statutes, as amended.

All plans for retaining walls 5 feet or more in height shall be prepared, designed, approved and stamped by a duly registered licensed architect or engineer in the structural or civil branches.

Plans and specifications need not be submitted when authorized by the Building Official.

106.1.1 Information on Construction Documents. Construction documents shall be dimensioned and drawn to scale upon suitable material.

Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the Building Official.

The plans (traditionally referred to as blueprints) are graphic representations of the building or structure. Plans, building sections and detail drawings shall be provided and drawn to scale. Building section and detail drawings need to be of an adequate scale to clearly show details. A complete set of plans shall be drawn upon suitable material not more than 30 inches by 42 inches and shall include the minimum drawings:

1. Plot or Site Plan.
2. Floor Plan.
3. Foundation Plan.
4. Framing Plans:
    - Floor Framing Plan.
    - Roof Framing Plan with Roof Trussed Detail.
5. Elevation Plans:
    - Exterior Elevations of the Building.
    - Interior Elevations of Kitchen and Bathroom.
6. Building Section and Details.

Solar Systems

The following minimum documents are required for solar installations:

1. Three copies of plans. Plans shall include:
    - Plot plan.
    - Specifications.
    - Commercial plans shall include a one-line diagram.
2. Commercial plans shall be stamped and signed by an electrical engineer.
3. Residential plans shall be stamped and signed by an electrical engineer if over 10 KVA.
4. Complete the "Plan Review Checklist For Photovoltaic System Installation" handout.

106.1.2 Registered Design Professional. Where plans, specifications and documents must be prepared, designed, stamped and approved by architects or engineers, and/or the architects or

engineers act as duly registered professionals of record, the architects or engineer shall comply with and perform their duties according to the following;

a. Chapter 464 Hawai‘i Revised Statutes, Professional Engineers, Architects, Surveyors and Landscape Architects, as amended.

b. Title 16, Chapter 115, Department of Commerce and Consumer Affairs, Hawai‘i Administrative Rules Professional Engineers, Architects, Surveyors, and Landscape Architects, State of Hawai‘i, as amended.

If the circumstances require, the owner may designate a substitute architect or engineer of record who shall perform all portion of the duties of the original architect or engineer of record.

The owner or the architect or engineer of record shall notify the Building Official in writing if the duly registered professional of record is changed or is unable to continue to perform the duties.

106.2 Issuance of Permits. The application, plans and specifications filed by an applicant for a permit shall be checked by the Building Official. Such plans shall be reviewed by other departments of the County to check for compliance with laws and ordinances under their jurisdiction. If the work described in an application for permit, and the plans filed therewith, conform to the requirements of this code and other pertinent laws and ordinances, and the fee specified in Section 108 has been paid, the Building Official shall issue a permit therefore to the owner, payment for any permit fee shall be paid upon the issuance of such permit; provided, however, that no permit shall be granted for the moving of any building or structure or portion thereof which has deteriorated or been damaged to an extent greater than 50 percent of the cost of replacement (new) of such building or structure.

When the Building Official issues the permit, he shall affix an official stamp of approval to the specifications and each sheet of the Job Site Copy of the plans. Such approved plans and specifications shall not be changed, modified, or altered without authorization from the Building Official and other agencies granting approval, and all work shall be done in accordance with the approved plans. The building permit shall be posted in a conspicuous place on the site during the progress of work.

A fee of ten dollars ($10.00) shall be imposed and collected for the reproduction of any building, electrical, plumbing or sign permit cards, for which a permit was issued by the Building Official.

Solar Permits. The issuance of the permit shall cover the building, electrical and plumbing code requirements pertinent to the solar energy systems and the scope of work for each specialty classification.

To whom permits may be issued to covering the scope of work for each specialty classification:

1. A homeowner complying with the provisions set forth in Chapter 444, HRS.

2. A person, firm, partnership, association or corporation holding a valid unexpired license and complying with the provisions set forth in Chapter 444, HRS for the scope of work covered by the permit.

The applicant shall provide the name of the licensed individual or firm will perform the incidental specialty work covered by Chapter 448E HRS.

106.3 Retention of Plans. One set of approved plans shall be retained by the Building Official as the official records, one set of approved plans shall be returned to the applicant as the approved Job

Site Copy, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

The official records under the jurisdiction of the Building Official shall be maintained as public records for the following:

1. Building, electrical, and plumbing permit applications for construction of all building and structure, which fall under this Code, shall be maintained for a period of seven (7) years.
2. Residential building plans for all residential building and structures within a residential area shall be maintained for a period of seven (7) years.
3. Commercial building plans for all commercial buildings within a commercial, industrial or resort area shall be maintained for a period of fifteen (15) years.

(19) Section 107 is deleted in its entirety.

(20) Section 108.1 is amended by adding an exception to the first paragraph as follows:

108.1 Exception.

1. County facilities, except for the Department of Water, are exempt.
2. Housing projects or portions of housing projects that are developed to be affordable to low-income household as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt provided such projects conform to applicable provisions of the County's affordable housing program.
3. Housing projects or portions of housing projects that are developed to be affordable to gap-group household as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt from one-half of the Building Permit fee, rounded off to the nearest dollar, provided such projects conform to applicable provisions of the County's affordable housing program.

(21) Section 108.2 is amended to read:

108.2 Schedule of Permit Fees. When permits are required, a fee for each permit shall be paid as required, in accordance to the schedule as established by the Building Official.

108.2.1 Permit fees. The fee for each permit shall be as set forth in Table 1-A.

(22) Section 108.3 is amended to read:

108.3 Building Permits Valuations. The Building Official shall make the determination of value or valuation under any provision of this code. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued, as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire extinguishing systems and any other permanent equipment. Final building permit valuation shall be set by the Building Official.

(23) Section 108.4 is amended to read:

108.4 Investigation Fees: Work Without a Permit.

108.4.1 Investigation. Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, a special investigation shall be may made before a permit may be issued for such work.

108.4.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then subsequently issued. The investigation fee shall be equal to the amount of the permit fee fixed by Table No. 1-A for such work. However, in all such cases, there shall be a minimum combined amount for investigation and permit fees of two hundred dollars ($200.00) for any such work commenced without a permit.

In the event it is discovered by the Building Official that a required investigation fee was not collected, the Building Official shall not perform any additional inspection of the work until the required investigation fee has been paid.

The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this Code, nor from any penalty prescribed by law.

(24) Section 108.5 is amended to read:

108.5 Building Plan Review Fees. When a plan or other data is required to be submitted by Section 106 a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be fifteen (15) percent of the building fees established from Table No. 1-A rounded off to the nearest dollar, based upon a preliminary estimated valuation of work.

When the plan review is completed or when after the issuance of the building permit, new plans, revisions or other documents are submitted to require a new plan review, an additional plan review fee for each additional review shall be charged. The new plan review fee shall be equal to the original fee paid for the proposed project.

Exception:

1. The County of Kauaʻi and its agencies and contractors, except for the Department of Water, thereof shall be exempt from the requirement of paying plan review fees.
2. Where a plan review fee has been paid, the plan review fee payment shall be deposited to the Plan Review, Permit Processing and Inspection Revolving Fund. Plan review fees are non-refundable.
    (A) There is hereby established and created a fund to be known as the "Plan Review, Permit Processing and Inspection Revolving Fund." The fees collected pursuant to this subsection are hereby deemed appropriated upon receipt and may be expended for the hiring of persons employed on a fee, contract or piecework basis, or independent contractors to assist in plan checking, permit processing and inspections. The Budget Ordinance shall determine the maximum number of persons that may be hired with these fees. The fee may also be expended for training, materials, supplies, and equipment that facilitate plan review, code enforcement, and for payment of overtime for plan checking, permit processing and inspections. At the end of the County's fiscal year, any fund balance in excess of $200,000 in uncommitted funds shall be transferred and deposited into the General Fund.

108.5.1 Expiration of Building Plan Review. Applications for which plan review fees have been paid and for which no permit is issued within 365 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the Building Official. In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

Section 108.6 is amended to read:

108.6 Fee Refunds. The Building Official shall refund an amount equal to 50 percent of the permit fee paid under the provisions of Section 108 where a permittee, due to a material change in circumstances or financial difficulties, is unable to commence work authorized by the permit issued therefore. Provided that written application for refund shall be made on forms furnished by the Building Official no later than 15 days after the expiration date of such permit; and provided further that where the Building Official has extended the expiration date of the original permit pursuant to Section 105.5, application for refund shall be made not later than 15 days after the new expiration date.

Where more than one permit has been erroneously procured by the permittee and/or his agent for the same construction of work, the Building Official shall approve one permit and refund the total amount of fees paid for the other permits upon the surrender thereof; provided that no refund shall be made on any permit which has been surrendered after 180 days from the date of issuance of such permit, or where the amount to be refunded is less than twenty dollars ($20.00).

Notwithstanding the foregoing provisions, no refund shall be made in any case where a new permit has been obtained under the provisions of Section 105.5, for recommencing the same work, or where the amount to be refunded is less than twenty dollars ($20.00). All permits upon which refunds have been made in accordance with the foregoing shall thereafter be null and void.

(25) Section 109.1 is amended by adding a second and third paragraphs to read:

Any inspections required of the Building Official shall be solely for the purpose of ascertaining compliance with the plans, specifications and code requirement as they relate to the structural integrity of the building and as they relate to health and safety. The inspections shall not be for the purpose of validating the workmanship of the building; such validation, if desired, shall be the responsibility of the building's owner and shall be done by a special inspector, hired and paid for by the builder, owner or respective party.

A survey of the lot may be required by the Building Official to verify that the structure is located in accordance with the approved plans.

(26) Section 109.1.1 is added as follows:

109.1.1 Inspection of Solar Installations. Work for which a permit is required shall be subject for inspections by the Building Official, request for inspection shall be in accordance with the requirements set forth in this code. All inspection requests for incidental specialty work shall be requested by the licensed individual performing the work and in accordance with the requirements set forth in the Electrical or Plumbing Codes.

(27) Section 109.2 is deleted.

(28) Section 109.3 is amended to read:

109.3 Required Inspections. The Building Official, upon notification from the holder of the building permit or their duly authorized agent, shall make the following inspection and shall either approve that portion of the construction as completed or shall notify the holder of the building permit or duly authorized agent if the same fails to comply.

(29) Section 109.3.3 is amended to read:

109.3.3 Flood Hazard Districts. In hazardous area subject to flooding, a certification of finish floor elevation shall be submitted to the Building Division, Department of Public Works, in

accordance to Chapter 15, Article 1, Floodplain Management, Kaua'i County Code 1987, as amended.

Prior to granting or upon receiving any inspectional approvals for inspections, the certification of finish floor elevation shall be submitted. The certification will assure the County that the finish floor elevation is in compliance.

(30) Section 109.3.6 is amended to read:

109.3.6 Complete Load Path and Uplift Ties Inspection. To be made after tie straps, approved framing anchors or mechanical fasteners are installed and prior to any concealment of sheathing.

(31) Section 109.3.7 is deleted.

(32) Section 109.3.8 is amended to read:

109.3.8 Other inspections. In addition to the inspections specified above, the Building Official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of the code and other laws that are enforced by the code enforcement agency.

(33) Section 109.4 is amended to read:

109.4 Reinspections. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

This section is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection.

Reinspection fees may be assessed when the building permit card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the Building Official.

To obtain reinspection, the applicant shall file an application thereof in writing on a form furnished by the Building Official and pay the reinspection fee of fifty dollars ($50.00) for each additional inspection.

In an instance where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

(34) Section 109.5 is amended by adding a second and third paragraph to read:

The Building Official may require that every request for inspection be filed at least one working day before the day for which inspection is requested. The request may be communicated in writing or by telephone at the option of the Building Official.

The permittee may authorize representatives to undertake the management of notification for inspections. Duly authorized representatives shall be authorized in writing by the person granting authorization.

(35) Section 110.1 is amended by adding an exception to read:

Exception:

1. Group U Occupancies.

2. The Building Official will have the discretion to issue a certificate of inspection in place of a certificate of occupancy.

(36) Section 110.2 is amended to read.

110.2 Certificate Issued. After the Building Official inspects the building or structure and finds no violations of the provisions of the code or other laws that are enforced by the code enforcement agency, the Building Official shall issue a certificate of occupancy that contains the following:

1. The building permit number.
2. The address of the building or structure.
3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the building or structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the Building Official.

(37) Section 110.5 is added to read:

110.5 Certificate of Inspection. Upon satisfactory completion of all building work in accordance with the provisions of this code and standards adopted, a certificate of inspection may be issued upon request.

(38) Section 111 is deleted.

(39) Section 112 is amended to read:

SECTION 112 - BOARD OF APPEALS

112.1 Creation. There shall be and is hereby created a Board of Appeals, hereinafter called the Board, consisting of seven members who shall be qualified by experience and training to pass upon matters pertaining to building construction and fire safety and who shall be appointed by the Mayor with the approval of the County Council. One member shall be currently registered as an engineer or architect with the State of Hawai'i Board of Registration of Professional Engineers, Architects, Land Surveyors and Landscape Architects. Two members shall be qualified by experience or training to pass upon matters pertaining to fire safety.

One member shall be qualified by experience and training to pass upon matters pertaining to electrical work. One member shall be qualified by experience and training to pass upon matters pertaining to plumbing work. One member shall be qualified by experience and training to pass upon matters pertaining to building construction work. One member shall be from the public at large. The Board shall select a chairperson and vice chairperson annually.

112.2 Term of Office. The members of the Board of Appeals shall serve for staggered terms of three years and until their successors are appointed. However, no holdover term shall extend beyond ninety days.

112.3 Limitation on Number of Terms. No member of the Board of Appeals shall serve for more than two consecutive terms. Any partial term of more than two years shall be considered a term as used herein.

112.4 Quorum. A majority of the entire membership shall constitute a quorum and the affirmative vote of a majority of the entire membership shall be necessary to take any action.

112.5 Powers and Duties. The Board shall:

(a) Hear and determine appeals from the decisions of the Building Official in the administration of the County of Kauaʻi Building Code, Electrical Code, Sign Ordinance and Plumbing Code, involving any denial of the use of new or alternate materials, types of construction, equipment, devices or appliances.

In the case of any denial of the use of new or alternate materials, types of construction, equipment, devices, or appliances, an appeal may be sustained if the record shows:

(I) that such new or alternate materials, types of construction, equipment, devices or appliances meet the required standards established by the Codes being appealed from;

(II) that permitting the use thereof will not jeopardize life, limb or property; and

(III) that such use will not be contrary to the intent and purpose of the Code being appealed from. In such appeals, the appellant shall pay all expenses necessary for tests, which may be ordered by the Board.

The Board may reverse, affirm or modify, wholly or partly, the decision appealed from.

(b) Hear and determine appeals from the decision of the Fire Official in the administration of the County of Kauaʻi Fire Code; and any denial in the use of new or alternate materials, types of construction, equipment, devices, or appliances.

The criteria for the use of new or alternate materials, types of construction, equipment, devices, or appliances shall be the same as for (a) above.

(c) Hear and determine petitions for varying the application of the Building Code, Electrical Code, Sign Ordinance and Plumbing Code. A variance may be granted if the Board finds:

(I) that the strict application, operation or enforcement of the Code being appealed from would result in practical difficulty or unnecessary hardship;

(II) that safety to life, limb and property will not be jeopardized; and

(III) that the granting of variance would not be injurious to any adjoining lot and any building thereon, would not create additional fire hazards, and would not be contrary to the purpose of the Code and the public interest. In making its determination, the Board shall take into account the character, use and type of occupancy and construction of an adjoining lot and any building involved.

112.6 Procedure. The proceedings of the Board shall be subject to the provisions of Chapter 91, Hawaiʻi Revised Statutes, as amended. The Board shall adopt rules and regulations for conducting its meetings, hearings, and investigations in conformity therewith and may impose fees to cover the costs of such proceedings.

(40) Section 113 is amended to read:

SECTION 113 - VIOLATIONS AND PENALTIES

113.1 Violations. Whenever any building is being used or constructed contrary to the provisions of this code, the Building Official shall serve a notice to the party responsible for the violation to make the structure or portions thereof comply with the requirements of this Code.

113.2 Penalties.

(a) General. It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy, or maintain any building or structure or cause or permit the same to be done in violation of this code.

(b) Notice of Violation. Whenever any person, firm or corporation violates any provision of this code, the Building Official shall serve a notice of violation to the party responsible for the violation to make the building or structure or portion thereof comply with the requirements of this code. Such notice of violation shall include:

(1) The date of the notice;

(2) The name and address of the person noticed, and the location of the violation;

(3) The section number of the ordinance, code or rule, which has been violated;

(4) The nature of the violation; and

(5) The deadline for compliance with the notice.

The notice of violation may be served in person or by registered or certified mail or in any other manner provided by law.

(c) Criminal Prosecution.

(1) Any person, firm, or corporation violating any of the provisions of this code shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this code is committed, continued, or permitted, and upon conviction of any such violation such person shall be punishable by a fine of not more than $2,000.00, or by imprisonment for not more than one year, or by both such fine and imprisonment.

It shall be a misdemeanor for any person, firm or corporation as defined herein to knowingly allow or knowingly fail to prevent a violation of this code.

(2) Any officer, or authorized representative designated by the Building Official, may issue a summons or citation in accordance with the procedure specified in this Section. Nothing in this Section shall be construed as barring such authorized representative from initiating prosecution by warrant or such other judicial process as is permitted by statute or rule of court.

(3) Any authorized representative designated by the Building Official, upon making an arrest for a violation of the building code may take the name and address of the alleged violator and shall issue to the violator in writing a summons or citation hereinafter described, requiring the violator to answer the complaint at a place and at a time provided in said summons or citation.

(4) There shall be provided for use by authorized representative, a form of summons or citation for use in citing violators of the building code, which does not mandate the physical arrest of such violators. The form and content of such summons or citation shall be as adopted or prescribed by the administrative judge of the district court and shall be printed on a form commensurate with the form of other summonses or citations used in modern methods of criminal prosecution, so designed to include all necessary information

to make the same valid within the laws and regulations of the State of Hawai‘i and the County of Kaua‘i.

(5) In every case when a citation is issued, the original of the same shall be given to the violator; if the administrative judge of the district court may prescribe that the violator be given a copy of the citation and provide for the disposition of the original and any other copies.

(d) Administrative Enforcement. In lieu of or in addition to, pursuant to Section 113.2(c), if the Building Official determines that any person, firm, or corporation is not complying with a notice of violation, the Building Official may have the party responsible for the violation served, by mail or delivery, with an order pursuant to this Section.

(1) Contents of the Order. The order may require the party responsible for the violation to do any or all of the following:

(A) Correct the violation within the time specified in the order;

(B) Pay a civil fine not to exceed $1,000 in the manner, at the place and before the date specified in the order;

(C) Pay a civil fine not to exceed $1,000 per day for each day in which the violation persists, in the manner and at the time and place specified in the order.

(D) The fine for each order shall be set forth in Table 1-B.

(2) The order shall advise the party responsible for the violation that the order shall become final 30 days after the date of its delivery. The order shall also advise that the Building Official's action may be appealed to the Board of Appeals.

(3) Effect of Order; Right to Appeal. The provisions of the order issued by the Building Official under this Section shall become final 30 calendar days after the date of the delivery of the order. The party responsible for the violation may appeal the order to the Board of Appeals as provided by Section 112 of this code. The appeal must be received in writing on or before the date the order becomes final. However, an appeal to the Board of Appeals shall not stay any provision of the order.

(4) Judicial Enforcement of Order. The Building Official may institute a civil action in any court of competent jurisdiction for the enforcement of any order issued pursuant to this Section. Where the civil action has been instituted to enforce the civil fine imposed by said order, the Building Official need only show that the notice of violation and order were served, that a civil fine was imposed; the amount of the civil fine imposed has not been paid; that either the order has not been appealed or that, if appealed, the order was sustained by the Board of Appeals, and that the order or the Board of Appeals decision, as the case may be, was not clearly erroneous.

(41) Section 115 is amended to read:

SECTION 115 - UNSAFE BUILDINGS

115.1 General. All buildings or structures which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life, or which in relation to existing use constitute a hazard to safety, health, or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, or abandonment, as specified in

this code or any other effective ordinance are, for the purpose of this Section, unsafe buildings. All such unsafe buildings are hereby declared public nuisances and shall be abated by repair, rehabilitation, demolition, or removal in accordance with this Section.

115.2 Notice to Owner. The Building Official shall examine or cause to be examined every building or structure or portion thereof reported as dangerous or damaged and, if such is found to be an unsafe building as defined in this Section, the Building Official shall give to the owner of such building or a structure a written notice stating the defects thereof. This notice may require the owner or person in charge of the building or premises, within 60 days to secure all required permits, to commence either the required repairs or improvements or demolition and removal of the building or structure or portions thereof, and all such work shall be completed within 180 days from date of permit issuance, unless otherwise required by the Building Official. If necessary, such notice also shall require the building, structure or portion thereof to be vacated forthwith and not reoccupied until the required repairs and improvements are completed, inspected, and approved by the Building Official.

Any building or structure declared to be an unsafe building and constitute an immediate danger to the life, limb, property or safety of the public or occupants of such building, within 48 hours it shall be vacated, secured and maintained against any entry by the owner or person in charge of such building, structure or premises.

Proper service of such notice shall be by personal service, registered mail or certified mail upon the owner of record, provided, that if such notice is by registered mail or certified mail, the designated period within which said owner or person in charge is required to comply with the order of the Building Official shall begin as of the date he receives such notice.

115.3 Posting of Signs. The Building Official shall cause to be posted at each entrance to buildings ordered vacated a notice to read: DO NOT ENTER UNSAFE TO OCCUPY, BUILDING DIVISION, DEPARTMENT OF PUBLIC WORKS, COUNTY OF KAUA'I. Such notice shall remain posted until the required repairs, demolition, or removals are completed. Such notice shall not be removed without written permission of the Building Official and no person shall enter the building except for the purpose of making the required repairs or of demolishing the building.

115.4 Action Upon Noncompliance. In case the owner shall fail, neglect, or refuse to comply with the notice to repair, rehabilitate, or to demolish and remove said building or structure or portion thereof, the Building Official may order the owner of the building prosecuted as a violator of the provisions of this code.

Nothing contained herein shall be construed to limit or restrict the Building Official from instituting, on behalf of the County any other legal or equitable proceedings, in addition to those specified herein, to obtain compliance with the notice to repair, rehabilitate, or to demolish and remove said building or structure or portion thereof, and to recover the cost of such work from the owner or attach a lien to the property.

(42) Table 1-A is added to read:

TABLE 1-A. BUILDING PERMIT FEES

The fees for the issuance of building permits shall be computed in accordance with the following schedule:

Total Estimated Valuation of Work	**Fee to Be Charged**

$1 to $500	$15.00
$501 to $2,000	$15.00 for the first $500.00 plus $2.00 for each additional $100.00 or fraction thereof, to and including $2,000.00.
$2,001 to $25,000	$45.00 for the first $2,000.00 plus $8.00 for each additional $1,000.00 or fraction thereof, to and including $25,000.00.
$25,001 to $50,000	$229.00 for the first $25,000.00 plus $7.00 for each additional $1,000.00 or fraction thereof, to and including $50,000.00.
$50,001 to $100,000	$404.00 for the first $50,000.00 plus $6.00 for each additional $1,000.00 or fraction thereof, to and including $100,000.00.
$100,001 to $1,000,000	$704.00 for the first $100,000.00 plus $5.00 for each additional $1,000.00 or fraction thereof, to and including $1,000,000.00.
$1,000,001 to $25,000,000	$5,204.00 for the first $1,000,000.00 plus $4.00 for each additional $1,000.00 or fraction thereof to and including $25,000,000.00.
$25,000,001 to $50,000,000	$101,204.00 for the first $25,000,000.00 plus $3.00 for each additional $1,000.00 or fraction thereof to and including $50,000,000.00
$50,000,000 & up	$176,204 for the first $50,000,000 plus $2.00 for each additional $1,000.00 or fraction thereof.

Solar Energy System Fees. A building plan review fee of fifteen (15) percent of the established building permit fee, rounded off to the nearest dollars, shall be paid at the time of submittal of plans and specifications for review. The permit fees for the issuance of a solar energy system permits which cover the building, electrical and plumbing code requirements shall be one hundred dollars ($100.00) for one- and two-family dwellings and five hundred dollars ($500.00) for all other buildings or structures.

(43) Table 1-B is added to read:

TABLE 1-B. VIOLATIONS AND PENALTIES

VIOLATION	NO. OF DAYS TO CORRECT VIOLATION	AMOUNT OF INITIAL FINE	NO. OF DAYS AFTER NOTICE OR ORDER BEFORE DAILY FINES ARE TO BE ASSESSED	AMOUNT OF DAILY FINES
1.a. Building w/o a building permit	30	Footnote 1	30	Footnote 1
b. Occupying the building w/o a certificate of occupancy	30	Footnote 1	0	Footnote 1
c. Demolition w/o a building permit	30	Footnote 1	30	Footnote 1

d. Relocation of a building w/o a relocation permit	30	Footnote 1	30	Footnote 1
2. Not complying with stop work order	Immediately	Footnote 1	0	Footnote 1
3. Change in use of the building or space w/o a building permit and/or certificate of occupancy	30	100	30	100
4. Construction not following approved plans	30	100	30	100
5. Safety hazards; examples: exits, hazardous occupancies, fire alarm, fire sprinkler, standpipe system, protection of pedestrians during construction or demolition, safety glazing, barb wire, swimming pool enclosure, etc.	Immediately	100	0	100
6. Unsafe buildings IBC Section 115 a. Repairs/demolition b. Hazardous condition	 30 10	 50 100	 30 30	 50 100
7. Building code violations with a building permit a. Minor violation b. Major violation	 30 30	 100 200		 100 200
8. Recurring violation	3	Double of previous fees up to $2,000	30	Double of previous fees up to $2,000
Footnote 1. Base on total estimated valuation rounded to the nearest dollar: Up to $ 99,999 100,000—499,999 500,000—999,999 1,000,000—9,999,999 10,000,000—24,999,999 25,000,000—49,999,999 50,000,000—99,999,999 100,000,000 and over		 100 200 300 500 700 1000 1500 2000		 100 200 300 500 700 1000 1500 2000

(44) Section 202 is amended to read:

The following paragraph added before the definition of "ATRIUM":

ASSISTANTS. When the term "assistants" is used in this code, it shall be construed to mean the authorized representatives of the Building Official.

The following paragraph added before the definition of "AUTOMATIC":

AUTHORIZED REPRESENTATIVES. When the term "Authorized Representatives" is used in this code, it shall be construed to mean all building plan examiners, building inspectors and their supervisors designated as subordinate officers to the Building Official in enforcement of this code.

The definition of "BUILDING" amended to read:

BUILDING. A building is any structure used or intended for supporting any use or occupancy. The term shall include but not be limited to any structure mounted on wheels such as a trailer, wagon or vehicle which is parked and stationary for any 24-hour period, and is used for business or living purposes; provided however that the term shall not include a push cart or push wagon which is readily movable and which does not exceed 25 square feet in area, nor shall the term include a recreational trailer or trailer or vehicle, used exclusively for the purpose of selling any commercial product there from, which holds a vehicle license and actually travels on public or private streets.

The following paragraph added before the definition of "BUILDING, ENCLOSED":

BUILDING, EXISTING, is a building for which a legal building permit has been issued, or one which complied with the Building Code in effect at the time the building was erected.

The definition of "BUILDING OFFICIAL" amended to read:

BUILDING OFFICIAL shall mean the County Engineer or his authorized representative.

The following paragraphs added before the definition of "CAST STONE":

CARPORT is a private garage, which is at least 100 percent open on one side and with 50 percent net openings on another side or which is provided with an equivalent of such openings on two or more sides.

A private garage which is 100 percent open on one side and 25 percent open on another side with the latter opening so located to provide adequate cross ventilation may be considered a carport when approved by the Building Official.

The following paragraphs added before the definition of "COURT":

COUNTY shall mean the County of Kaua'i.

COUNTY COUNCIL shall mean the Council of the County of Kaua'i.

The following paragraphs added after the definition of "FIRE BARRIER":

FIRE CHIEF and FIRE OFFICIAL may be used synonymously and shall mean the Chief of the Fire Department of this County or his regularly authorized representative.

FIRE CODE is the Fire Code of the County of Kaua'i.

The definition of "HISTORICAL BUILDING" amended to read:

HISTORICAL BUILDINGS are buildings or structures officially listed on the State of Hawai'i or National Register of Historic Places.

The definition of "PERSON" amended to read:

PERSON. Any individual, firm, partnership, association, corporation or utility company shall include each and every owner of any whole or fractional interest in the property concerned, whether in fee, any lesser freehold or tenancy at will.

SOLAR ENERGY COLLECTORS. A collecting device or array panel used to absorb energy from the sun.

SOLAR ENERGY SYSTEM. Any configuration of equipment and components used to collect, convey, store and convert the sun's energy for a purpose.

SOLAR PHOTOVOLTAIC POWER SYSTEM. All components and subsystems that, in combination, collect, convey, store and convert the sun's energy into electrical energy suitable for connection to a utilization load.

SOLAR WATER HEATING SYSTEM. Any configuration of equipment and components assembled to collect, convey, store and convert the sun's energy primarily to supply hot water.

The following paragraph added after the definition "START OF CONSTRUCTION":

STATE shall mean the State of Hawai'i.

(45) Section 308.2 is amended to read:

308.2 Group I-1. This occupancy shall include buildings, structures or parts thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services in an assisted living facility. The residents participate in fire drills, are self starting, and may require some physical assistance from up to one staff to reach a point of safety in an emergency situation. Facilities with residents who require assistance by more than one staff, are not self-starting, are bedridden beyond 14 days, or require intermittent nursing care beyond 45 days, shall reside on the first floor in all Type III, IV, and V construction, or shall be classified as Group I-2.

A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2. A facility such as above, housing at least six and not more than 16 persons, shall be classified as Group R-4.

(46) Section 308.3 is amended to read:

308.3 Group I-2. This occupancy shall include buildings and structures used for personal, medical, surgical, psychiatric, nursing, or custodial care on a 24-hour basis of more than five persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

- Hospitals
- Nursing homes (both intermediate-care facilities and skilled nursing facilities)
- Mental hospitals
- Detoxification facilities
- Specialized Alzheimer's facilities or areas
- Assisted living facilities (with residents beyond group I-1 limitations for capability)

A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2.

(47) Section 310.1 is amended to read:

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I. Residential occupancies shall include the following:

R-1 Residential occupancies where the occupants are primarily transient in nature, including:

- Boarding houses (transient)
- Hotels (transient)
- Motels (transient)

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, and facilities providing personal care services that have residents that are capable of self-evacuation in an emergency situation, including:

- Apartment houses
- Boarding houses (not transient)
- Convents
- Dormitories
- Facilities providing personal care services (with residents that are capable of self-evacuation)
- Fraternities and sororities
- Hotels (nontransient)
- Monasteries
- Motels (nontransient)
- Vacation timeshare properties

Facilities providing personal care services with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, R-4 or I including:

- Buildings that do not contain more than two dwelling units
- Adult facilities that provide accommodations for five or fewer persons of any age for less than 24 hours
- Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours
- Congregate living facilities with 16 or fewer persons

Adult and child care facilities that are within a single-family home are permitted to comply with the International Residential Code in accordance with Section 101.2.

R-4 Residential occupancies shall include buildings, arranged for occupancy as assisted living facilities including more than five but not more than 16 occupants, excluding staff. Residents shall meet the ability to evacuate requirements and other limitations as required in Group I-1.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 except as otherwise provided for in this code, or shall comply with the International Residential Code.

(48) Section 310.2 is amended to read:

The definition of “Personal Care Service” is amended to read:

PERSONAL CARE SERVICE. The care of residents who do not require chronic or convalescent, health, medical or nursing care. Personal care involves responsibility for the safety of the resident while inside the building. The types of facilities providing personal care services shall include, but not be limited to, the following: assisted living facilities, residential care facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug abuse centers and convalescent facilities.

The definition of "assisted living facilities" is amended to read:

ASSISTED LIVING FACILITIES. A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services and are licensed by the State.

(49) Section 402.17 is added to read:

402.17 Fire Alarm System. Fire alarm systems shall comply with the Fire Code.

(50) Section 403.8 is amended to read:

403.8 Fire command station. Fire command stations shall comply with the Fire Code and be approved by the fire chief.

(51) Section 420 is added to read:

SECTION 420 - FENCES

420.1 General. Fences within required yard space shall be constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code, 1987, as amended. In areas where fence height is not regulated by the Comprehensive Zoning Ordinance, fences over 6 feet in height will be subject to approval of the Fire Department as to access.

420.2 Barbed or Razor Wire Fences. Barbed or razor wire shall not be used for the construction of any fence.

Exception:

1. Barbed or razor wire may be used in fences enclosing the following premises, if barbed or razor wire shall be placed along or above the height of 6 feet from the ground, subject to the approval of the Fire Department.
   1.1. Any "public utility" as defined in Section 269-1, Hawaiʻi Revised Statutes.
   1.2. Premises zoned industrial and used for storage or handling of hazardous materials.
   1.3. Zoos for keeping animals and birds for public view or exhibition.
   1.4. Jails, prisons, reformatories, and other institutions, which are involved in law enforcement or military activities where security against entry is an important factor.
2. For premises located in open and agriculture-zoned districts, as defined by the Comprehensive Zoning Ordinance, barbed wire may be used in fences enclosing premises used for pasturing farm animals.

420.3 Construction Barrier. For fences allowed during construction or demolition, see Chapter 3303.

420.4 Electric Wired Fence. Installation of electrically charged wire fences shall conform to Chapter 142, Part III, Section 142-61 of the Hawai'i Revised Statutes, as amended.

(52) Section 501.2 is amended to read:

501.2 Premises Identification. Numbers shall be provided for all new buildings as specified in Chapter 15, Article 4, KCC 1987, Numbering of Houses in portions of the County of Kaua'i.

(53) Section 903.2.5 is amended to read:

903.2.5 Group I. An automatic sprinkler system shall be provided throughout buildings with Group I fire area.

(54) Section 903.2.7 is amended to read:

903.2.7 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Exception: R-3 residential occupancies.

(55) Section 911.1 is amended to read:

911.1 Features. Where required by other sections of this code, a fire command center for fire department operations shall be provided and shall comply with the fire code and be approved by the fire chief.

(56) Section 1008.2 is amended to read:

1008.2 Gates. Gates serving the means of egress system shall comply with the requirements of this Section. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.

Exceptions:

1. Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.
2. Security gates may be permitted across corridors or passageways in school buildings if there is a readily visible durable sign on or adjacent to the gate, stating: THIS GATE IS TO REMAIN SECURED IN THE OPEN POSITION WHENEVER THIS BUILDING IS IN USE. The sign shall be in letters not less than one inch high on a contrasting background. The use of this exception may be revoked by the Building Official for due cause.

(57) Section 1026.1 is amended by adding Exception 8 to read:

8. Glass jalousie bladed windows may be used for emergency escape or rescue.

(58) Entire Chapter 11 is amended to read:

Chapter 11 - ACCESSIBILITY

SECTION 1101 - GENERAL

1101.1 Scope. Buildings or portions of buildings shall be accessible to persons with disabilities in accordance with the following regulations. These regulations will be administered and enforced by said agencies.

1. Construction of buildings or facilities of the State or County Governments, Architectural Access Committee, HRS 103-50, administered by the Disability and Communication Access Board, State of Hawai'i.

2. Americans with Disabilities Act, administered and enforced by the U.S. Department of Justice.

3. The Fair Housing Act, administered and enforced by the U.S. Department of Housing and Urban Development.

4. Other pertinent laws relating with disabilities shall be administered and enforced by agencies responsible for their enforcement.

Prior to the issuance of a building permit, the owner (or the owner's representative, professional architect, or engineer), shall submit a statement that all requirements, relating to accessibility for persons with disabilities, shall be complied with.

(59) Section 1203.2.2 is added to read:

1203.2.2 Unvented attic spaces. The attic space shall be permitted to be unvented when the design professional determines it would be beneficial to eliminate ventilation openings to reduce salt-laden air and maintain relative humidity 60 percent or lower to:

1. Avoid corrosion to steel components;

2. Avoid moisture condensation in the attic space; or

3. Minimize energy consumption for air conditioning or ventilation by maintaining satisfactory spaces conditions in both the attic and occupied space below.

(60) Section 1203.3.2 is amended by replacing the International Energy Conservation Code in number 4 with Article 6, Chapter 12 Building Code, KCC 1987, Ordinance 890, as amended.

(61) Section 1207 is deleted.

(62) Chapter 13 is amended to read:

CHAPTER 13 - SOLAR ENERGY SYSTEMS

1301.1 Purpose. The purpose is to regulate the design and construction on the envelopes and selection of heating, service water heating, electrical distribution and equipment required for the purpose of effective conservation of energy within a building or structure governed by this code.

Exception: For one- and two-family dwellings solar energy systems see Chapter 23 of the International Residential Code.

1301.2 Solar Energy Collectors. Collectors that function as building components shall comply with the applicable provisions of the code. Collectors located above or upon a roof and functioning as building components shall not reduce the required fire-resistance or fire-retardancy classification of the roofing-materials.

(63) Section 1403.2 is amended by deleting the last sentence in the first paragraph.

(64) Section 1405.10.4 is amended by deleting the word "ICC."

(65) Section 1505.1 is amended by adding a second exception to read:

Exception: Aluminum roofing shall be approved as Class B roofing, providing that an automatic sprinkler is installed throughout the building.

(66) Section 1509.6 is added to read:

1509.6 Roof-mounted solar PV systems—Other than residential buildings. Access to systems for occupancies other than one- and two-family dwellings shall be provided in accordance with Sections M2301.1.1 through M2301.2.1.5.

Exception: Where it is determined by the fire code official that the roof configuration is similar to that of a one- or two-family dwelling, the residential access and ventilation requirements in Sections 1301.2.1.1 through 1301.2.1.4 shall be permitted to be used.

1509.6.1 Access. There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76,200 mm) or less, there shall be a minimum 4-foot-wide (1290 mm) clear perimeter around the edges of the roof.

1509.6.2 Pathways. The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:

1. The pathway shall be over areas capable of supporting the live load of fire fighters accessing the roof.
2. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.
3. Shall be a straight line no less than 4 feet (1290 mm) clear to skylights or ventilation hatches.
4. Shall be a straight line not less than 4 feet (1290 mm) clear to roof standpipes.
5. Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.

1509.6.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Arrays shall be no greater than 150 feet (45,720 mm) by 150 feet (45,720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.
2. Smoke ventilation options between array sections shall be one of the following:
    2.1. A pathway 8 feet (2438 mm) or greater in width.
    2.2. A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or smoke and heat vents.
    2.3. A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.

(67) Section 1603.3 is amended to read:

1603.3 Live loads posted. Where the live loads for which each floor or portion thereof of a commercial or industrial building is or has been designed to exceed 100 psf (4.80 kN/m^2), such design live loads shall be conspicuously posted by the owner in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

(68) Section 1612.3 is amended to read:

1612.3 Flood hazard areas. See Chapter 15, Article 1, Floodplain Management, K.C.C. 1987, as amended.

(69) Section 1612.4 is amended to read:

1612.4 Design and construction. See Chapter 15, Article 1, Floodplain Management, K.C.C. 1987, as amended.

(70) Section 1612.5 is deleted.

(71) Table 1613.5.6(1) is amended to read:

Table 1613.5.6(1)
Seismic Design Category Based On Short-Period Response Acceleration

Value of S_{DS}	**Occupancy Category**		
	I or II	**III**	**IV**
$S_{DS} < 0.167g$	A	A	A
$0.167g \leq S_{DS} < 0.33g$	B	B	C
$0.33g \leq S_{DS} < 0.50g$	C	C	D
$0.50 \leq S_{DS} < 0.60g$	C	D	D
$0.60g \leq S_{DS}$	D	D	D

(72) Table 1613.5.6(2) is amended to read as follows:

Table 1613.5.6(2)
Seismic Design Category Based On 1-Second Period Response Acceleration

Value of S_{DI}	**Occupancy Category**		
	I or II	**III**	**IV**
$S_{DI} < 0.067g$	A	A	A
$0.067g \leq S_{DI} < 0.133g$	B	B	C
$0.133g \leq S_{DI} < 0.20g$	C	C	D
$0.20g \leq S_{DI} < 0.25g$	C	D	D
$0.25g \leq S_{DI}$	D	D	D

(73) Section 1611.1 is amended to read:

1611.1 Design rain loads. Each portion of a roof shall be designed to sustain the load of rainwater that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow. The design rainfall rate shall be based on the 100-year 1-hour rainfall rate indicated in Figure 1611.1 as published by the National Weather Service or on other rainfall rates determined from approved local weather data.

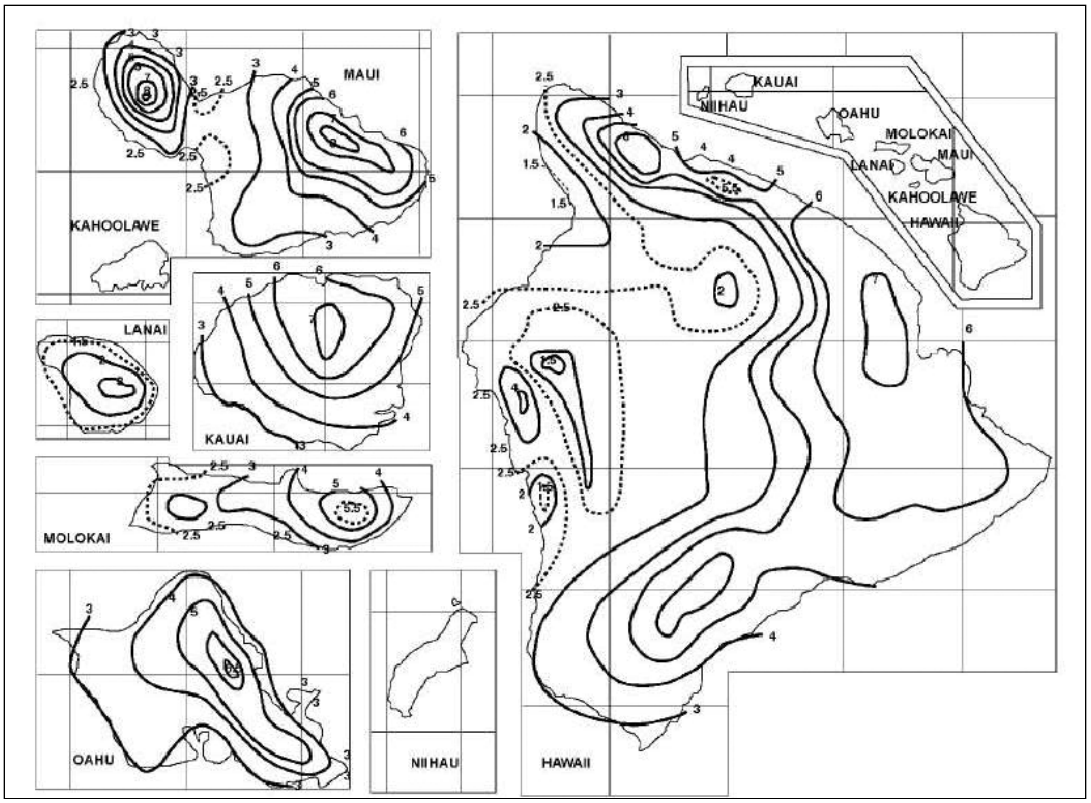


Figure 1611.1

100-Year, 1-Hour Rainfall (inches) Hawai'i

Source: National Weather Service, National Oceanic and Atmospheric Administration, Washington D.C.

(74) Section 1702 is amended to read:

The definition of "structural observation" is amended to read:

STRUCTURAL OBSERVATION. Structural observation is as defined in Chapter 16-115, Hawai'i Administrative Rules, implementing Chapter 464, Hawai'i Revised Statutes. Structural observation does not include or waive the responsibility for the inspection required by Section 109, 1704 or other sections of this code.

(75) Section 1704 is amended to read:

1704.1 General. Where application is made for construction as described in this Section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Sections 1704 and 1707. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the Building Official, for inspection of the particular type of construction or operation requiring special inspection. These inspections are in addition to the inspections specified in Section 109.

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the Building Official.

2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.

3. Unless otherwise required by the Building Official, special inspections are not required for occupancies in Group R-3 as applicable in Section 101.2 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

4. The employment of a special inspector shall not be required for the construction work for any government agency that provides for its own inspections.

With the approval of the Building Official, the following may qualify and perform as special inspectors:

1. An architect or engineer licensed and registered in the State of Hawai‘i and performing inspection in the branches of engineering in which he is registered.

2. A person certified by the International Code Council in the branches of special inspection in which he is registered.

3. A person certified by the Special Inspection Program administered by the City and County of Honolulu, may perform special inspection in the branches of inspection in which he is registered.

1704.1.1 Statement of special inspections. The construction drawings shall include a complete list of special inspections required in Sections 704, 1707 and 1708. The permit applicant shall submit a statement of special inspections prepared by the registered licensed engineer or architect of record as a condition for permit issuance. The statement shall include a complete list of special inspections required by this Section and the qualified person who will conduct the special inspection.

1704.1.2 Report requirement. Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the owner and licensed engineer or architect of record. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the licensed engineer or architect of record and to the Building Official. The special inspector shall submit a final signed report to the owner and licensed engineer or architect of record, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance to the approved plans and specifications and the applicable workmanship provisions of this code. Prior to the final inspection required under Section 109.3.10, the licensed engineer or architect of record shall submit a written statement verifying receipt of the final special inspection reports and documenting that there are no known unresolved code requirements that create significant public safety deficiencies.

(76) Section 1705 is deleted in its entirety.

(77) Section 1709 is amended to read:

1709 Structural observations. Structural observations shall be performed in accordance with Section 464-5, Hawai‘i Revised Statutes, administered and enforced by the Department of Commerce and Consumer Affairs.

(78) Section 1801.1 is amended by adding a second paragraph to read as follows:

All requirements for excavation, grading and earthwork construction including fills and embankment shall comply to Article 7, Chapter 22, Kauaʻi County Code-1987, as amended, an Article regulating and controlling grading, grubbing, stock piling, and soil erosion and sedimentation within the County of Kauaʻi.

(79) Section 1808.2.7 is amended to read:

1808.2.7 Splices. Splices shall be constructed so as to provide and maintain true alignment and position of the component parts of the pier or pile during installation and subsequent thereto and shall be of adequate strength to transmit the vertical and lateral loads and moments occurring at the location of the splice during driving and under service loading. Splices occurring in the upper 10 feet (3048 mm) of the embedded portion of the pier or pile shall be capable of resisting at allowable working stresses the moment and shear that would result from an assumed eccentricity of the pier or pile load of 3 inches (76 mm), or the pier or pile shall be braced in accordance with Section 1808.2.5 to other piers or piles that do not have splices in the upper 10 feet (3048 mm) of embedment.

(80) Section 2104.1.9 is added to read:

2104.1.9 Cleanouts. Cleanouts shall be provided for all grout pours over 5 feet 4 inches in height. Special provisions shall be made to keep the bottom and sides of the grout spaces, as well as the minimum total clear area required by ACI 530.1-05/ASCE 6-05/TMS 602-05 clean and clear prior to grouting.

Exception: Cleanouts are not required for grout pours 8 feet or less in height providing all of the following conditions are met:

1. The hollow masonry unit is 8-inch nominal width or greater with specified compressive strength f_m less than or equal to 1,500 psi;
2. Fine grout is used complying with ASTM C-476 minimum compressive strength of 2,500 psi; and
3. Special Inspection is provided.

(81) Section 2302.1 is amended by adding an exception to the definition of NATURALLY DURABLE WOOD to read:

Exception: The Building Official may authorize the use of other species heartwood provided the wood has demonstrated and have sufficient testing evidence, or proof to substantiate any claims that may be made regarding its use. Authorized heartwood species shall be naturally resistive to decay and termites.

When other heartwood species has been authorized to be use, these heartwood species shall require the seal of a duly licensed professional registered structural engineer or architect as required by Chapter 464 of the Hawaiʻi Revised Statutes as amended, to comply with other provisions of this code.

(82) Section 2303.1.8 is amended to read:

2303.1.8 Preservative-treated wood. Structural lumber, including plywood, posts, beams, rafters, joists, trusses, studs, plates, sills, sleepers, roof and floor sheathing, flooring and headers of new wood-frame buildings and additions shall be:

1. Treated in accordance with AWPA Standard U1 (UC1 thru UC4B) for AWPA Standardized Preservatives, all marked or branded and monitored by an approving agency. Incising is not required, providing that the retention and penetration requirements of these standards are met.
2. For SBX disodium octaborate tetrahydrate (DOT), retention shall be not less than 0.28 pcf B_2O_3 (0.42 pcf DOT) for exposure to Formosan termites. All such lumber shall be protected from direct weather exposure as directed in AWPA UC1 and UC2.
3. For structural glue-laminated members made up of dimensional lumber, engineered wood products, or structural composite lumber, pressure treated in accordance with AWPA U1 (UC1 thru UC4B) or by Light Oil Solvent Preservative (LOSP) treatment standard as approved by the Building Official. Water based treatment processes as listed in paragraphs 1 and 2 are not allowed to be used on these products unless specified by a structural engineer for use with reduced load values and permitted by the product manufacturer.
4. For structural composite wood products, treated by non-pressure processes in accordance with AWPA Standard U1 (UC1, UC2 and UC3A) or approved by the Building Official.

2303.1.8.1 Treatment. Wood treatment shall include the following:

1. A quality control and inspection program which meets or exceeds the current requirements of AWPA Standards M2-01 and M3-03;
2. Inspection and testing for the treatment standards as adopted by this code shall be by an independent agency approved by the Building Official, accredited by the American Lumber Standards Committee (ALSC) and contracted by the treating company;
3. Field protection of all cut surfaces with a preservative, which shall be applied in accordance with AWPA Standard M-4-02 or in accordance with the approved preservative manufacturer's ICC-Evaluation Services report requirements.

2303.1.8.2 Labeling. Labeling shall be applied to all structural lumber 2 inches or greater nominal thickness, with the following information provided on each piece as a permanent ink stamp on one face or on a durable tag permanently fastened to ends with the following information:

1. Name of treating facility;
2. Type of preservative;
3. AWPA use category;
4. Quality mark of third party inspection agency;
5. Year of treatment.

All lumber less than 2 inches in nominal thickness, shall be identified per bundle by means of a label consisting of the above requirements. Labels measuring no less than 6 inches by 8 inches shall be placed on the lower left corner of the strapped bundle.

2303.1.8.3 Moisture content of treated wood. When wood pressure treated with a water-borne preservative is used in enclosed locations where drying in service cannot readily occur, such wood shall be at a moisture content of 19 percent or less before being covered with insulation, interior wall finish, floor covering or other material.

(83) Section 2304.9.5 is amended to read:

2304.9.5 Fasteners in non-borate-preservative-treated and fire-retardant-treated wood. Fasteners for preservative-treated and fire-retardant-treated wood, other than Borate (SBX, ZB) or LOSP treatments as approved in Section 2303.1.8 Preservative-treated wood, shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicone bronze or copper. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A 153.

Exception: Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum.

Fastenings for wood foundations shall be as required in AF&PA Technical Report No. 7.

(84) Section 2304.11 is amended to read:

2304.11 Protection against decay and termites.

2304.11.1 General. Where required by this Section, protection from decay and termites shall be provided by the use of naturally durable or preservative-treated wood.

2304.11.2 Wood used above ground. Structural lumber installed above ground shall be preservative-treated wood in accordance with Section 2303.1.8.

2304.11.2.1 Soil treatment and termite barriers. Where structural lumber of wood frame buildings or structures are supported directly on the ground by a concrete slab, or concrete and/or masonry foundation, Formosan subterranean termite protection shall be provided by either chemically treating the soil beneath and adjacent to the building or structure by a Hawai'i-licensed pest control operator, or stainless steel termite barrier, or other termite protection measures approved by the Building Official.

All soil treatment, stainless steel termite barrier, and termite protection measures shall be installed according to manufacturer's recommendations for control of Formosan subterranean termites.

2304.11.3 Wood in ground contact. Wood supporting permanent buildings and structures, which is in direct soil contact or is embedded in concrete or masonry in direct contact with earth shall be treated to the appropriate commodity specification of AWPA Standard U1.

Wood in direct soil contact but not supporting any permanent buildings or structures shall be treated to the appropriate commodity specification of AWPA Standard U1 for ground contact.

2304.11.4 Retaining walls. Wood in retaining or crib wall shall be treated to AWPA Standard U1.

2304.11.5 Wood and earth separation. Where wood is used with less than 6-inch vertical separation from earth (finish grade), the wood shall be treated for ground-contact use.

Where planter boxes are installed adjacent to wood frame walls, a 2-inch-wide (51 mm) air space shall be provided between the planter and the wall. Flashings shall be installed when the air space is less than 6 inches (152 mm) in width. Where flashing is used, provisions shall be made to permit circulation of air in the air space. The wood-frame wall shall be provided with an exterior wall covering conforming to the provisions of Section 2304.6.

2304.11.6 Under-floor clearance for access and inspection. Minimum clearance between the bottom of floor joists or bottom of floors without joists and the ground beneath shall be 24 inches; the minimum clearance between the bottom of girders and the ground beneath shall be 18 inches.

Exception: Open slat wood decks shall have ground clearance of at least 6 inches for any wood member.

Accessible under-floor areas shall be provided with a minimum 18 inch-by 24 inch access opening, effectively screened or covered. Pipes, ducts and other construction shall not interfere with the accessibility to or within under-floor areas.

2304.11.7 Wood used in retaining walls and cribs. Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 (Commodity Specifications A or F) for soil and fresh water use.

2304.11.8 Weather exposure. All portions of timbers (over 5-inch nominal width) and glued-laminated timbers that form structural supports of a building or other structure shall be protected by a roof, eave, overhangs, flashings, or similar coverings.

All wood or wood composite panels, in weather-exposed applications, shall be of exterior type.

2304.11.9 Water splash. Where wood-frame walls and partitions are covered on the interior with plaster, tile or similar materials and are subject to water splash, the framing shall be protected with approved waterproof paper conforming to Section 1404.2.

2304.11.10 Pipe and other penetrations. Insulations around plumbing pipes shall not pass through ground floor slabs. Openings around pipes or similar penetrations in a concrete or masonry slab, which is in direct contact with earth, shall be filled with non-shrink grout, BTB, or other approved physical barrier.

(85) Section 2308.1 is amended to read:

2308.1 General. The requirements of this Section are intended for conventional light-frame construction. Other methods are permitted to be used, provided a satisfactory design is submitted showing compliance with other provisions of this code. Interior nonload-bearing partitions, ceilings and curtain walls of conventional light-frame construction are not subject to the limitations of this Section. Alternatively, compliance with AF&PA WFCM shall be permitted subject to the limitations therein and the limitations of this code.

(86) Section 2701.1 is amended to read:

2701.1 Scope. This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code. Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of the National Electrical Code, NFPA 70.

(87) Section 3001.1 is amended to read:

3001.1 Scope. This chapter shall be a guideline and governs the design, construction, installation, alteration, and repair of elevators and conveying systems and their components. If this Chapter conflicts with another applicable law of the jurisdiction, then said applicable law shall prevail over this Chapter.

(88) Section 3107.1 is amended to read:

3107.1 General. Signs shall be designed, constructed and maintained in accordance with Outdoor Sign Ordinance, Chapter 15, Article 4, Kaua‘i County Code 1987, as amended.

(89) Section 3109.3 is amended to read:

3109.3 Public swimming pools. Public swimming pools shall be completely enclosed by a fence at least 4 feet (1290 mm) in height or a screen enclosure. Openings in the fence shall not permit the passage of a 4-inch-diameter (102 mm) sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates.

Exception: Swimming, dipping, or wading pools located on the premises of a hotel are not required to be enclosed.

(90) Section 3403.1.1 is amended to read:

Exception: For building and structures in flood hazard areas, see Chapter 15, Article 1 Floodplain Management, Kaua'i County Code 1987, as amended.

(91) Section 3405.1 is amended to read:

3405.1 Conformance. The installation or replacement of glass shall be as required by Chapter 24 for new installations.

(92) Section 3407.2 is amended to read:

3407.2 Flood Hazard Areas. For building and structures in flood hazard areas, see Chapter 15, Article 1 Floodplain Management, Kaua'i County Code 1987, as amended.

(93) Section 3409 is amended to read:

SECTION 3409 - ACCESSIBILITY FOR EXISTING BUILDINGS

3409.1 This Section applies to the maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

Conformance to all of the design and construction requirements for persons with disabilities shall comply with the requirements set forth in Chapter 11, Accessibility, of this Code as amended.

(94) Section 3410.2 is amended by deleting the phrase "DATE TO BE INSERTED BY THE JURISDICTION. NOTE IT IS RECOMMENDED THAT THE DATE COINCIDE WITH THE EFFECTIVE DATE OF BUILDING CODE WITHIN THE JURISDICTION" and replacing with "the building code adopted, approved and now have the effect of law as Ordinance."

(95) Section 3410.3.2 is amended to read:

3410.3.2 Compliance with other codes. Buildings that are evaluated in accordance with this Section shall comply with the Kaua'i County Fire Code.

(96) Appendix U is added to read:

APPENDIX U

Hawai'i Hurricane Sheltering Provisions for New Construction

Section U101 Community storm shelters. Chapter 4 is amended by adding Section 421 to read as follows:

SECTION 421 Community storm shelters

421.1 General. In addition to other applicable requirements in this code, community storm shelters and the following specific Occupancy Category IV buildings shall be constructed in accordance with ICC/NSSA-500:

1. Designated earthquake, hurricane or other emergency shelters.

2. Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response.

421.1.1 Scope. This appendix applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as hurricanes. Such structures shall be designated to be hurricane shelters.

421.2 Definitions. The following words and terms shall, for the purposes of this Chapter and as used elsewhere in this code, have the meanings shown herein.

COMMUNITY STORM SHELTER. A building, structure, or portion thereof, constructed in accordance with ICC 500-08 ICC/NSSA Standard on the Design and Construction of Storm Shelters and designated for use during a severe wind storm event such as a hurricane.

Section U102 Hawai‘i residential safe room. Chapter 4 is amended by adding Section 422 to read as follows:

SECTION 422 Hawai‘i residential safe room

422.1 Performance-based design criteria. The residential safe room shall meet the minimum performance specifications of Sections 422.1.1 through 422.9.

422.1.1 Intent and scope. The intent of the residential safe room is to temporarily provide an enhanced protection area, fully enclosed within a dwelling or within an accessory structure to a residence, which is designed and constructed to withstand the wind pressures, windborne debris impacts, and other requirements of this Section.

422.1.2 Alternative standards.

1. Manufactured safe room designs subject to approval. A manufactured safe room or safe room kit may be substituted if documentation is submitted and approved by the Building Official. The safe room shall be engineered, tested, and manufactured to meet or exceed the criteria of this Section.
2. FEMA in-residence shelter designs permitted. It shall be permissible to build FEMA In-Residence Shelters of up to 64 square feet of floor area with walls up to 8 feet long that are built in accordance with construction details of FEMA 320.

422.2 Site criteria. Residential safe rooms shall not be constructed within areas subject to stream flooding, coastal flooding or dam failure inundation within any of the following areas:

1. FEMA Special Flood Hazard Areas (SFHA) subject to rainfall runoff flooding or stream or flash flooding;
2. Coastal zones “V” or “A” identified in the Flood Insurance Rate Map (FIRM) issued by FEMA for floodplain management purposes, in which the flood hazard are tides, storm surge, waves, tsunamis, or a combination of these hazards;
3. Areas subject to dam failure inundation as determined by the Department of Land and Natural Resources.

422.3 Maximum occupancy. The safe room is permitted to be used for a maximum occupancy based on at least 15 square feet per person with a maximum of 8 persons in a room of up to 128 square feet of floor area.

422.4 Provisions for exiting. The room shall be equipped with an inward-swinging door and an impact-protected operable window suitable for a means of alternative exiting in an emergency.

422.5 Design for dead, live, wind, rain, and impact loads.

422.5.1 Structural integrity criteria.

1. The residential safe room shall be built with a complete structural system and a complete load path for vertical and lateral loads caused by gravity and wind.
2. The building that the residential safe room is in shall be assumed to be destroyed by the storm and shall not be taken as offering any protective shielding to the safe room enclosure.
3. The ceiling structure and wall shall be capable of supporting a superimposed debris load of the full weight of any building floors and roof above, but not less than 125 psf.
4. The residential safe room enclosure shall be capable of simultaneously resisting lateral and uplift wind pressures corresponding to a 160 mph 3-second peak gust, determined in accordance with ASCE 7, Minimum Design Loads for Buildings and Other Structures, calculated using load and importance Factors of 1.0. The site exposure factor shall be based on exposure C. The gust factor and the directionality factor shall be taken as 0.85. Topographic wind amplification caused by mountainous terrain shall be considered in accordance with the building code. Internal pressure shall be determined in accordance with ASCE 7.
5. The residential safe room shall be anchored to a foundation system capable of resisting the above loading conditions.

422.5.2 Windborne debris impact protection of building enclosure elements. The entire enclosure of the safe room, including all walls, ceilings, and openings, fixed or operable windows, and all entry doors into the safe room, shall meet or exceed Level D requirements of ASTM E 1996 (Table 422.5-1). Any wall or ceiling penetration greater than 4 square inches shall be considered an opening.

Exception: Electrical outlet boxes and interior lighting switches not penetrating more than 2.5-inches into the interior wall surface and a plumbing piping or conduit not greater than 1.5-inch in diameter shall be exempted from this requirement.

422.5.3 Cyclic pressure loading of glazing and protective systems. Impact protective systems shall meet the ASTM E 1996 cyclic pressure requirement for the loading given in Table 422.5-1.

Table 422.5-1
Windborne Debris Protection and Cyclic Pressure Criteria for Residential Safe Rooms

ASTM E 1996 Missile Level Rating	**Debris Missile Size**	**Debris Impact Speed**	**Enclosure Wall Ceiling, and Floor Cyclic Air Pressure Testing—Maximum inward and maximum outward pressures**
D	2 x 4 weighing 9.0 lb. +/- 0.25 lb. and with min. length 8 ft. +/- 4 inch	50 ft./sec. or at least 34 mph	35 psf inward 45 psf outward

422.6 Ventilation. The residential safe room shall be naturally ventilated to allow the enclosure to have approximately one air change every two hours. This requirement may be satisfied by 12 square inches of venting per occupant. There shall be at least two operable vents. The vents shall be protected by a cowling or other device that shall be impact tested to comply with ASTM E 1996 Level D. Alternatively, the room shall be evaluated to determine if the openings are of sufficient area to constitute an open or partially enclosed condition as defined in ASCE 7.

422.7 Communications. The residential safe room shall be equipped with a phone line and telephone that does not rely on a separate electrical power outlet. Alternatively, a wireless telephone shall be permitted to rely on an Uninterruptible Power Supply (UPS) battery device.

422.10 Notification. The owner of the residential safe room shall notify the state department of defense and county civil defense agency of the property's tax map key or global positioning system coordinates.

Section U103 State- and County-owned public high occupancy buildings - design criteria for enhanced hurricane protection areas. Chapter 4 is amended by adding Section 423 to read as follows:

SECTION 423 State- and County-owned public high occupancy buildings - design criteria for enhanced hurricane protection areas.

423.1 Intent. The purpose of this Section is to establish minimum life safety design criteria for enhanced hurricane protection areas in high occupancy state- and county-owned buildings occupied during hurricanes of up to Saffir Simpson Category 3.

423.2 Scope. This section shall apply to state- and county-owned buildings which are of Occupancy Category III and IV defined by Table 1604.5 and of the following specific occupancies:

1. Enclosed and partially enclosed structures whose primary occupancy is public assembly with an occupant load greater than 300.
2. Health care facilities with an occupant load of 50 or more resident patients, but not having surgery or emergency treatment facilities.

3. Any other state- and county-owned enclosed or partially enclosed building with an occupant load greater than 5,000.
4. Hospitals and other health care facilities having surgery or emergency treatment facilities.

Exception: Facilities located within flood zone V and flood zone A that are designated by the owner to be evacuated during hurricane warnings declared by the National Weather Service, shall not be subject to these requirements.

423.3 Site criteria.

423.3.1 Flood and tsunami zones. Comply with ASCE 24-05, Flood Resistant Design and Construction, based on provisions for Occupancy Category III.

1. Floor slab on grade shall be 1.5 foot above the base flood elevation of the County's flood hazard map, or at higher elevation as determined by a modeling methodology that predicts the maximum envelope and depth of inundation including the combined effects of storm surge and wave actions with respect to a Category 3 hurricane.
2. Locate outside of V and Coastal A flood zones unless justified by site-specific analysis or designed for vertical evacuation in accordance with a method approved by the Building Official. When a building within a V or Coastal A flood zone is approved, the bottom of the lowest structural framing member of any elevated first floor space shall be 2 feet above the base flood elevation of the County's flood hazard map, or at higher elevation as determined by a modeling methodology that predicts the maximum envelope and depth of inundation including the combined effects of storm surge and wave actions with respect to a Category 3 hurricane.
3. Locate outside of tsunami evacuation zones unless justified by site-specific analysis or designed for vertical evacuation in accordance with a method approved by the Building Official.

423.3.2 Emergency vehicle access. Provide at least one route for emergency vehicle access. The portion of the emergency route within the site shall be above the 100-year flood elevation.

423.3.3 Landscaping and utility laydown impact hazards. Landscaping around the building shall be designed to provide standoff separation sufficient to maintain emergency vehicle access in the event of mature tree blowdown. Trees shall not interfere with the functioning of overhead or underground utility lines, nor cause laydown or falling impact hazard to the building envelope or utility lines.

423.3.4 Adjacent buildings. The building shall not be located within 1,000 feet of any hazardous material facilities defined by Table 1604.5. Unanchored light-framed portable structures shall be not permitted within 300 feet of the building.

423.4 Enhanced hurricane protection area program requirements.

423.4.1 Applicable net area. At least 50 percent of the net square feet of a facility shall be constructed to qualify as an enhanced hurricane protection area. The net floor area shall be determined by subtracting from the gross square feet the floor area of excluded spaces, exterior walls, columns, fixed or movable objects, equipment or other features that under probable conditions cannot be removed or stored during use as a storm shelter.

423.4.2 Excluded spaces. Spaces such as mechanical rooms, electrical rooms, storage rooms, attic and crawl spaces, shall not be considered as net floor area permitted to be occupied during a hurricane.

423.4.3 Occupancy capacity. The occupancy capacity shall be determined by dividing the net area of the enhanced hurricane protection area by 15 square feet net floor area per person.

423.4.4 Toilets and hand washing facilities. Provide a minimum of 1 toilet per 50 enhanced hurricane protection area occupants and a minimum of 1 sink per 100 enhanced hurricane protection area occupants, as determined in accordance with Section 423.4.3, located within the perimeter of the enhanced hurricane protection area. These required toilet and hand-washing facilities are not in addition to those required for normal occupancy and shall be included in the overall facility fixture count.

423.4.5 Accessibility. Where the refuge occupancy accommodates more than 50 persons, provide an ADA-accessible route to a shelter area at each facility with a minimum of 1 wheelchair space for every 200 enhanced hurricane protection area occupants determined in accordance with Section 423.4.3.

423.5 Design wind, rain, and impact loads.

423.5.1 Structural design criteria. The building main wind force resisting system and structural components shall be designed per ASCE 7 for a 115 mph minimum peak 3-second gust design speed with a load factor of 1.6, and an importance factor for Occupancy Category III. Topographic and directionality factors shall be the site-specific values determined in accordance with Appendix W. Design for interior pressure shall be based on the largest opening in any exterior facade or roof surface.

423.5.2 Windborne debris missile impact for building enclosure elements. Exterior glazing and glazed openings, louvers, roof openings and doors shall be provided with windborne debris impact resistance or protection systems conforming to ASTM E1996-05 Level D, i.e., 9 lb., 2 X 4, @ 50 fps (34 mph).

423.5.3 Cyclic pressure loading of impact resistive glazing or windborne impact protective systems. Resistance to the calculated maximum inward and outward pressure shall be designed to conform to ASTM E1996-05.

423.5.4 Windows. All unprotected window assemblies and their anchoring systems shall be designed and installed to meet the wind load and missile impact criteria of this Section.

423.5.5 Window protective systems. Windows may be provided with permanent or deployable protective systems, provided the protective system is designed and installed to meet the wind load and missile impact criteria and completely covers the window assembly and anchoring system.

423.5.6 Doors. All exterior and interior doors subject to possible wind exposure or missile impact shall have doors, frames, anchoring devices, and vision panels designed and installed to resist the wind load and missile impact criteria or such doors, frames, anchoring devices, and vision panels shall be provided with impact protective systems designed and installed to resist the wind load and missile impact criteria of this Section.

423.5.7 Exterior envelope. The building enclosure, including walls, roofs, glazed openings, louvers and doors, shall not be perforated or penetrated by windborne debris, as determined by compliance with ASTM E1996-05 Level C.

423.5.8 Parapets. Parapets shall satisfy the wind load and missile impact criteria of the exterior envelope.

423.5.9 Roofs

423.5.9.1 Roof openings. Roof openings (e.g., HVAC fans, ducts, skylights) shall be provided with protection for the wind load and missile impact criteria of Sections 423.5.2 and 423.5.3.

423.5.9.2 High wind roof coverings. Roof coverings shall be specified and designed according to the latest ASTM Standards for high wind uplift forces.

423.5.9.3 Roof drainage. Roofs shall have adequate slope, drains and overflow drains or scuppers sized to accommodate 100-year hourly rainfall rates in accordance with Section 1611.1, but not less than 2-inches per hour for 6 continuous hours.

423.6 Ventilation.

423.6.1 Mechanical ventilation. Mechanical ventilation as required in accordance with the International Mechanical Code. Air intakes and exhausts shall be designed and installed to meet the wind load and missile impact criteria of Sections 423.5.2 and 423.5.3.

423.6.2 HVAC equipment anchorage. HVAC equipment mounted on roofs and anchoring systems shall be designed and installed to meet the wind load criteria. Roof openings for roof-mounted HVAC equipment shall have a 12-inch-high curb designed to prevent the entry of rain water.

423.7 Standby electrical system capability. Provide a standby emergency electrical power system per Chapter 27 and NFPA 70 Article 700 Emergency Systems and Article 701 Legally Required Standby Systems, which shall have the capability of being connected to an emergency generator or other temporary power source. The emergency system capabilities shall include:

1. An emergency lighting system;
2. Illuminated exit signs;
3. Fire protection systems, fire alarm systems and fire sprinkler systems; and
4. Minimum mechanical ventilation for health/safety purposes.

423.7.1 Emergency generator. When emergency generators are pre-installed, the facility housing the generator, permanent or portable, shall be an enclosed area designed to protect the generators from wind and missile impact. Generators hardened by the manufacturer to withstand the area's design wind and missile impact criteria shall be exempt from the enclosed area criteria requirement.

423.8 Quality assurance.

423.8.1 Information on construction documents. Construction documents shall include design criteria, the occupancy capacity of the enhanced hurricane protective area, and Project Specifications shall include opening protection devices. Floor plans shall indicate all enhanced hurricane protection area portions of the facility and exiting routes there from. The latitude and longitude coordinates of the building shall be recorded on the construction documents.

423.8.2. Special inspection. In addition to the requirements of Chapter 17, special inspections shall include at least the following systems and components:

1. Roof cladding and roof framing connections;
2. Wall connections to roof and floor diaphragms and framing;

3. Roof and floor diaphragm systems, including collectors, drag struts and boundary elements;
4. Vertical windforce-resisting systems, including braced frames, moment frames and shear walls;
5. Windforce-resisting system connections to the foundation; and
6. Fabrication and installation of systems or components required to meet the impact-resistance requirements of Section 1609.1.2.

Exception: Fabrication of manufactured systems or components that have a label indicating compliance with the wind-load and impact-resistance requirements of this code.

423.8.3 Quality assurance plan. A construction quality assurance program shall be included in the construction documents and shall include:

1. The materials, systems, components, and work required to have special inspection or testing by the Building Official or by the registered design professional responsible for each portion of the work;
2. The type and extent of each special inspection;
3. The type and extent of each test;
4. Additional requirements for special inspection or testing for seismic or wind resistance; and
5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

423.8.4 Peer review. Construction documents shall be independently reviewed by a Hawai‘i-licensed structural engineer. A written opinion report of compliance shall be submitted to State Civil Defense, the Building Official, and the owner.

423.9 Maintenance. The building shall be periodically inspected every three years and maintained by the owner to ensure structural integrity and compliance with this Section. A report of inspection shall be furnished to the State Civil Defense.

423.10 Compliance re-certification when altered, deteriorated, or damaged. Alterations shall be reviewed by a Hawai‘i-licensed structural engineer to determine whether any alterations would cause a violation of this Section. Deterioration or damage to any component of the building shall require an evaluation by a Hawai‘i-licensed structural engineer to determine repairs necessary to maintain compliance with this Section.

(97) Appendix W is added to read as follows:

APPENDIX W

Hawai‘i Wind Design Provisions for New Construction

W101 Revisions to chapter 16. When Appendix W is adopted, wind design shall be in accordance with IBC Chapter 16 and IRC Chapter 3 as amended by Sections W101.1 through W101.10.

(98) Section 1602.1 is amended to add the definitions of “Building, Open”; “Building, Partially Enclosed”; and “Openings,” as follows:

“BUILDING, OPEN” means a building having each wall at least 80 percent open. This condition is expressed for each wall by the equation:

$A_o \geq 0.8\ A_g$

Where:

A_o = Total area of openings in a wall that receives positive external pressure, in square feet (m^2).

A_g = The gross area of that wall in which A_o is identified, in square feet (m^2).

"BUILDING, PARTIALLY ENCLOSED" means a building that complies with both of the following conditions:

1. The total area of openings in a wall that receives positive external pressure exceeds the sum of the areas of openings in the balance of the building envelope (walls and roof) by more than ten percent (10%); and
2. The total area of openings in a wall that receives positive external pressure exceeds four (4) square feet (0.37 m^2) or one percent (1%) of the area of that wall, whichever is smaller, and the percentage of openings in the balance of the building envelope does not exceed twenty percent (20%).

These conditions are expressed by the following equations:

$A_o > 1.10A0i$

$A_o > 4$ square feet (0.37 m^2) or $>0.01A_g$, whichever is smaller, and $A_{oi}/A_{gi} \leq 0.20$

Where:

A_o, A_g are as defined for an open building.

A_{oi} = The sum of the areas of openings in the building envelope (walls and roof) not including A_o, in square feet (m^2).

A_{gi} = The sum of the gross surface areas of the building envelope (walls and roof) not including A_g, in square feet (m^2).

"OPENINGS" means apertures or holes in the building envelope that allow air to flow through the building envelope and that are designed as "open" during design winds.

(99) Section 1603.1 is amended to read:

1603.1 General. Construction documents shall show the size, section, and relative locations of structural members with floor levels, column centers and offsets dimensioned. The design loads and other information pertinent to the structural design required by Sections 1603.1.1 through 1603.1.8 shall be indicated on the construction documents.

Exception: Construction documents for buildings constructed in accordance with the conventional light-frame construction provisions of Section 2308 shall indicate the following structural design information:

1. Floor and roof live loads.
2. Ground snow load, P_g.
3. Basic wind speed (3-second gust), and effective wind speed V_{eff} (3-second gust), miles per hour (mph)(km/hr) and wind exposure.
4. Seismic design category and site class.
5. Flood design data, if located in flood hazard areas established in Section 1612.3.

(100) Section 1603.1.4 is amended to read:

1603.1.4 Wind design data. The following information related to wind loads shall be shown, regardless of whether wind loads govern the design of the lateral-force-resisting system of the building:

1. Basic wind speed (3-second gust), miles per hour (km/hr), V, and effective windspeed V_{eff}.
2. Wind importance factor I, and building category.
3. Wind exposure, if more than one wind exposure is utilized, the wind exposure for each applicable wind direction shall be indicated.
4. The applicable internal pressure coefficient.
5. Components and cladding. The design wind pressures in terms of psf (kN/m²) used for the design of exterior components, and cladding not specifically designed by the registered design professional.

(101) Section 1609.1.1 is amended to read:

1609.1.1 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Chapter 6 of ASCE 7. Minimum values for Directionality Factor, K_d, Velocity Pressure Exposure Coefficient, K_z, and Topographic Factor, K_{zt}, shall be determined in accordance with Section 1609. The type of opening protection required, the basic wind speed and the exposure category for a site is permitted to be determined in accordance with Section 1609 or ASCE 7. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:

1. Subject to the limitations of Section 1609.1.1.1, the provisions of SBCCI SSTD 10 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of the AF&PA WFCM.
3. Designs using NAAMM FP 1001.
4. Designs using TIA/EIA-222 for antenna-supporting structures and antennas.

(102) Section 1609.1.2 is amended to read:

1609.1.2 Protection of openings. In wind-borne debris regions, glazing in building shall be impact-resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resisting standard or ASTM E 1996 and ASTM E 1886 referenced therein as follows:

1. Glazed openings located within 30 feet (9144 mm) of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
2. Glazed openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

Exceptions:

1. Wood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and a maximum panel span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings. Panels shall be precut so that they shall be attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be secured with the

attachment hardware provided. Attachments shall be designed to resist the components and cladding loads determined in accordance with the provisions of ASCE 7. Attachment in accordance with Table 1609.1.2 is permitted for buildings with a mean roof height of 33 feet (10 058 mm) or less where wind speeds do not exceed 130 mph (57.2 m/s).

2. Glazing in Occupancy Category I buildings as defined in Section 1604.5, including greenhouses that are occupied for growing plants on a production or research basis, without public access shall be permitted to be unprotected.

3. Glazing in Occupancy Category II, III or IV buildings located over 60 feet (18 288) mm) above the ground and over 30 feet (9144 mm) above aggregate surface roofs located within 1,500 feet (458 m) of the building shall be permitted to be unprotected.

4. Glazing in Occupancy Category II and III buildings that can receive positive external pressure in the lower 60 feet (18 288 mm) shall be assumed to be openings unless such glazing is impact-resistant or protected with an impact-resistant system.

Exception: Glazing in Occupancy Category III buildings defined by Table 1604.5 of the following occupancies shall be provided with windborne debris protection:

1. Covered structures whose primary occupancy is public assembly with an occupant load greater than 300.

2. Health care facilities with an occupant load of 50 or more resident patients, but not having surgery or emergency treatment facilities.

3. Any other public building with an occupant load greater than 5,000.

Table 1609.1.2
Wind-Borne Debris Protection Fastening Schedule For Wood Structural Panels [a,b,c,d]

	Fastener Spacing		
Fastener Type	**Panel span ≤ 4 ft.**	**Panel span > 4 ft. and ≤ 6 ft.**	**Panel span > 6 ft. and ≤ 8 ft.**
No. 6 screws	16″	12″	9″
No. 8 screws	16″	16″	12″

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg,

1 mile per hour = 1.609 km/h.

a. This table is based on a maximum wind speed (3-second gust) of 130 mph and mean roof height of 33 feet or less.

b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located a minimum of 1 inch from the edge of the panel.

c. Fasteners shall be long enough to penetrate through the exterior wall covering a minimum of 1.75 inches into wood wall framing; a minimum of 1.25 inches into concrete block or concrete; or into steel framing by at least three threads. Fasteners shall be located a minimum of 2.5 inches from the edge of concrete block or concrete.

d. Where screws are attached to masonry or masonry/stucco, they shall be attached utilizing vibration-resistant anchors having a minimum withdrawal capacity of 490 pounds.

1609.1.2.1 Building with openings. Where glazing is assumed to be an opening in accordance with Section 1609.1.2 #4, the building shall be evaluated to determine if the openings are of sufficient area to constitute an open or partially enclosed building as defined in ASCE 7. [Open and partially enclosed buildings shall be designed in accordance with the applicable provisions of ASCE 7. Partially enclosed Group R-3 buildings shall also include a residential safe room in accordance with Section 422.] Open and partially enclosed (no glazing protection provided as required by Section 1609.1.2 Protections of openings) Group R-3 buildings in wind-borne debris regions shall also include a residential safe room in accordance with Section 422.

1609.1.2.2 Louvers. Louvers protecting intake and exhaust ventilation ducts not assumed to be open that are located within 30 ft (9144 mm) of grade shall meet requirements of an approved impact-resisting standard or the Large Missile Test of ASTM E 1996.

(103 The definition of "Wind-Borne Debris Region" in Section 1609.2 is amended to read:

"WIND-BORNE DEBRIS REGION" means portions of hurricane-prone regions that are within one (1) mile (1.61 km) of the coastal mean high water line where the effective basic wind speed is 110 mph (48 m/s) or greater; or portions of hurricane-prone regions where the effective basic wind speed is 120 mph (53 m/s) or greater.

(104) Section 1609.3 is amended to read:

1609.3 Basic wind speed and topographic and directionality factors. The basic wind speed, in mph, for the determination of the wind loads shall be determined by Figure 1609. Special wind regions near mountainous terrain and valleys are accounted within the Topographic Factor defined in Section 1609.3.3 Wind speeds derived from simulation techniques shall only be used in lieu of the basic wind speeds given in Figure 1609 when:

1. Approved simulation or extreme-value statistical-analysis procedures are used (the use of regional wind speed data obtained from anemometers is not permitted to define the hurricane wind speed risk in Hawai'i); and
2. The design wind speeds resulting from the study shall not be less than the resulting 700-year return period wind speed divided by √1.6.

(105) Section 1609.3.2 is added to read:

1609.3.2 Effective basic wind speed conversion. For Section 2308.10.1, the provisions of ASCE 7 Section 6.4, and the exceptions permitted under Section 16099.1.1, the basic wind speed value used for determination of the wind loads, shall be the Effective Basic Wind Speed, V_{eff}, determined by Figure 1609.1.1.1, which adjusts the basic wind speed for special topographic wind regions.

(106) Figure 1609.1.1.1(f) is added:

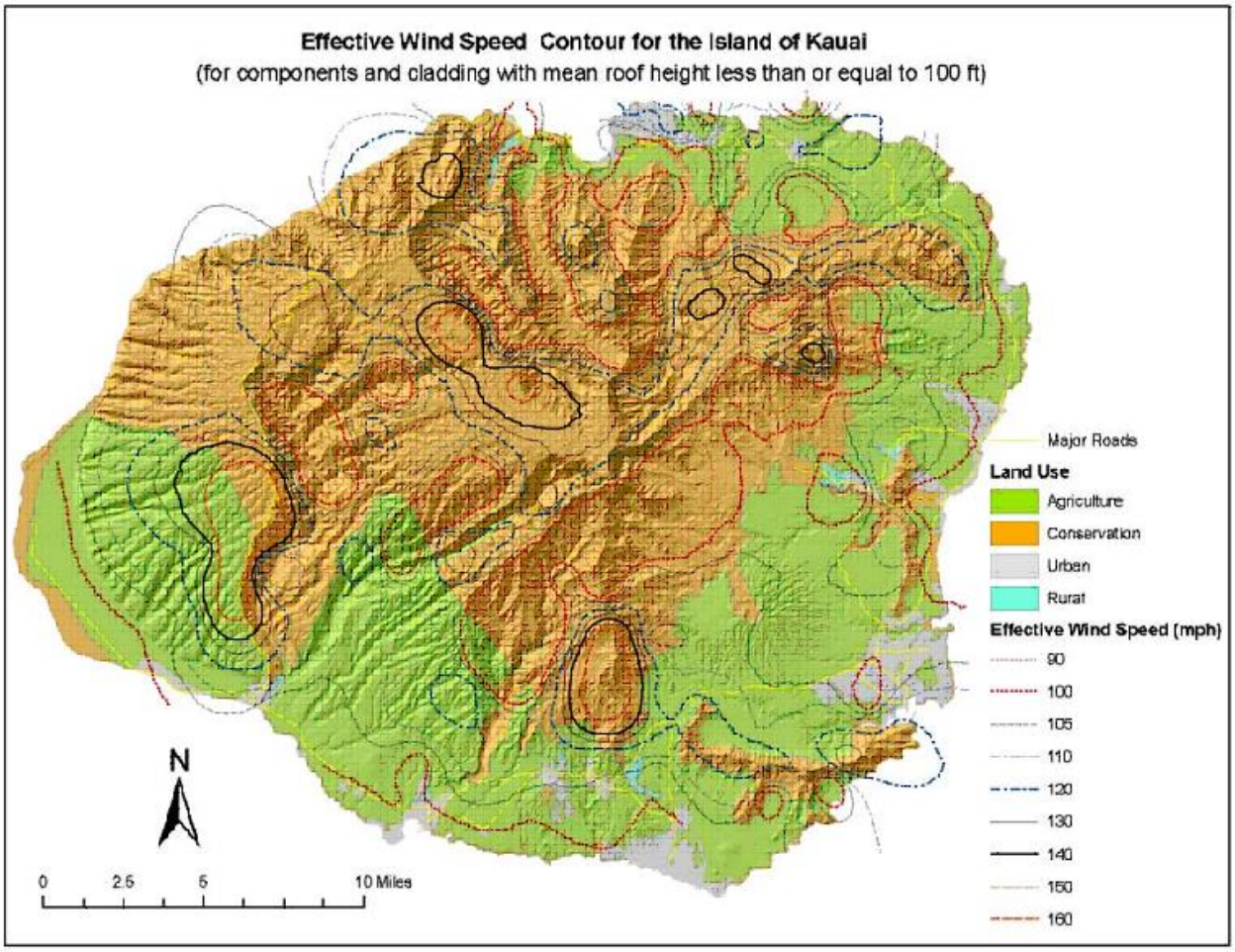


Figure 1609.1.1.1(f)

County of Kaua'i Effective Basic Wind Speed, V_{eff}, for Components and Cladding for Buildings Less than 100 Feet Tall

(107) Section 1609.3.3 is added to read:

1609.3.3 Topographic effects. Wind speed-up effects caused by topography shall be included in the calculation of wind loads by using the factor K_{zt}, where K_{zt} is given in Figure 1609.3.3(f).

Exception: Site-specific probabilistic analysis of directional K_{zt} based on wind-tunnel testing of topographic speed-up shall be permitted to be submitted for approval by the Building Official.

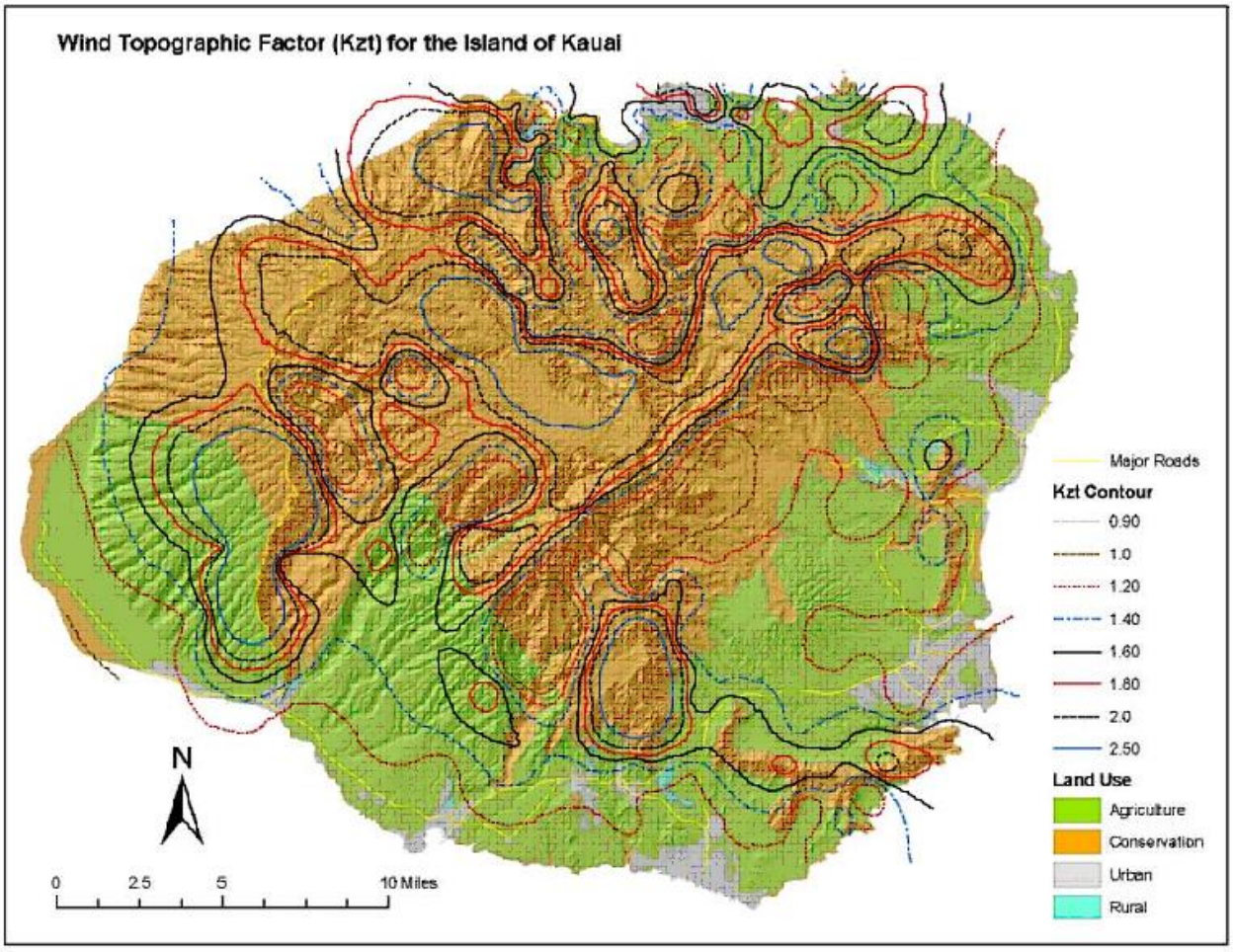


Figure 1609.3.3(f)
County of Kaua‘i Peak Gust Topographic Factor K_{zt}

(108) Section 1609.3.4 is added to read:

1609.3.4 Directionality factor. The wind directionality factor, K_d, shall be determined from Figure 1609.3.4(a)(4) and Figure 1609.3.4(b)(4).

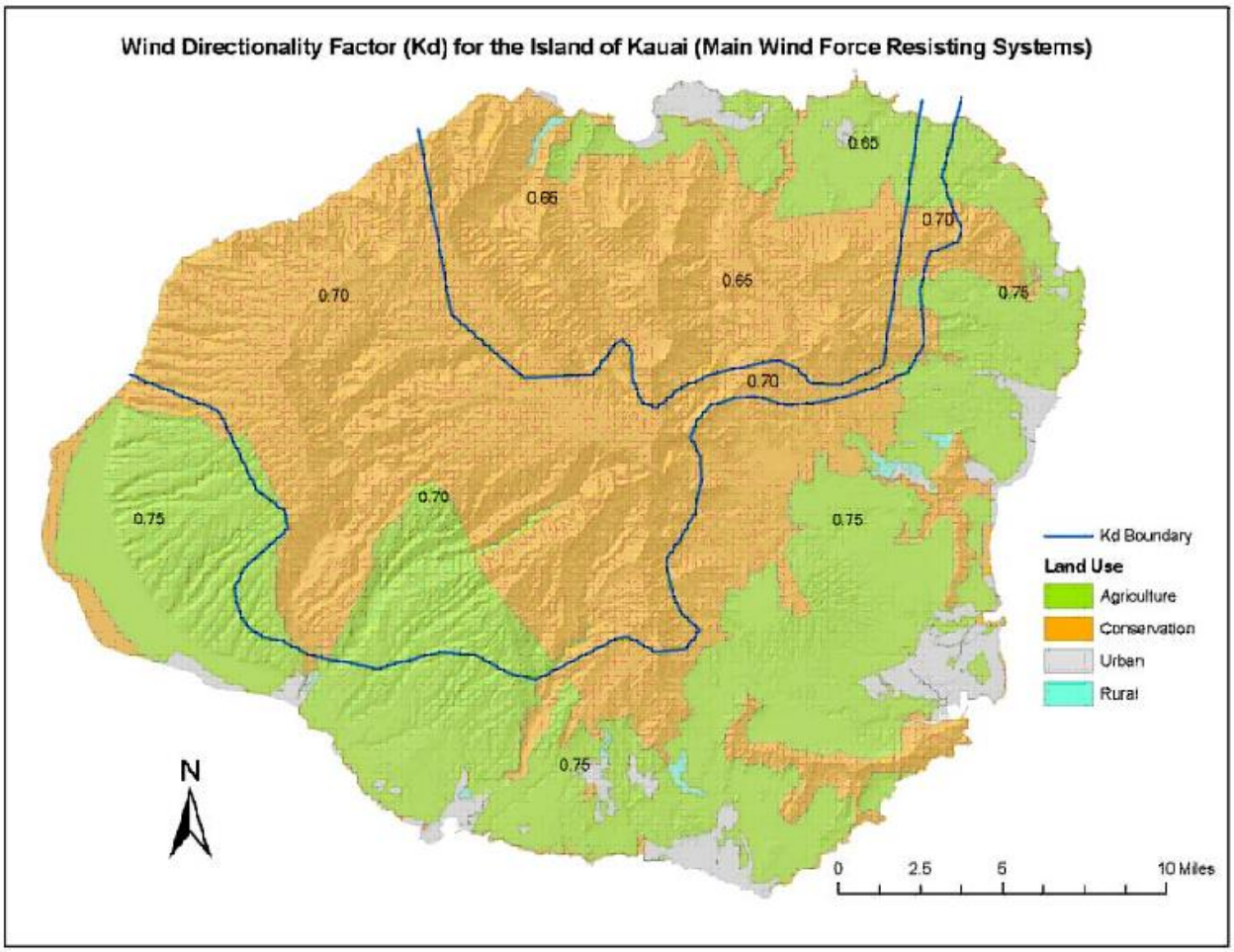


Figure 1609.3.4(a)(4)
K_d Values for Main Wind Force Resisting Systems Sited on Kaua'i County, Hawai'i [a,b]

a. The values of K_d for other non-building structures indicated in ASCE 7 Table 6-4 shall be permitted.

b. Site-specific probabilistic analysis of K_d based on wind-tunnel testing of topography and peak gust velocity profile shall be permitted to be submitted for approval by the Building Official, but K_d shall have a value not less than 0.65.

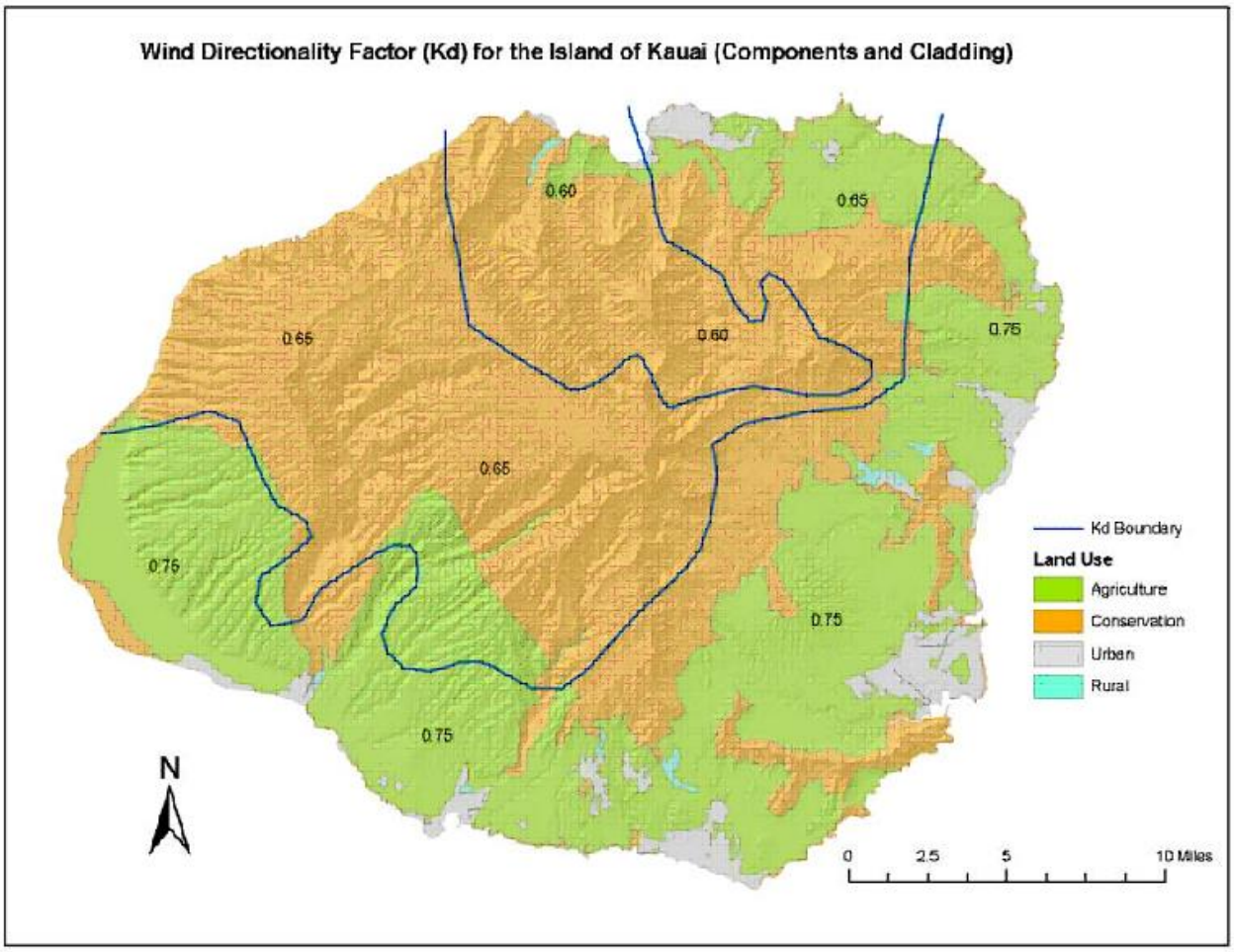


Figure 1609.3.4(b)(4)
K_d Values for Components and Cladding of Buildings Sited on Kaua'i County, Hawai'i [a,b]

a. The values of K_d for other non-building structures indicated in ASCE 7 Table 6-4 shall be permitted.

b. Site-specific probabilistic analysis of K_d based on wind-tunnel testing of topography and peak gust velocity profile shall be permitted to be submitted for approval by the Building Official, but K_d shall have a value not less than 0.65.

(109) Section 1609.4.4 is added to read:

1609.4.4 Exposure category maps. Exposure categories are permitted to be determined using Figure 1609.4.4(e).

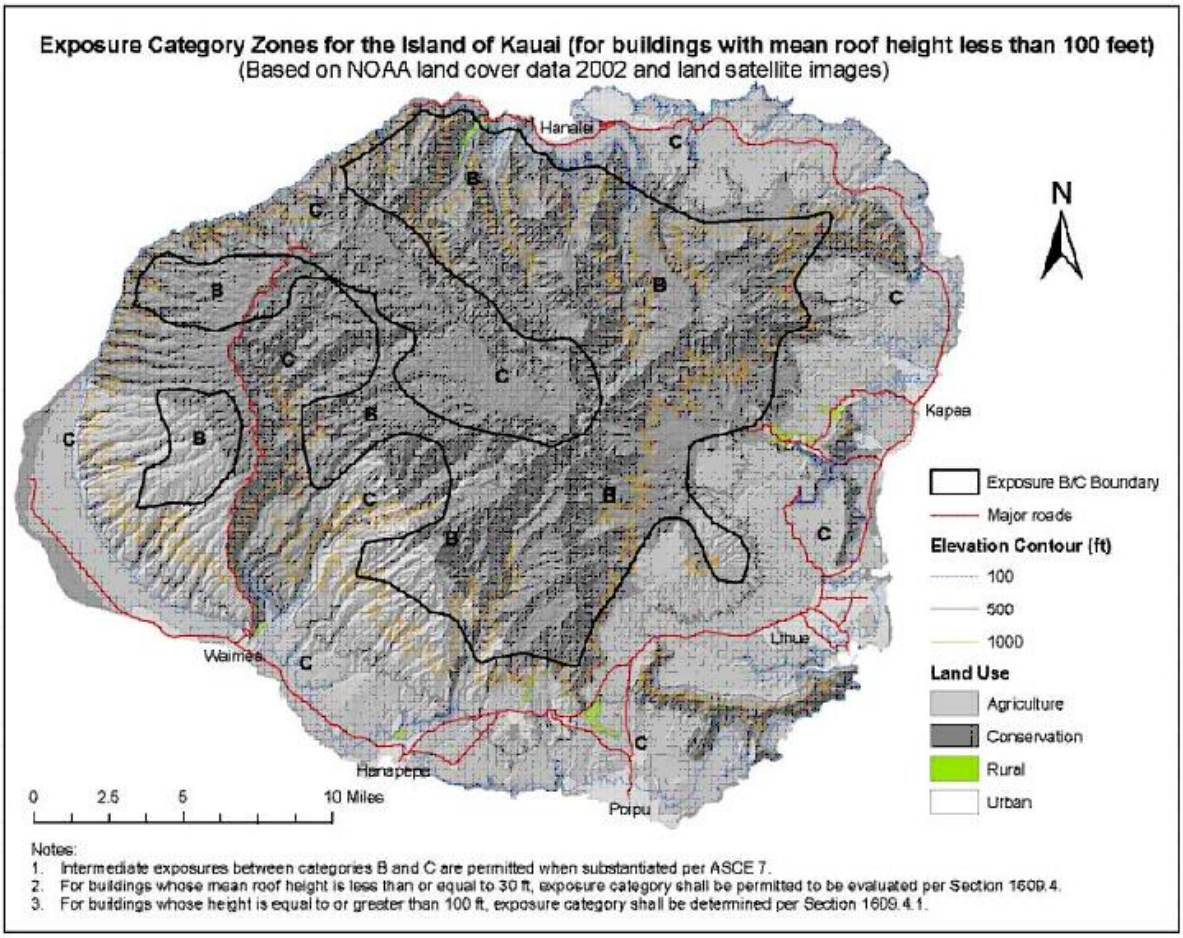


Figure 1609.4.4(e)
Exposure Category Zones for Kaua'i County

W102 Revisions to Chapter 23. When Appendix W is adopted, wood construction shall be in accordance with Chapter 23 as amended by Sections W102.1 and W102.2.

(110) Section 2308.2.1 is amended to read:

2308.2.1 Basic wind speed greater than 100 mph. Where the Effective Basic Wind Speed exceeds 100 mph, the provisions of the AF&PA WFCM, or the SBCCI SSTD 10 are permitted to be used.

(111) Table 2308.10.1 is amended to read:

Table 2308.10.1
Required Rating of Approved Uplift Connectors (pounds)[a,b,c,d,e,f,g,h,i]

Effective Basic Wind Speed	Roof Span (feet)							Overhangs (pounds/ft)[d]
V_{eff}, 3-sec gust	12	20	24	28	32	36	40	
85	-72	-120	-144	-168	-192	-216	-240	-38.55
90	-91	-152	-182	-213	-243	-274	-304	-43.22
100	-131	-218	-262	-305	-349	-392	-436	-53.36
110	-175	-292	-350	-409	-467	-526	-584	-64.56
120	-240	-400	-480	-560	-640	-720	-800	-76.83
130	-304	-506	-607	-708	-810	-911	-1012	-90.17

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 1.61 km/hr, 1 pound = 0.454 Kg, 1 pound/foot = 14.5939 N/m.

a. The uplift connection requirements are based on a 30-foot mean roof height located in Exposure B. For Exposure C and for other mean roof heights, multiply the above loads by the adjustment coefficients below.

Exposure	Mean Roof Height (feet)									
	15	20	25	30	35	40	45	50	55	60
B	1.00	1.00	1.00	1.00	1.05	1.09	1.12	1.16	1.19	1.22
C	1.21	1.29	1.35	1.40	1.45	1.49	1.53	1.56	1.59	1.62

For SI: 1 inch - 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 1.61 km/hr, 1 pound = 0.454 Kg, 1 pound/foot = 14.5939 N/m.

b. The uplift connection requirements are based on the framing being spaced 24 inches on center. Multiply by 0.67 for framing spaced 16 inches on center and multiply by 0.5 for framing spaced 12 inches on center.

c. The uplift connection requirements include an allowance for 10 pounds of dead load.

d. The uplift connection requirements do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing spaced 24 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.

e. The uplift connection requirements are based upon wind loading on end zones as defined in Figure 6-2 of ASCE 7. Connection loads for connections located a distance of 20 percent of the least horizontal dimensions of the building from the corner of the building are permitted to be reduced by multiplying the table connection value by 0.7 and multiplying the overhang load by 0.8.

f. For wall-to-wall and wall-to-foundation connections, the capacity of the uplift connector is permitted to be reduced by 100 pounds for each full wall above. (For example, if a 500-pound rated connector is used on the roof framing, a 400-pound rated connector is permitted at the next floor level down.)

g. Interpolation is permitted for intermediate values of basic wind speeds and roof spans.

h. The rated capacity of approved tie-down devices is permitted to include up to a 60-percent increase for wind effects where allowed by material specifications.

i. V_{eff} is given by Figure 1609.1.1.1.

(112) Appendix X is added to read as follows:

APPENDIX X Hawai'i Provisions For Indigenous Hawaiian Architecture Structures

Section X101 General.

X101.1 Scope. The provisions of this appendix shall apply exclusively to Indigenous Hawaiian Architecture Structures. The purpose of these provisions is to acknowledge and establish procedures for designing and constructing indigenous Hawaiian architecture structures.

X101.2 Publications incorporated by reference. The following publications are incorporated by reference and made a part of these provisions. Where there is a conflict between Appendix X and the referenced documents, Appendix X shall prevail.

1. "Hawaiian Thatched House" (1971), by Russell A. Apple, published by the United States Department of the Interior,
2. "Hale Construction Standards" (2000), by Francis Sinenci and Bill Sides,
3. "The Hawaiian Grass House in Bishop Museum" (1988), by Catherine C. Summers, and
4. "Arts and Crafts of Hawai'i," Section II, Houses (1957), by Te Rangi Hiroa (Peter H. Buck).

X101.3 Definitions. For purposes of this appendix, the following words and terms shall have the meanings shown herein. Refer to Chapter 2 for general definitions.

CERTIFIED HALE BUILDER. A person who has obtained a certificate of completion for satisfactorily completing a course in Hawaiian hale construction from the University of Hawai'i, or any of its community colleges, or as approved by the Building Official.

GROUP OF STRUCTURES. 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. A structure that is consistent with the design, construction methods and uses of structures built by Hawaiians in the 1800s, which uses natural materials found in the Hawaiian islands, and complies with this appendix and references.

SEPARATION. The clear distance between two structures.

SETBACK. The clear distance between a structure and a property line.

Section X201 Material requirements.

X201.1 Hale materials. Hale shall be constructed using only materials grown and harvested in the State of Hawai'i.

X201.2 Wood framing material. The wood members for the hale, such as posts and rafters, shall be, but not limited to hardwoods of unmilled, straight sections of trunks or branches of the following species:

1. Casaurina equisitafolia (ironwood).
2. Prosopis-allid (kiawe).

3. Eucalyptus robusta (eucalyptus).
4. Psidium cattleianum (strawberry guava).
5. Metrosideros polymorpha (ohia).
6. Rizophora mangle (mangrove).

Exception: Ardisia elliptica (inkberry) may be used only for roof purlins as an alternative to specified woods listed in Items 1 through 6.

X201.3 Roofing and siding. Thatched roofing and siding materials for the hale may be any grass or leaf material grown and harvested in the State of Hawai‘i, to include but not be limited to pili, kualohia, pueo, kawelu, sugarcane leaves, and ti leaves.

X201.4 Cord. 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.

X201.5 Metal prohibited. Metal shall not be used for the construction of the hale.

Section X202 Size and location.

X202.1 Height and size limitation. Hale shall be one-story, detached structure not exceeding 1,800 square feet. Hale shall not exceed the size indicated in Table X202.1.

Table X202.1
Maximum Size of Hale (feet)

Hale Halawai	Hale Ku‘ai	Hale Noa	Hale Wa‘a
30 X 60	14 X 20	14 X 24	30 X 60

X202.2 Zoning requirements. Hale shall comply with minimum yard requirements in the zoning codes.

X202.3 Minimum separation. 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.

X202.4 Hale Noa. Hale noa structures may only be constructed on property where a separate residence exists on the property.

Section X203 Allowable and prohibited uses.

X203.1 Allowable uses. To the extent permitted by other applicable law, allowable uses for hale structures shall be in accordance with Table X203.1.

Table X203.1
Allowable Use for Each Hale Type

Use	Hale Halawai	Hale Ku‘ai	Hale Noa	Hale Wa‘a
Eating (ai)	Allowed	Allowed	Not permitted	Allowed
Assembling (halawai)	Allowed	Allowed	Not permitted	Allowed
Sleeping (moe)	Not permitted	Not permitted	Allowed	Not permitted
Retailing (e.g., fruits) (ku‘ai)	Allowed	Allowed	Not permitted	Allowed

Storage (papa'a)	Not permitted	Allowed	Not permitted	Allowed

X203.2 Prohibited uses and activities. The following uses and activities shall be prohibited from occurring within 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.
8. No screen, mesh, plastic or any other similar material shall be attached to the hale.
9. Hale shall not be used as a food establishment as defined in the administrative rules adopted by the state department of health.

X203.3 Maintenance. The hale shall be maintained by the owner to ensure structural integrity. Repairs for maintenance of the hale shall not require additional building permits.

Section X301 Fire protection.

X301.1 Fire protection classifications. Fire protection for Indigenous Hawaiian architecture structures shall be as required in Table X301.1.

Table X301.1
Fire Protection Requirements Based on Setback

Class	Setback Requirements	Fire Protection Requirements
A	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.	No fire protection is required for the structure.
B	The structure (or a group of structures) that conforms to applicable zoning setback requirements but does not satisfy Class A setback requirements.	Automatic fire sprinkler system shall be installed in accordance with design standards in Section X301.2. An electrical permit is required for fire sprinkler systems.

X301.2 Automatic fire sprinklers. The design standards for automatic fire sprinklers for Class B indigenous Hawaiian architecture structures shall be in accordance with NFPA 13.

Exception: The design standards for automatic fire sprinklers for Class B indigenous Hawaiian architecture structures shall be permitted 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 head 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 quantity shown in Table X301.2(a).

Table X301.2(a)
Total Number of Fire Sprinklers Based on Pipe Size

Piping Size	Number of Sprinklers
1 inch diameter	2 sprinklers
1¼ inch diameter	3 sprinklers
1½ inch diameter	5 sprinklers
2 inch diameter	10 sprinklers
2½ inch diameter	30 sprinklers
3 inch diameter	60 sprinklers

9. The pipe schedule table in Item 8 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 sprinklers shall not exceed the number shown in Table X301.2(b).

Table X301.2(b)
Total Number of Fire Sprinklers Based on Water Meter Size

Size of Water Meter	Number of Sprinklers
⅝ inch water meter	1 sprinkler

¾ inch water meter	2 sprinklers
1 inch water meter	3 sprinklers
1½ inch water meter	7 sprinklers
2 inch water meter	11 sprinklers
3 inch water meter	27 sprinklers

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.
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.

X301.3 Certification of water supply. For any hale that requires fire protection pursuant to X301.1, the applicant shall provide a certification from a licensed 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.

X302 Smoke alarm. Any hale used for sleeping shall have an approved battery operated smoke alarm installed in the hale.

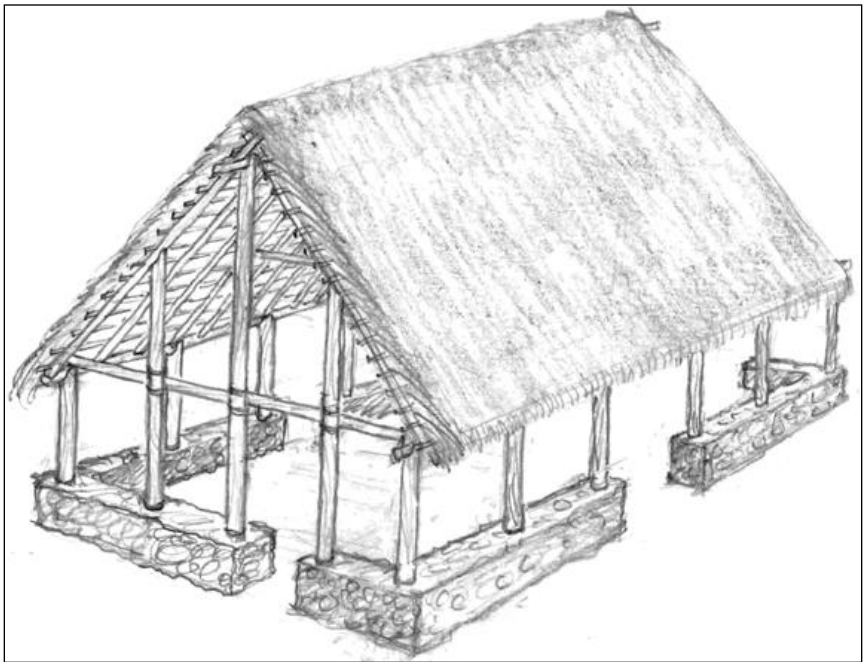
Section X401 Design standards.

X401.1 General design standards. All types of hale shall be designed and constructed in accordance with the standards set out in this Section.

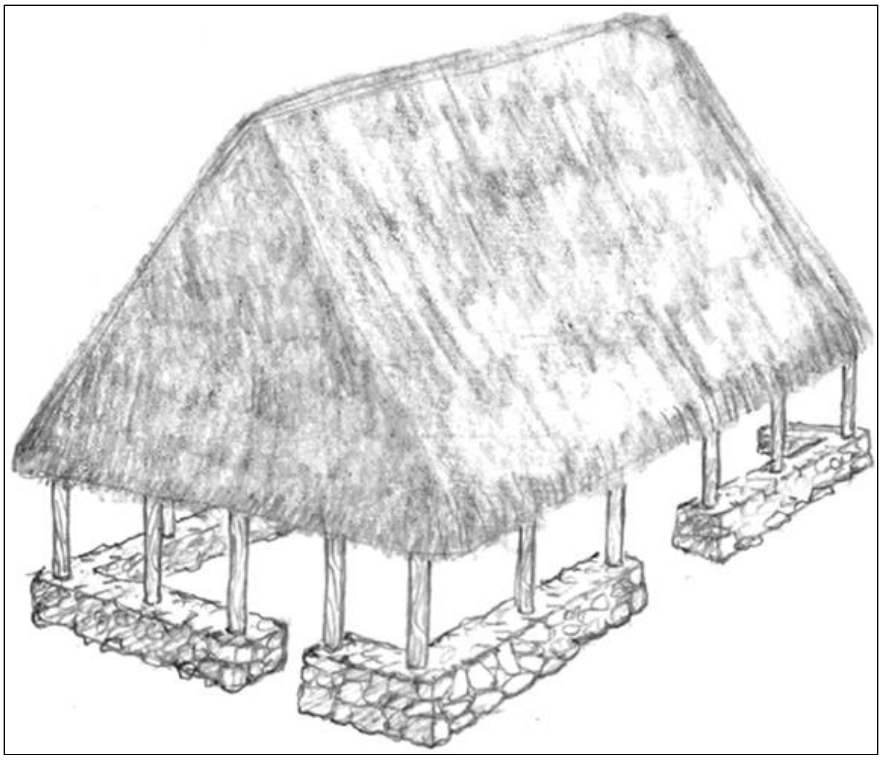
1. The minimum diameter size of all structural members shall be measured at the member's midpoint, except that the minimum diameter size of posts shall be measured at the smaller end. For structure sizes not specifically shown in the tables, the requirements in the next larger width size shall be applicable.
2. The specifications for structural members were estimated based on 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.
5. Lashing and thatching methods shall comply with illustrations found in "Arts and Crafts of Hawai'i" or "The Hawaiian Grass House in Bishop Museum" referenced in Section X101.2.

X402 Allowable designs. Hale shall be designed and constructed in accordance with the requirements in Sections 402.1 through 402.4.

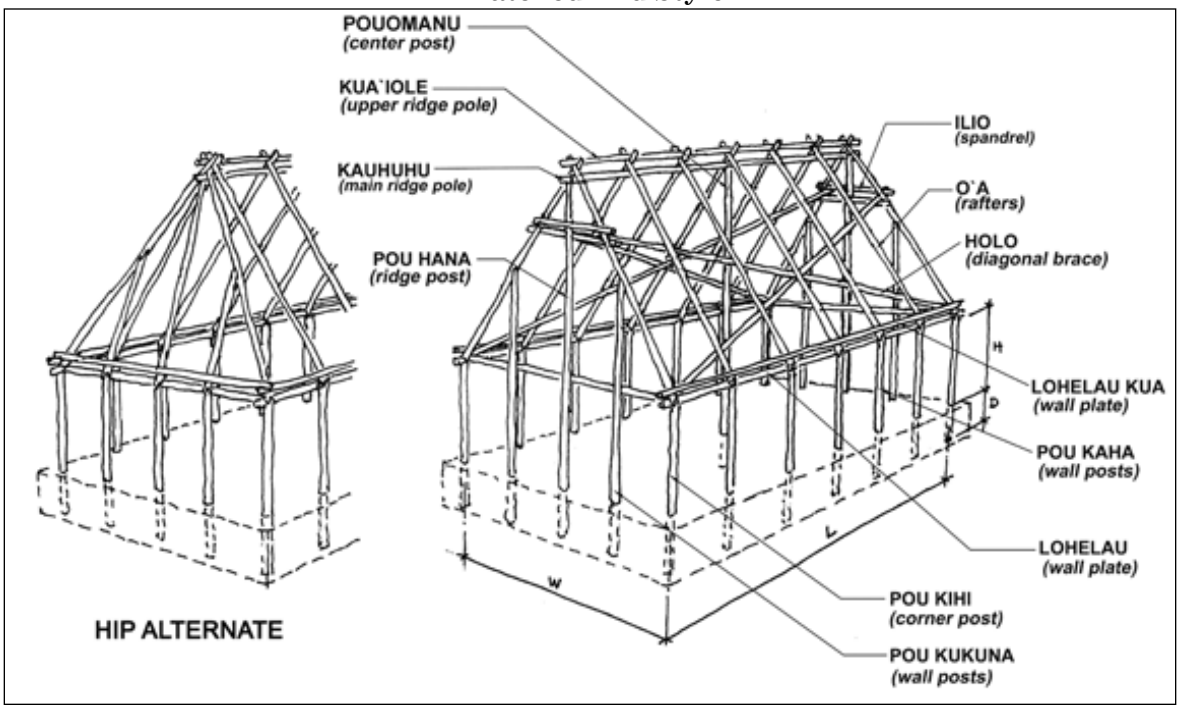
X402.1 Hale Halawai. Each end of the Hale Halawai may be open or thatched. The ends may also be constructed with a thatched roof hip as an alternate design. Hale Halawai shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Halawai shall meet the size and spacing requirements in Table X402.1(a). Foundations for Hale Halawai shall be designed in accordance with Table X402.1(b).



HALE HALAWAI
Open End Style



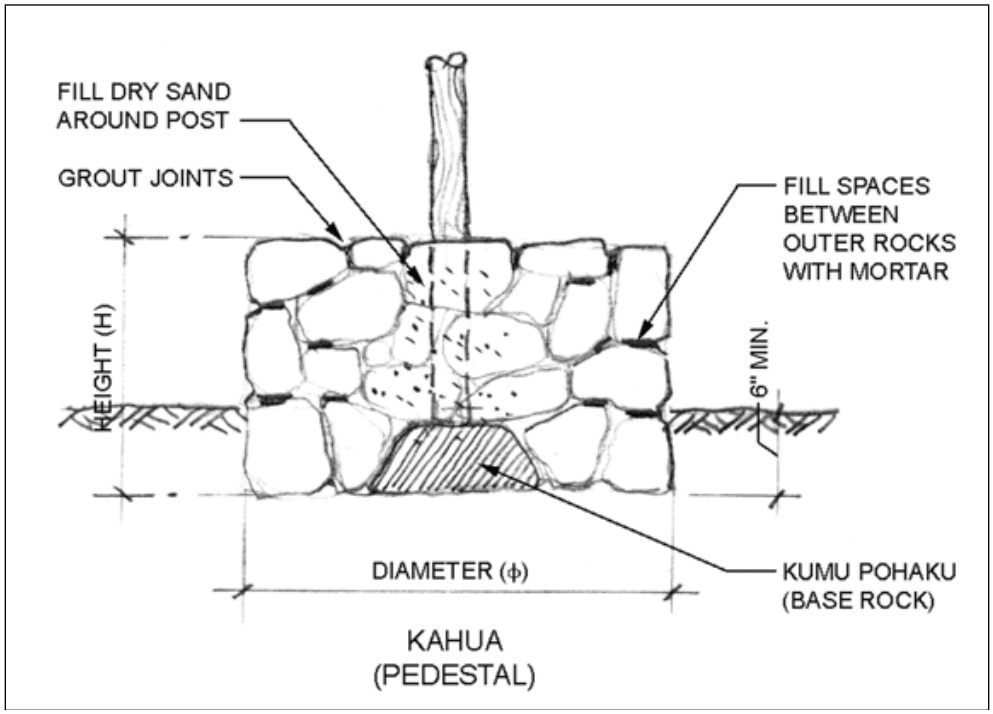
HALE HALAWAI
Thatched End Style

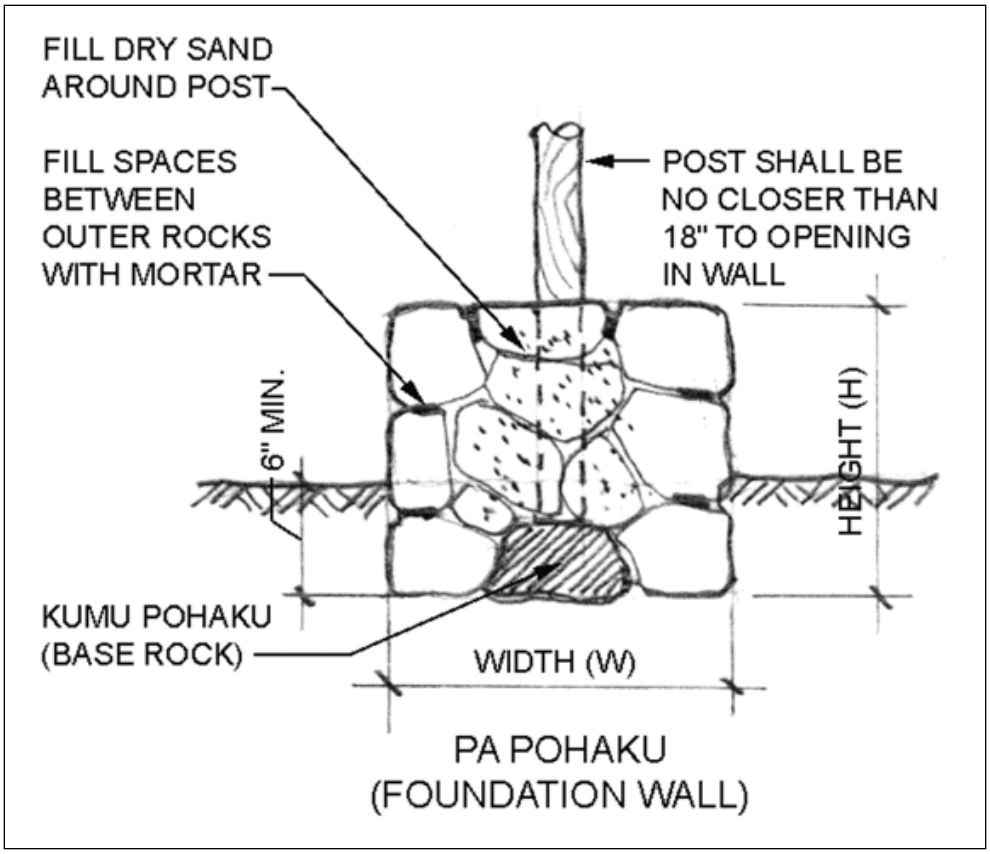


Framing Schematic

Table X402.1(a)
Size and Spacing Requirements for Structural Components Used in Hale Halawai

	pou kihi	pou kukuna & pou kaha	pou hana & pouomanu	oʻa	kuaʻiole & holo	kauhuhu	lohelau	Max. post spacing (feet)	Max. rafter spacing (feet)
Size W x L x H	**Minimum diameter (inches)**								
12′ x 20′ x 7′	4	3½	4	3½	2½	3	3	5	3
14′ x 24′ x 7′	4	4	4½	3½	2½	3	3½	5	3
24′ x 30′ x 7′	5	4½	4½	4	2½	3	3½	5	3
25′ x 50′ x 7′	5½	5	5½	4	2½	3	3½	5	3
30′ x 60′ x 7′	6	5½	6	4½	2½	3	4	5	3




FILL DRY SAND
AROUND POST
FILL SPACES
BETWEEN
OUTER ROCKS
WITH MORTAR
POST SHALL BE
NO CLOSER THAN
18" TO OPENING
IN WALL
6" MIN.
HEIGHT (H)
KUMU POHAKU
(BASE ROCK)
WIDTH (W)
PA POHAKU
(FOUNDATION WALL)

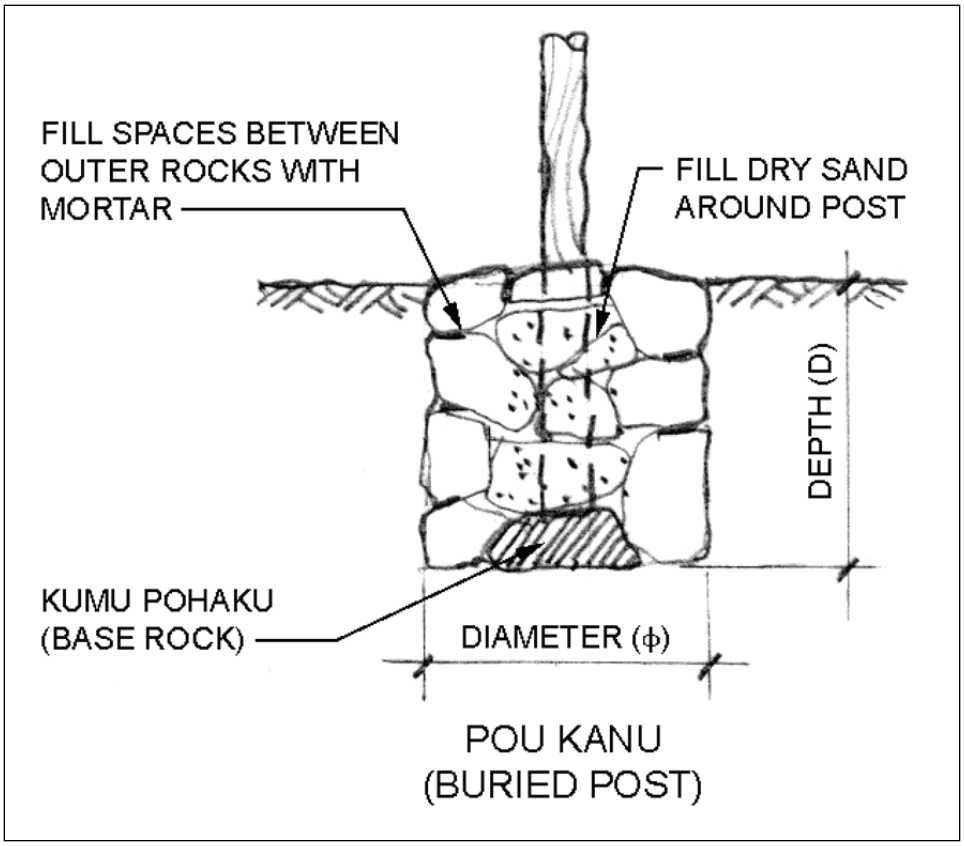
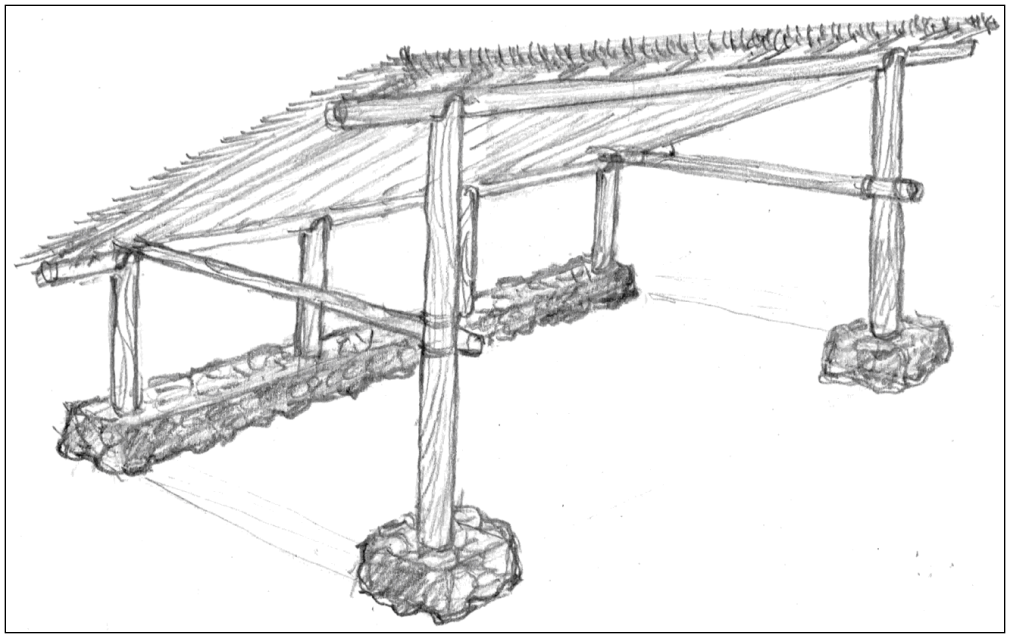


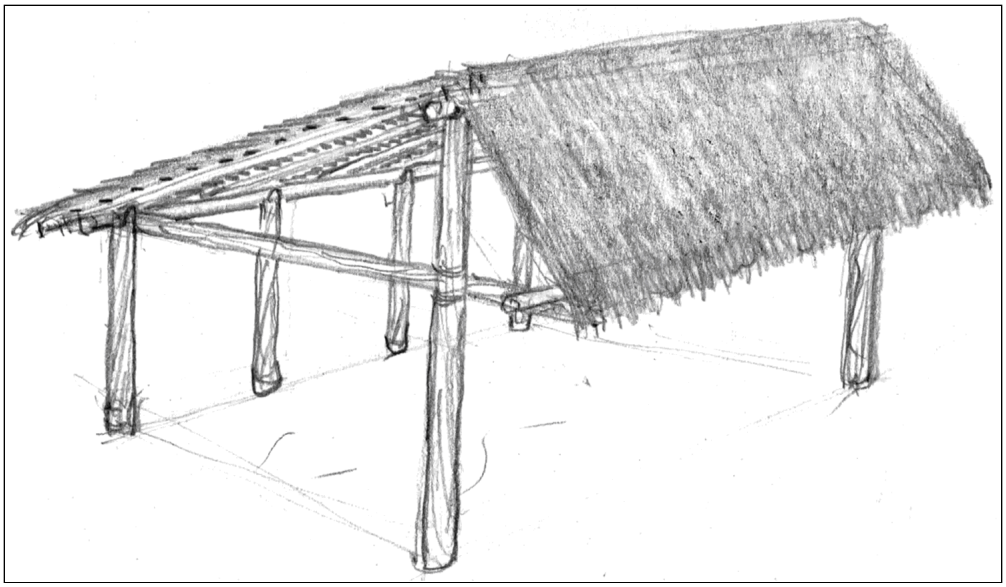
Table X402.1(b)
Foundation Design for Hale Halawai

Size (W x L x H)	**Foundation Type**		
	kahua	**pa pohaku**	**pou kanu**
	Diameter x Height	Width x Height x Length	Diameter x Depth
12′ x 20′ x 7′	3′6″φ x 24″H	2′6″W x 2′8″H x 4′0″L	30″φ x 2′8″D
14′ x 24′ x 7′	3′8″φ x 24″H	2′6″W x 2′8″H x 4′0″L	30″φ x 2′9″D
24′ x 30′ x 7′	4′0″φ x 30″H	3′0″W x 3′0″H x 4′0″L	36″φ x 3′0″D
25′ x 50′ x 7′	4′0″φ x 30″H	3′0″W x 3′0″H x 4′0″L	36″φ x 3′0″D
30′ x 60′ x 7′	4′0″φ x 30″H	3′0″W x 3′3″H x 4′0″L	36″φ x 3′3″D

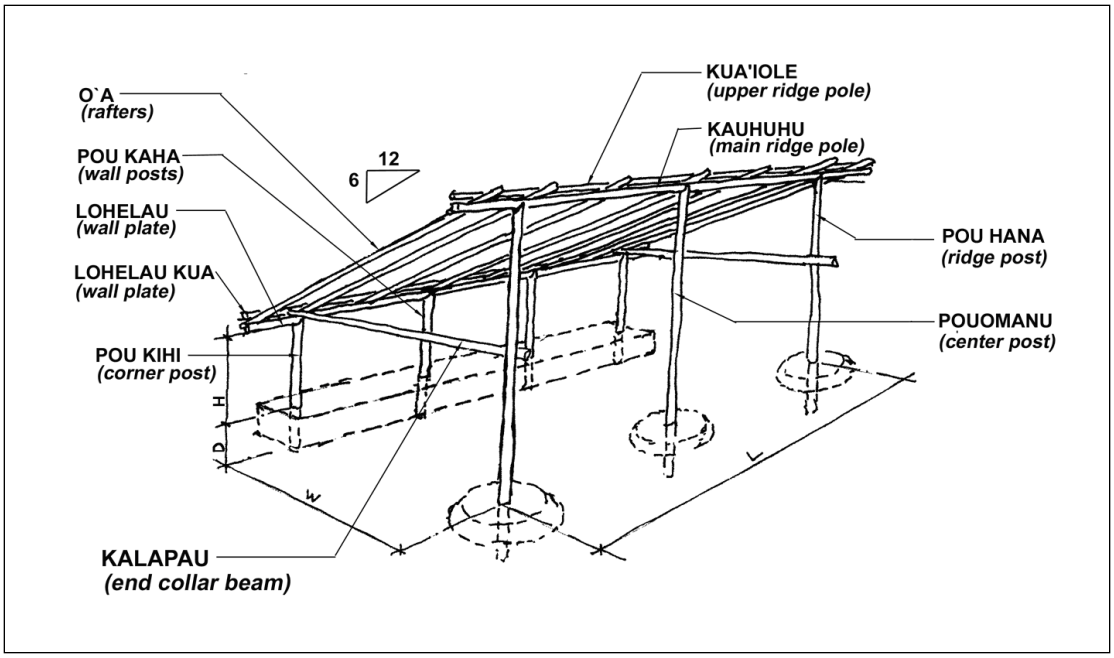
X402.2 Hale Ku‘ai. Hale Ku‘ai shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Ku‘ai shall meet the size and spacing requirements in Table X402.2(a). Foundations for Hale Ku‘ai shall be designed in accordance with Table X402.2(b).



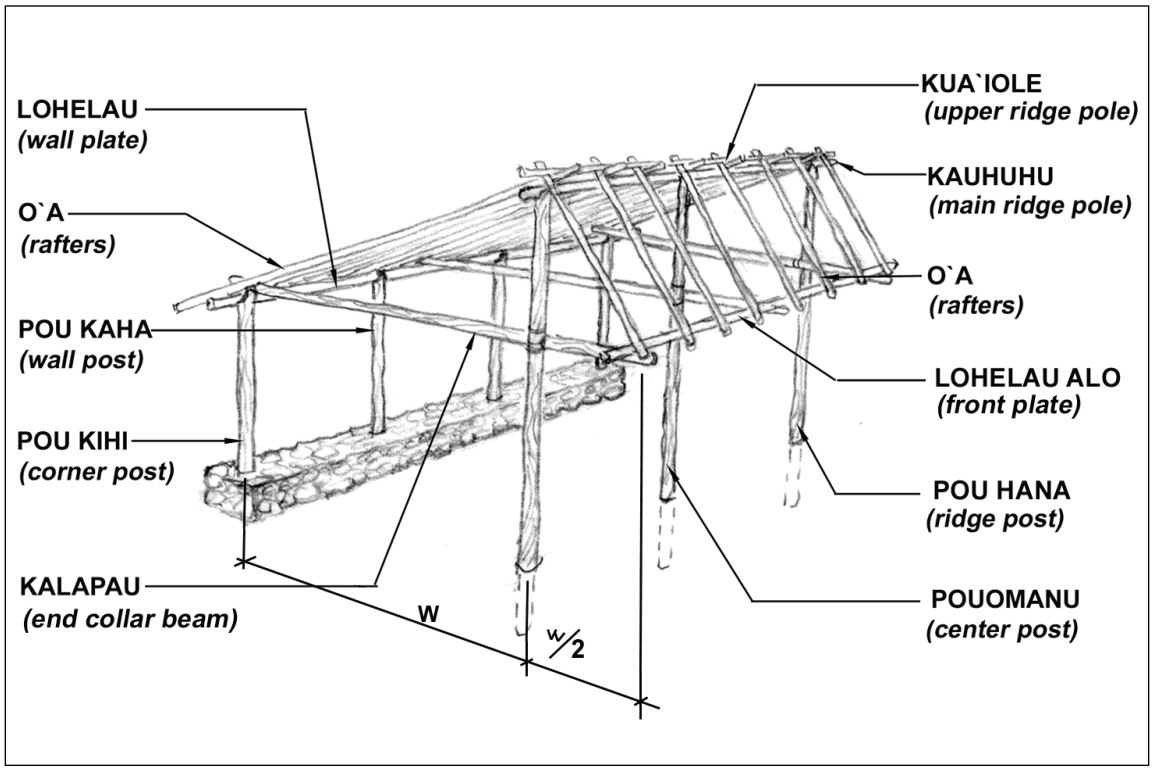
HALE KU‘AI
Shed Style



HALE KU‘AI
Gable Style



Framing Schematic 1

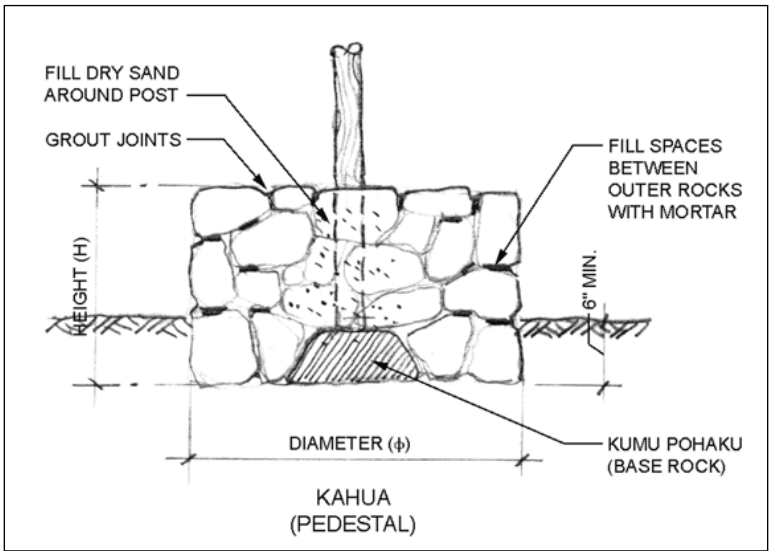


Framing Schematic 2

Table X402.2(a)
Size and Spacing Requirements for Structural Components used in Hale Kuʻai

Size	pou kihi[a]	pou kaha[a]	pou hana[b]	pouo manu[b]	oʻa	kuaʻiole & holo	kauhuhu	lohelau	Max. rafter spacing (feet)
(W x L x H)	Minimum Diameter (inches)								
5′ x 10′ x 5′	4	3	3	4	3	2	3	2	4
9′ x 12′ x 5′	4	3	3	4	3	2	3½	2	4
12′ x 16′ x 5′	4½	3½	4	4	3½	2	4	2½	4
14′ x 20′ x 5′	4½	3½	4	4	3½	2½	4½	2½	4

a The maximum post spacing for pou kihi and pou kaha is five feet.
b The maximum post spacing for pou hana and pouomanu is twelve feet.



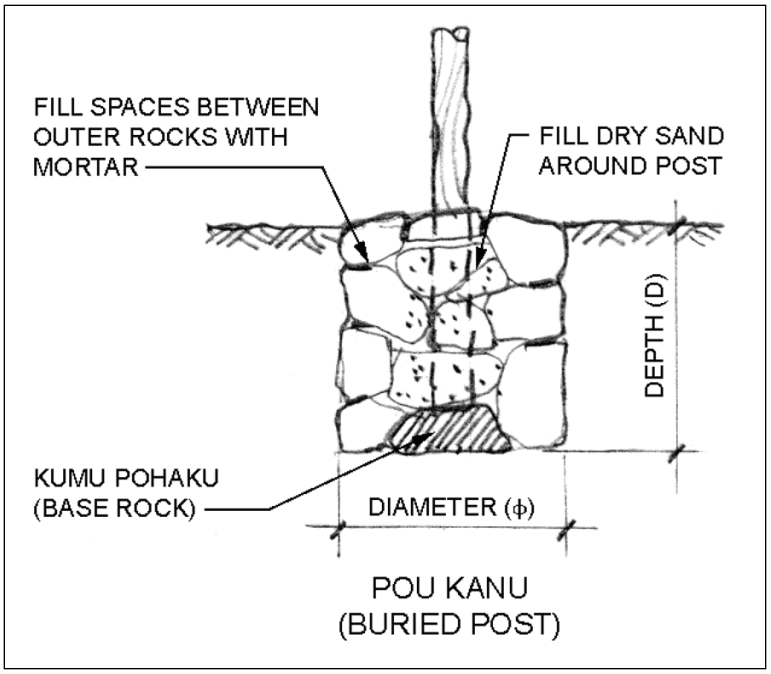
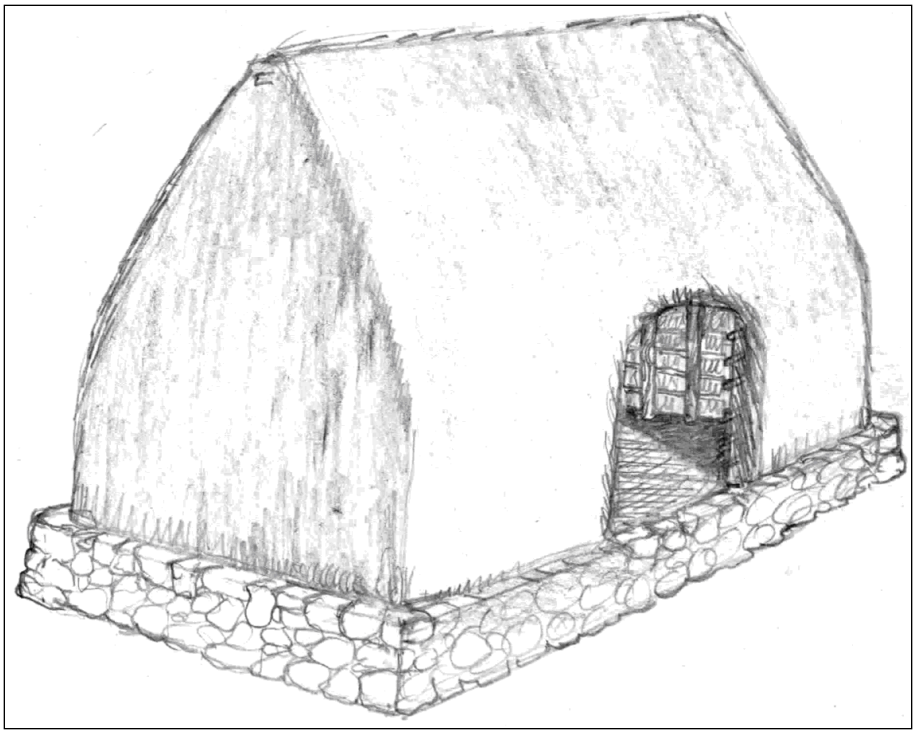


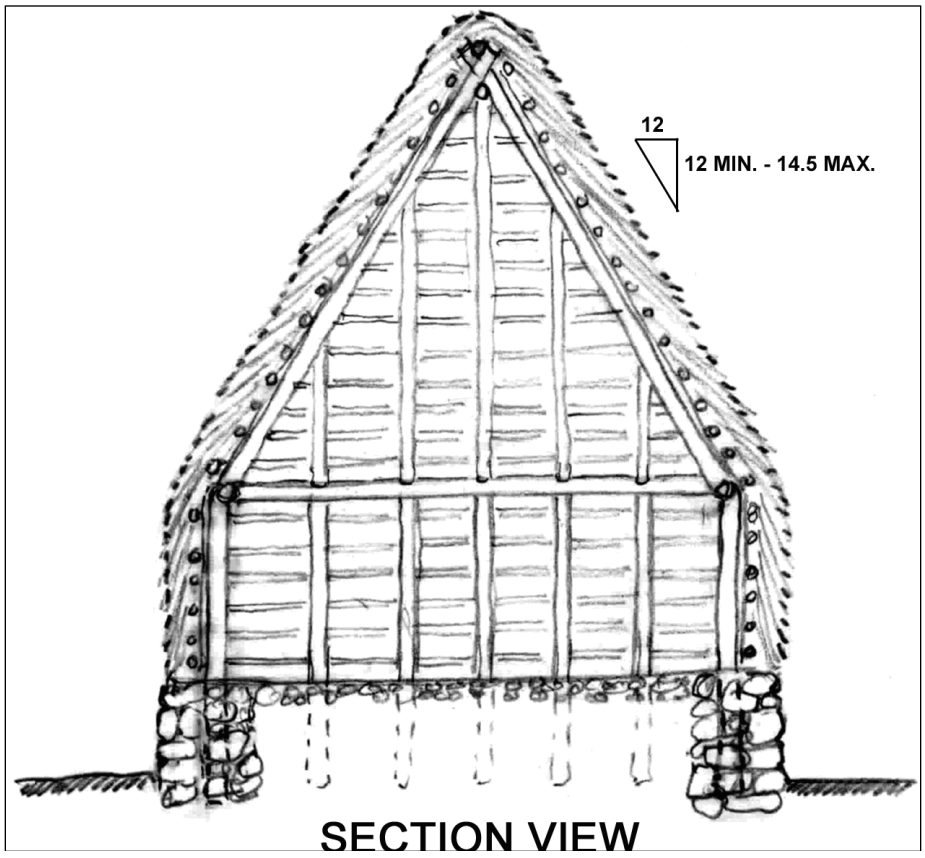
Table X402.2(b)
Foundation Design for Hale Ku'ai

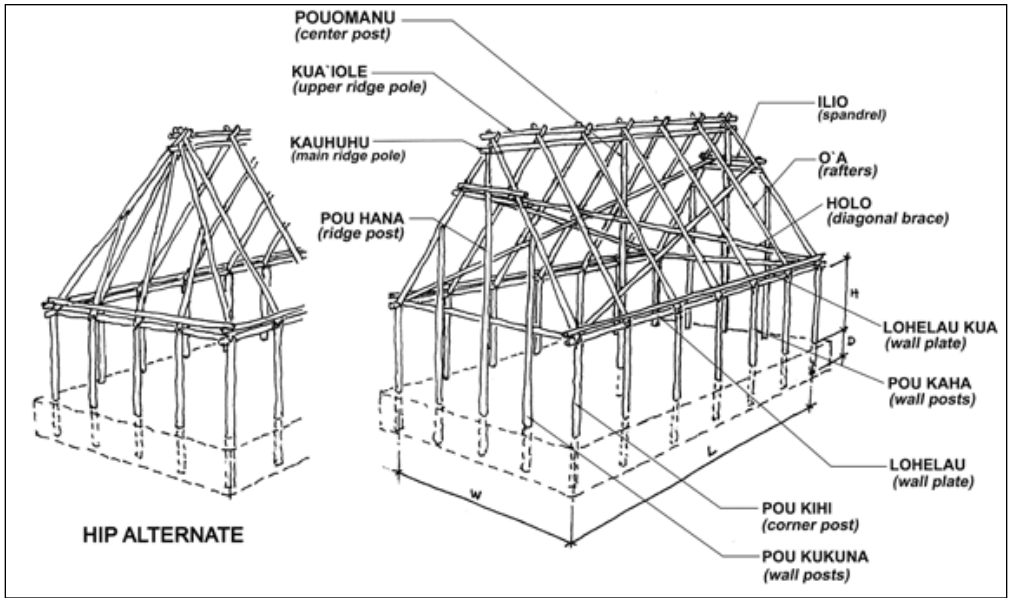
Size (W x L x H)	**Foundation Type**		
	kahua	**pa pohaku**	**pou kanu**
	Diameter x Height	Width x Height x Length	Diameter x Depth
5′ x 10′ x 5′	3′0″φ x 24″H	2′6″W x 2′0″H x 4′0″L	30″φ x 2′6″D
9′ x 12′ x 5′	3′4″φ x 24″H	2′6″W x 2′0″H x 4′0″L	30″φ x 2′6″D
12′ x 16′ x 5′	3′6″φ x 24″H	2′6″W x 2′8″H x 4′0″L	30″φ x 2′8″D
14′ x 20′ x 5′	3′8″φ x 24″H	2′6″W x 2′8″H x 4′0″L	30″φ x 2′9″D

402.3 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 shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Noa shall meet the size and spacing requirements in Table X402.3(a). Foundations for Hale Noa shall be designed in accordance with Table X402.3(b).



HALE NOA

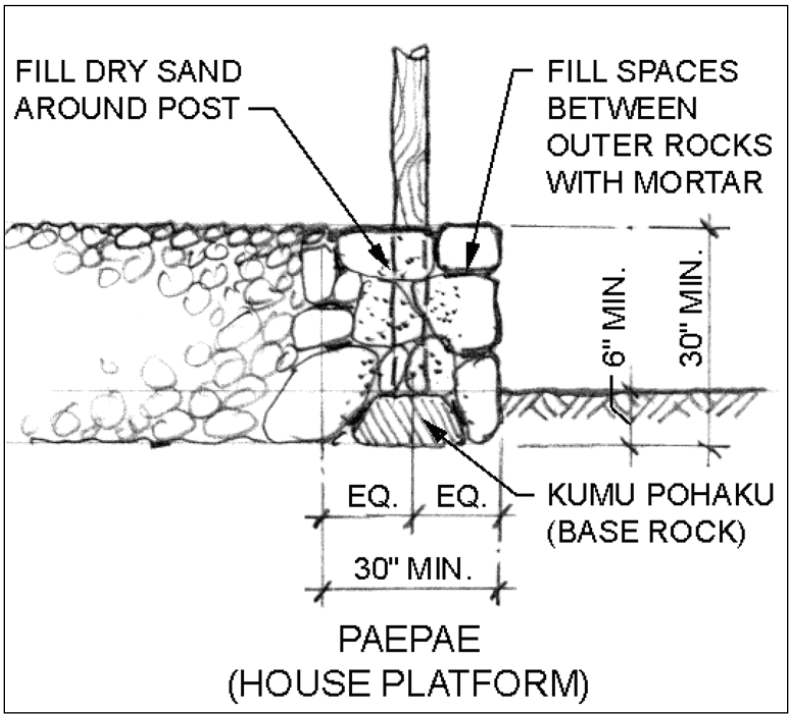




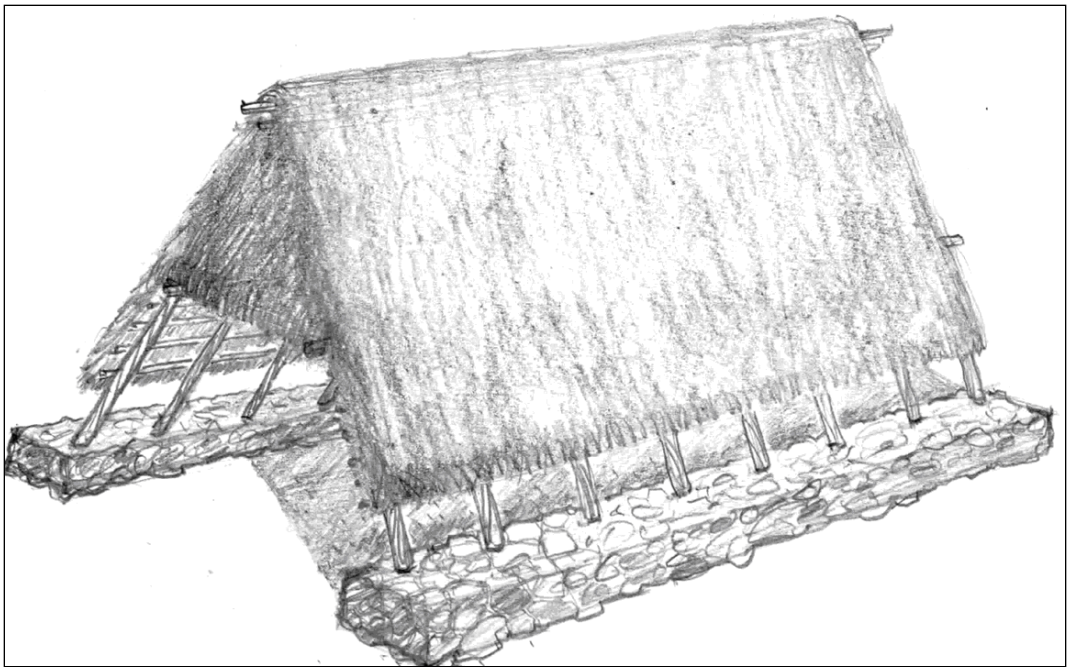
Framing Schematic

Table X402.3(a)
Size and Spacing Requirements for Structural Components Used in Hale Noa

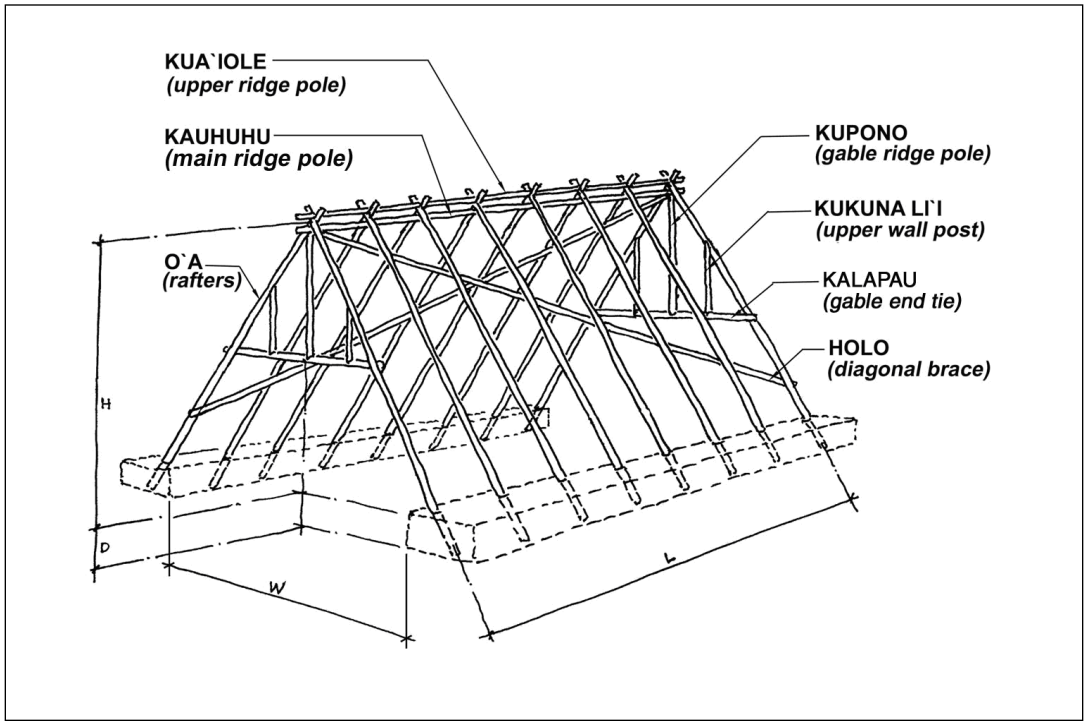
Size	pou kihi	pou kukuna & pou kaha	pou hana	pouoma nu	oʻa	kuaʻiole & holo	kauhuh u	lohelau	Max. post spacing (feet)	Max. rafter spacing (feet)
W x L x H	Minimum Diameter (inches)									
9′ x 12′ x 7′	3½	3	4	3	3	2½	3½	2½	6	4
12′ x 20′ x 7′	4	4½	4	3	3½	2½	3½	2½	6	4
4′ x 24′ x 7′	5½	4½	4	3	3½	2½	3½	3	6	4



402.4 Hale Waʻa. Hale Waʻa shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Waʻa shall meet the size and spacing requirements in Table X402.4.



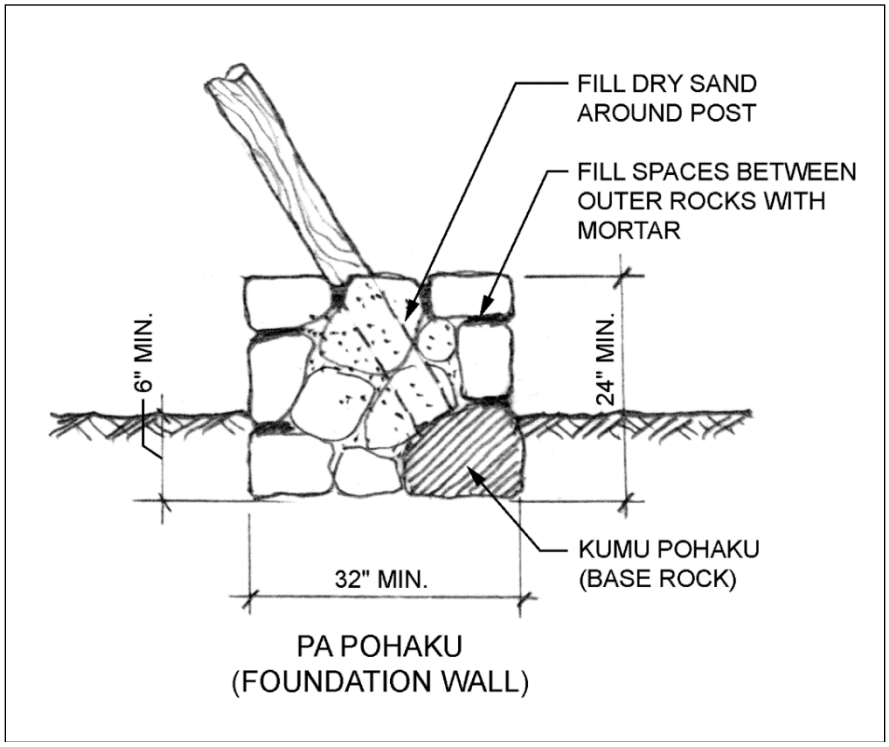
HALE WAʻA



Framing Schematic

Table X402.4
Size and Spacing Requirements for Structural Components Used in Hale Waʻa

Size (W x L)	oʻa	kuaʻiole & holo	kauhuhu	Spacing between Rafters	Min. Ridge Height (H)
20′ x 60′	4″	3″	4″	4′ to 5′	22½′
25′ x 60′	5″	3″	4″	4′ to 5′	27½′
30′ x 60′	5½″	3″	4″	4′ to 5′	27½′



(Ord. No. 929, May 23, 2012)

- **Sec. 12-2.3 Amendments to the International Residential Code for One- and Two-Family Dwellings.**

The International Residential Code for One- and Two-Family Dwellings, 2006 Edition, is amended as follows:

(1) Section R101.1 is amended to read:

R101.1 Title. These provisions shall be part of the Building Code of the County of Kauaʻi, and will be referred to herein as "this code."

(2) Section R102.4 is amended by revising to read as follows:

R102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered guidelines of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

R102.4.1 Conflicts with other codes. If a referenced code conflicts with another applicable law of the jurisdiction, then said applicable law shall prevail over the guidelines in the referenced code.

(3) Section R102.7 is amended by revising to read as follows:

R102.7 Existing structures. Buildings in existence at the time of the adoption of this code may have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a hazard to the general safety and welfare of the occupant and the public.

(4) Section R103 is amended to read:

SECTION R103 - ORGANIZATION AND ENFORCEMENT

R103.1 General. Code enforcement agency shall be in accordance with International Building Code Section 103.

(5) Section R104.10.1 is deleted.

(6) Section R105 is amended to read:

SECTION R105 - PERMITS

R105.1 General. A building permit is required to perform work covered by this code as provided in Chapter 12, Kauaʻi County Code 1987, as amended.

(7) Sections R106, R107 and R108 are deleted in their entirety.

(8) Section R109 is amended to read:

SECTION R109 - INSPECTIONS

R109.1 General. Inspections shall be in accordance with International Building Code Section 109.

(9) Section R110 is amended to read:

SECTION R110 - CERTIFICATE OF OCCUPANCY

R110.1 General. Certificate of Occupancy shall be in accordance with the International Building Code, Section 110.

(10) Section R112 is amended to read:

SECTION R112 - BOARD OF APPEALS

R112.1 General. Board of Appeals shall be in accordance with International Building Code Section 112.

(11) Section R113 is amended to read:

SECTION R113 - VIOLATIONS AND PENALTIES

R113.1 General. Violations and penalties shall be in accordance with International Building Code Section 113.

(12) Section R202 is amended to read:

(a) The following paragraph is added before the definition of "ATTIC":

ASSISTANTS. When the term "assistants" is used in this code, it shall be construed to mean the authorized representatives of the Building Official.

(b) The following paragraph is added before the definition of "BACKFLOW, DRAINAGE":

AUTHORIZED REPRESENTATIVES. When the term "Authorized Representatives" is used in this Code, it shall be construed to mean all building plans examiners, building inspectors and their supervisors designated as subordinate officers to the Building Official in enforcement of this Code.

(c) By amending the definition of "BUILDING, EXISTING" to read:

BUILDING, EXISTING is a building for which legal building permits has been issued, or one which complied with the Building Code in effect at the time the building was erected.

(d) By amending the definition of "BUILDING OFFICIAL" to read:

BUILDING OFFICIAL shall mean the County Engineer or his authorized representative.

(e) The following paragraphs added before the definition of "CEILING HEIGHT":

CARPORT is private garages, which is at least 100 percent open on one side and with 50 percent net openings on another side or which is provided with an equivalent of such openings on two or more sides.

A private garage which is 100 percent open on one side and 25 percent open on another side with the latter opening so located to provide adequate cross ventilation may be considered a carport when approved by the Building Official.

(f) The following paragraph added before the definition of "FENESTRATION":

FAMILY shall be as defined in the Comprehensive Zoning Ordinance of the County except that an adult residential care home, a special treatment facility, or other similar facility shall be limited to five persons in order to be considered under this code.

(g) The following paragraph added before the definition of "HORIZONTAL BRANCH, DRAINAGE":

HISTORICAL BUILDINGS are buildings officially listed on the State of Hawai‘i or National Register of Historical Places.

(h) By amending the definition of "KITCHEN" to read:

KITCHEN shall be as defined in the Comprehensive Zoning Ordinance.

(i) By amending the definition of "PERSON" to read:

PERSON. Any individual, firm partnership, association, corporation or utility company; shall include each and every owner of any whole or fractional interest in the property concerned, whether in fee, any lesser freehold or tenancy at will.

(j) By amending the definition of "Wind-Borne Debris Region" to read:

WIND-BORNE DEBRIS REGION. Portions of hurricane-prone regions that are within one (1) mile (1.61 km) of the coastal mean high water line where the effective basic wind speed is 110 mph (48 m/s) or greater; or portions of hurricane-prone regions where the effective basic wind speed is 120 mph (53 m/s) or greater.

(13) Section R301.2 is amended to read:

R301.2 Climatic and Geographic Design Criteria. Wind, seismic, and flood hazard design criteria shall be in accordance with the International Building Code.

(14) Section R301.2.1 is added to Chapter 3 to read as follows:

SECTION R301.1.2.1 COMPLETE LOAD PATH AND UPLIFT TIES

R301.1.2.1 General. Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be designed and installed to provide continuous ties from the roof to the foundation system. Sheet metal clamps, ties or clips, shall be formed of galvanized steel or other approved corrosion-resistant material not less than 0.040 inch (1.01 mm) nominal thickness. Uplift resistance shall be in accordance with Table R802.11.

(15) Section R309.5 is amended to read:

R309.5 Flood Hazard Areas. See Chapter 15, Article 1, Floodplain Management, K.C.C., 1987 as amended.

(16) Section R310.1.1 is amended by amending the exception to read:

Exceptions:

1. Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465m^2).
2. Glass jalousie bladed windows may be used for emergency escape or rescue.

(17) Section R319 is amended to read:

SECTION R319 - PROTECTION AGAINST DECAY

R319.1 General. Protection against decay shall be in accordance with International Building Code Section 2303.1.8 and 2304.11.

(18) Section R320 is amended to read:

SECTION R320 - PROTECTION AGAINST TERMITES

R320.1 General. Protection against termites shall be in accordance with International Building Code Section 2303.1.8 and 2304.11.

(19) Section R321 is amended to read:

SECTION R321.1 SITE ADDRESS

R321.1 Premises Identification. Premises identification shall be in accordance with International Building Code Section 501.2.

(20) Section R322 is amended to read:

SECTION R322 ACCESSIBILITY

R322.1 Scope. Conformance to all of the design and construction requirements for persons with disabilities shall be in accordance with the International Building Code Chapter 11, as amended.

(21) Section R323 is amended to read:

R323.1 General. Buildings and structures constructed in flood hazard areas shall be in accordance with Chapter 15, Article 1, Floodplain Management, K.C.C., 1987 as amended.

(22) Section R325 is added to Chapter 3 to read as follows:

R325 Hawai‘i Residential Safe Room

R325.1 Performance-Based Design Criteria. The Residential Safe Room shall meet the minimum performance specifications of Sections R325.1.1 through R325.9.

R325.1.1 Intent and Scope. The intent of the Residential Safe Room is to temporarily provide an enhanced protection area, fully enclosed within a dwelling or within an accessory structure to a

residence, which is designed and constructed to withstand the wind pressures, windborne debris impacts, and other requirements of this Section.

R325.1.2 Alternative Standards.

1 Manufactured Safe Room Designs Subject to Approval. A manufactured safe room or safe room kit may be substituted if documentation is submitted and approved by the Building Official. The safe room shall be engineered, tested, and manufactured to meet or exceed the criteria of this Section.

2. FEMA In-Residence Shelter Designs Permitted. It shall be permissible to build FEMA In-Residence Shelters of up to 64 square feet of floor area with walls up to 8 feet long that are built in accordance with construction details of FEMA 320.

R325.2 Site Criteria. Residential Safe Rooms shall not be constructed within areas subject to stream flooding, coastal flooding or dam failure inundation within any of the following areas:

1. FEMA Special Flood Hazard Areas (SFHA) subject to rainfall runoff flooding or stream or flash flooding;

2. Coastal zones "V" or "A" identified in the Flood Insurance Rate Map (FIRM) issued by FEMA for floodplain management purposes, in which the flood hazard are tides, storm surge, waves, tsunamis, or a combination of these hazards;

3. Areas subject to dam failure inundation as determined by the Department of Land and Natural Resources.

R325.3 Maximum Occupancy. The safe room is permitted to be used for a maximum occupancy based on at least 15 square feet per person with a maximum of 8 persons in a room of up to 128 square feet of floor area.

R325.4 Provisions for Exiting. The room shall be equipped with an inward-swinging door and an impact-protected operable window suitable for a means of alternative exiting in an emergency.

R325.5 Design for Dead, Live, Wind, Rain, and Impact Loads.

R325.5.1 Structural Integrity Criteria.

1. The safe room shall be built with a complete structural system and a complete load path for vertical and lateral loads caused by gravity and wind.

2. The building that the safe room is built within shall be assumed to be destroyed by the storm and shall not be taken as offering any protective shielding to the safe room enclosure.

3. The ceiling structure and wall shall be capable of supporting a superimposed debris load of the full weight of any building floors and roof above, but not less than 125 psf.

4. The safe room enclosure shall be capable of simultaneously resisting lateral and uplift wind pressures corresponding to a 160 mph 3-second peak gust, determined in accordance with ASCE Standard 7, Minimum Design Loads for Buildings and Other Structures, calculated using load and importance Factors of 1.0. The site exposure factor shall be based on exposure C. The gust factor and the directionality factor shall be taken as 0.85. Topographic wind amplification caused by mountainous terrain shall be considered in accordance with the building code. Internal pressure shall be determined in accordance with ASCE - 7.

5. The safe room shall be anchored to a foundation system capable of resisting the above loading conditions.

R325.5.2 Windborne Debris Impact Protection of Building Enclosure Elements. The entire enclosure of the safe room, including all walls, ceilings, and openings, fixed or operable windows, and all entry doors into the safe room, shall meet or exceed Level D requirements of ASTM E 1996 (Table R325.5-1). Any wall or ceiling penetration greater than 4 square inches shall be considered an opening.

Exception: Electrical outlet boxes and interior lighting switches not penetrating more than 2.5-inches into the interior wall surface and a plumbing piping or conduit not greater than 1.5-inch in diameter shall be exempted from this requirement.

R325.5.3 Cyclic Pressure Loading of Glazing and Protective Systems. Impact protective systems shall meet the ASTM E 1996 cyclic pressure requirement for the loading given in Table R325.5-1.

(23) Section R326 is added to read:

SECTION R326 - COMPLETE LOAD PATH AND UPLIFT TIES

R326.1 Purpose. The purpose of this Section is intended to promote public safety and welfare by reducing the risk of wind induced damages to conventional light-frame construction.

R326.2 Scope. This section applies to regular shape buildings, which have a roof structural member spanning 32 feet (9.75 m) or less, are not more than three stories in height are of conventional light-frame construction.

Exception: Detached carports, garages, workshops, storages and similar accessory buildings to Group R, Division 3 Occupancies not exceeding 600 square feet (55.7m^2) need only comply with the roof- member-to-wall-tie requirements of this Section.

R326.3 Definitions. For the purposes of this Section, certain terms are defined as follows:

CORROSION RESISTANT or NONCORROSIVE is material having a corrosion resistance equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot (4g/m^2) of surface area.

R326.4 General. Other methods may be used, provided a satisfactory design is submitted showing compliance with the provisions of this Section and other applicable portions of this code.

In addition to the other provisions of this Section, foundations for buildings in areas subject to wave action or tidal surge shall be designed in accordance with approved national standards.

When an element is required to be corrosion resistant or non-corrosive, all of its parts, such as screws, nails, wire, dowels, bolts, nuts, washers, shims, anchors, ties, and attachments, shall also be corrosion resistant or noncorrosive.

Blocking, bridging, straps approved framing anchors or mechanical fasteners shall be designed and installed to provide continuous ties from the roof to the foundation system. Sheet metal clamps, ties or clips, shall be formed of galvanized steel and other approved corrosion-resistant or noncorrosive material installed accordingly to manufactured specifications.

Uplift tie straps shall be spaced not more than 48 inches (1219 mm) on center to create the complete load path. Uplift tie straps shall meet the requirements of R802.11.

R326.5 Walls to Foundation Tie. Exterior walls shall be tied to a continuous foundation, or an elevated foundation system in accordance with Section R324.6.

R326.5.1 Sill and Foundation Tie. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than ½-inch diameter (13mm) anchor bolts with 7-inch minimum (178 mm) embedment into the foundation, the maximum spacing of anchor bolts shall be 4 feet (1219 mm) on center.

R326.5.2 Floor-to-Foundation Tie. The lowest level exterior wall studs shall be connected to the foundation sill plate or an approved elevated foundation system with bent tie straps spaced not more than 48 inch (1219 mm) on center.

R326.5.3 Wall Framing Detail. The spacing of 2-inch-by-4-inch studs (51 mm x 102 mm) in exterior wall shall not exceed 16 inches (406 mm) on center. Mechanical fasteners complying with this Section shall be installed as required to connect studs to the sole plates, foundation sill plate and top plate of the wall.

Interior braced wall lines shall be installed approximately perpendicular to the exterior wall when the length of the structure exceeds the width. The maximum distance between these partitions shall not exceed the width of the structure. Interior braced wall lines shall be securely fastened to the exterior wall at the point of intersection with fasteners. The interior braced wall lines shall be covered on both sides by materials as described in Section R324.5.4.

R326.5.4 Wall Sheathing. All exterior walls and required interior braced wall lines shall be sheathed at each face. The total width of sheathed wall elements shall not be less than 50 percent of the exterior wall length or 60 percent of the width of the building for required interior braced wall lines. The exterior wall sheathing or covering shall extend from the foundation sill plate or girder to the top plates at the roof level and shall be adequately attached thereto.

A sheathing wall element not less than 4 feet (1219 mm) in width shall be installed at each corner or as near thereto as possible (not to exceed 12.5 feet). There shall not be less than one 4-foot (1219 mm) sheathed wall element for every 20 feet (6096 mm) or fraction thereof of wall length.

R326.5.5 Floor-to-Floor Tie. Upper-level exterior wall studs shall be aligned and connected to the wall studs below and the roof ties above with a tie strap.

R326.5.6 Roof-Members-to-Wall Tie. Tie straps shall be provided from the side of the roof-framing member to the exterior studs, posts or other supporting members below the roof. The wall studs to which the roof-framing members are tied shall be aligned with the roof-framing member.

All intermediate rafters shall have tie straps and tied to the exterior plate with an approved galvanized steel connector and each connector shall be installed accordingly to manufacture specifications.

The eave overhang shall not exceed 3 feet (914 mm) unless an analysis is provided showing that the required resistance is provided to prevent uplift.

Where openings exceeds 6 feet (1829 mm) in width, the required tie straps shall be doubled at each edge of the opening and connected to a double full-height wall stud. When openings exceed 12 feet in width, ties designed to prevent uplift shall be provided.

Exception: The opening width may be increased to 16 feet (4877 mm) for garages, carports and accessory buildings to Group R, Division 3 Occupancies when constructed in accordance with the following:

1. Approved column bases shall be a minimum 3/16-inch (4.8 mm) steel plate embedded not less than 8 inches (203 mm) into the concrete footing and connected to a minimum 4-inch-by-4-inch (102 mm by 102 mm) wood post with two ⅝-inch-diameter (15.9 mm) through bolts.
2. Beams over openings shall be connected to minimum 4-inch-by-4-inch (102 mm by 102 mm) wood posts below with an approved 3/16-inch (4.8 mm) steel post cap with two ⅝-inch-diameter (15.9 mm) through bolts and to the beams.

R326.5.7 Ridge Ties. Opposing rafters shall be aligned at the ridge and be connected at the rafters with a tie strap.

R326.5.8 Roof Sheathing. Anchor ties shall be spaced to support not more than 1⅝ square feet (860 mm^2) of wall area but not more than 12 inches (305 mm) on center vertically.

R326.5.9 Roof Sheathing. Solid roof sheathing shall be applied and shall consist of a minimum 1-inch-thick (25 mm) nominal lumber applied diagonally or a minimum 15/32-inch-thick (11.9 mm) wood structural panel or particleboard or other approved sheathing applied with the long dimension perpendicular to supporting rafters. Sheathing shall be nailed to roof framing in an approved manner. The end joints of wood structural panels or particleboard shall be staggered and shall occur over blocking, rafters or other supports.

R326.5.10 Gable-End Walls. The roof overhang at gabled ends shall not exceed 2 feet (610 mm) unless an analysis is showing that the required resistance to prevent uplift is provided.

Gable-end wall studs shall be continuous between points of lateral support, which are perpendicular to the plane of the wall.

Gable-end wall studs shall be attached with approved mechanical fasteners at the top and bottom.

R326.5.11 Roofing Covering. Roof covering shall be approved and shall be installed and fastened in accordance with this code and the manufacturer's instructions. Asphalt shingles with self-seal strips shall be fastened with a minimum of six fasteners per shingle.

R326.6 Elevated Foundation.

R326.6.1 General. When approved, elevated foundations supporting not more than one story and meeting the provisions of this Section may be used. The Building Official may require a foundation investigation.

R326.6.2 Material. All exposed wood-framing members shall be treated wood. All metal connectors and fasteners used in exposed locations shall be corrosion-resistant or noncorrosive steel.

R326.6.3 Wood Piles. The spacing of wood piles shall not exceed 8 feet (2438 mm) on center. Square piles shall not be less than 10 inches (254 mm) and tapered piles shall have a tip of not less than 8 inches (203 mm). Ten-inch-square (64 516 mm^2) piles shall have a minimum embedment length of 10 feet (3048 mm) and shall project not more than 8 feet (2438 mm) above undisturbed ground surface. Eight-inch (203 mm) taper piles shall have a minimum embedment length of 14 feet (4267 mm) and shall project not more than 7 feet (2134 mm) above undisturbed ground surface.

R326.6.4 Girders. Floor girders shall be solid sawn timber, built-up 2-inch-thick (51 mm) lumber or trusses. Splices shall occur over wood piles. The floor girders shall span in the direction parallel to the potential floodwater and wave action.

R326.6.5 Connections. Wood piles may be notched to provide a shelf for supporting the floor girders. The total notching shall not exceed 50 percent of the pile cross section. Approved bolted connection with ¼-inch (6.4 mm) corrosion-resistant or noncorrosive steel plates and ¾-inch-diameter (19mm) bolts shall be provided. Each end of the girder shall be connected to the piles using a minimum or two ¾-inch-diameter (19 mm) bolts.

(24) Section R611.9 is amended to read as follows:

R611.9 ICF wall to top sill plate (roof) connections. Wood sill plates attaching roof framing to ICF walls shall be anchored with minimum 1/2-inch (13 mm) diameter anchor bolt embedded a minimum of 7 inches (178 mm) and placed at 6 feet (1829 mm) on center in accordance with Figure R611.9. Anchor bolts shall be located in the cores of waffle-grid and screen-grid ICF walls. Roof assemblies subject to wind uplift pressure of 20 pounds per square foot (1.44 kPa) or greater as established in Table R301.2(2) shall have rafter or truss ties provided in accordance with Table R802.11.

(25) Section R614 is amended to read:

SECTION R614 - SINGLE-WALL CONSTRUCTION

R614.1 General. This section is intended for conventional light-framed construction. Other methods may be used provided a satisfactory design is submitted showing compliance with other provision of this Code.

Conventional construction may be used for repairs and addition to existing to conventionally constructed structures, provided that those repairs and additions requiring the seal of a duly licensed professional registered structural engineer or architect as required by Chapter 464 of the Hawai‘i Revised Statutes as amended shall be designed to comply with other provision of this Code.

R614.2 Walls Without Studs. For Type V-B buildings, single wall construction without studs may be used in accordance with the section for repairs or additions to existing buildings of single wall construction.

One-story and the uppermost story of wood frame type V-B buildings or structures may be of single wall construction with boards of thickness specified in this Section, without studs, when requirements of this Section are met. Floor to ceiling height shall not exceed 8 feet.

Any provisions of this Code to the contrary notwithstanding, studding of not less than 2 inches by 3 inches may be used on one-story buildings of double wall construction. Studding shall not be spaced more than 16 inches on center.

When posts support wood frame dwellings, 2-inch by 4-inch foundation bracing shall be provided.

For one-story, conventional residential buildings or structures the local practice of using foundation blocks with termite shields will be acceptable in interior areas except in flood hazard districts and developments. Design shall comply with the requirements of the Floodplain Management Ordinance, County of Kaua‘i.

R614.3 Boards for Single Wall Construction.

R614.3.1. One and One-Eighth Inch Boards. Single wall construction with boards of 1-1/8 inch net thickness are not required to have girts.

R614.3.2. One-Inch Boards. Where single wall construction is with boards of 1-inch net thickness, no girt is required provided approved stiffeners for any section of such wall is spaced not more than 10 feet along the wall.

R614.3.3 Three-Fourths-Inch Boards. Single wall construction with boards of 3/4-inch net thickness shall have girts and cross partitions at least every 30 feet.

R614.3.4 Eleven-Sixteenths-Inch Boards. Single wall construction with boards of 11/16-inch net thickness shall be limited to the following conditions: (A) the span between load bearing walls shall not exceed 24 feet; (B) the dead load on such walls shall not exceed 150 pounds per lineal foot; (C) girts shall be provided; (D) there shall be approved stiffeners at least every 10 feet along such wall; and (E) any openings in such walls for windows and doors shall have full-height jambs or studs where the girt is not continuous.

R614.4 Approved Stiffeners. Approved stiffeners shall be studs of at least 2 inches by 4 inches, full-height window or doorjambs, posts, walls or partitions at right angle to the section of wall under construction.

R614.5 Girts. Girts for single wall construction shall be not less than 2-inch by 6-inch belt course or other approved strengthening about mid height between the floor and the ceiling on all exterior walls.

(26) Section R802.10.5 is amended to read:

R802.10.5 Truss to wall connection. Trusses shall be connected to wall plates by the use of approved connectors having a resistance to uplift of not less than 400 pounds and shall be installed in accordance with the manufacturer's specifications. For roof assemblies subject to wind uplift pressures as established in Table R301.2(2), adjusted for height and exposure per Table R301.2(3), see Section R802.11.

(27) Section R802.11.1 is amended to read:

R802.11.1 Uplift resistance. Roof assemblies which are subject to wind uplift pressures shall have roof rafters or trusses attached to their supporting wall assemblies by connections capable of providing the resistance required in Table R802.11. Wind uplift pressures shall be determined using an effective wind area of 100 square feet (9.3 m^2) and Zone 1 in Table R301.2(2), as adjusted for height and exposure per Table R301.2(3). A continuous load path shall be designed to transmit the uplift forces from the rafter or truss ties to the foundation.

(28) Section R804.4 is amended to read:

R804.4 Roof tie-down. Roof assemblies subject to wind uplift pressures as established in Table R301.2(2), shall have rafter-to-bearing wall ties provided in accordance with Table R802.11.

(29) Section R806.5 is added to read:

R806.5 Unvented Attic Spaces. The attic space shall be permitted to be unvented when the design professional determines it would be beneficial to eliminate ventilation openings to reduce salt-laden air and maintain relative humidity 60% or lower to:

1. Avoid corrosion to steel components,

2. Avoid moisture condensation in the attic space, or

3. Minimize energy consumption for air conditioning or ventilation by maintaining satisfactory space conditions in both the attic and occupied spaces below.

(30) The entire Chapter 11 is amended to read:

Chapter 11 - ENERGY EFFICIENCY

N1101. General. The energy efficiency related requirements for the design and construction of buildings related by this Code shall comply with Chapter 13 Solar Energy System, International Building Code and Article 6, Chapter 12, Building Code, Kauaʻi County Code 1987 as amended.

Deleting Chapters 12 to 42 from the International Residential Code for One- and Two-Family Dwellings except for Chapter 23, Solar Systems, is by reference incorporated and made part of this code. The following chapters are deleted:

Chapter 12 Mechanical Administration
Chapter 13 General Mechanical System Requirements
Chapter 14 Heating and Cooling Equipment
Chapter 15 Exhaust Systems
Chapter 16 Duct Systems
Chapter 17 Combustion Air
Chapter 18 Chimneys and Vents
Chapter 19 Special Fuel-Burning Equipment
Chapter 20 Boilers and Water Heaters
Chapter 21 Hydronic Piping
Chapter 22 Special Piping and Storage Systems
Chapter 24 Fuel Gas
Chapter 25 Plumbing Administration
Chapter 26 General Plumbing Requirements
Chapter 27 Plumbing Fixtures
Chapter 28 Water Heaters
Chapter 29 Water Supply and Distribution
Chapter 30 Sanitary Drainage
Chapter 31 Vents
Chapter 32 Traps
Chapter 33 General Requirements
Chapter 34 Electrical Definitions
Chapter 35 Services
Chapter 36 Branch Circuit and Feeder Requirements
Chapter 37 Wiring Methods
Chapter 38 Power and Lighting Distribution
Chapter 39 Devices and Luminaires
Chapter 40 Appliance Installation

Chapter 41 Swimming Pools

Chapter 42 Class 2 Remote-Control, Signaling and Power-Limited Circuits.

(31) Section M2301.1 is amended by adding a second sentence:

Solar energy collectors that function as building components shall comply with the applicable provisions of the code. Collectors located above or upon a roof and functioning as building components shall not reduce the required fire-resistive or fire-retardancy classification of the roofing-materials.

(32) Section M2301.2.1 is amended by adding Sections M2301.2.1.1 through M2301.2.1.5:

M2301.2.1.1 Solar systems for one- and two-family dwellings. Access to residential systems for one- and two-family dwellings shall be provided in accordance with Sections M2301.1.2 through M2301.5.

M2301.2.1.2 Residential buildings with hip roof layouts. Panels/modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels/modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top, or eave is required on two sides.

M2301.2.1.3 Residential buildings with a single ridge. Panels/modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels/modules are located.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top, or eave is required on two sides.

M2301.2.1.4 Residential buildings with roof hips and valleys. Panels/modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top, or eave is required on two sides.

M2301.2.1.5 Residential buildings smoke ventilation. Panels/modules installed on residential buildings shall be located no higher than 3 feet (914 mm) below the ridge in order to allow for fire department smoke ventilation operations.

(33) Section 2301.5 is amended by replacing the word “comply” with “reference” at the end of the sentence.

(34) Section 12-3.10, Article 3 is amended to read:

12-3.10 Violation and Penalties. For violations and penalties, see Section 113, Chapter 1 Administration, International Building Code.

(35) Section 12-4.4, Article 4 is amended to read:

12-4.4 Building Permit Fee. A fee for each building permit shall be paid to the Building Official as provided in this Code. The fee will be based on valuation of the factory built house structure and trailer home in place and the value of all additions or alterations to be made, including the value of carports, fences, retaining walls, etc.

(36) Section 12-4.5(c), Article 4 is amended to read:

(b) All factory build housing, structure and trailer home shall conform to: the applicable standards and requirements of the Department of Health, State of Hawai'i, including Chapter 11 (Sanitation), Title 11, Administrative Rules of the Department of Health, as updated and amended; Chapter 62, Title 11, Administrative Rules of the Department of Health, as wastewater treatment works; the standards and specifications contained in the International Mechanical Code, as updated and amended, published by the International Code Council, Incorporated; and the requirements of Chapter 464 of the Hawai'i Revised Statutes.

(37) Section 12-4.11, Article 4 is amended to read:

12-4.11 Violations and Penalties. For violations and penalties, see Section 113, Chapter 1 Administration, International Building Code.

Article 3. Relocation of Buildings

Sec. 12-3.1 Applicability.

The provisions of Section 106.3.1 and 106.3.2 of the Uniform Building Code, as amended to the contrary notwithstanding, no person shall move or cause to be moved any buildings or structure into or within the County without complying with the provisions of this Article; provided, however, any movement of a building or structure which is confined within the boundaries of a single lot shall not be subject to this Article, but shall be subject to Section 106 and other applicable provisions of the Uniform Building Code, as amended; National Electrical Code, as amended; and Uniform Plumbing Code, as amended.

Sec. 12-3.2 Application for a Relocation Permit.

Any person intending to move any building or structure shall apply to the Building Official for a relocation permit in writing upon a form furnished by the Building Official and shall set forth such information as the Building Official may reasonably require in order to carry out the purpose of this Article.

Sec. 12-3.3 Performance Security.

(a) To secure faithful performance of any relocation permit obligations, the applicant or by any person on behalf of the applicant or his/her authorized agent shall comply to all requirements in Chapter 16, Traffic Code, Kaua'i County Code 1987, as amended and other requirements mentioned in Section 291-34 and Section 291-35, Hawai'i Revised Statutes as amended.

(b) A certificate of an insurance carrier shall be filed with the Police Department, certifying that there is a Comprehensive Automobile Liability Insurance Policy covering any relocation permit obligations as required by Chapter 16, Traffic Code, Kaua'i County Code 1987 as amended.

(c) Upon the performance of a relocation permit obligation, the applicant or by any person on behalf of the applicant or his/her authorized agent, shall be responsible for all repairs or pay for any property owned by the County or by others which has been damaged in the process of moving such building or structure.

Sec. 12-3.4 Issuance of Permit.

If the work described in the application for permit and in the plans and specifications submitted therewith conform to the requirements of said code and other pertinent laws and ordinances, and the permit or permits as required under the provisions of Chapter 16 Kauaʻi Traffic Code has or have been issued by the State Director of Transportation and/or the County Engineer, the Building Official shall issue a relocation permit. The plans and specifications after approval by the Building Official shall not be changed, modified, or altered without authorization from the Building Official and all work shall be done in accordance with the approved plans and specifications.

Sec. 12-3.5 Police Escorts.

(a) The applicant shall apply to the Police Department of the County for escort services of a police officer. The applicant shall bear the costs of such services.

(b) In addition to any other requirement which may be provided by law for the submission of reports in the event of any damage to property resulting from the moving of any building or structure, the police officer assigned to provide escort service shall submit a report to the Building Official of any such damage.

Sec. 12-3.6 Duration and Extension of Time.

All work for which a relocation permit is issued under the provisions of this Article shall be started within 180 days of the date of issuance of the permit, unless extended for good cause by the Building Official. Any request for extension shall be made not less than 15 days prior to the date of expiration of the permit.

Sec. 12-3.7 Denial of Permit.

No permit shall be issued to move any building or structure which does not (1) comply with other pertinent codes and ordinances; or (2) which has deteriorated or been damaged to an extent greater than fifty percent (50%) of the cost of replacement (new) of such building or structure; or (3) which has not been termite treated when so directed by the Building Official.

Sec. 12-3.8 Entry upon Premises.

The Building Official, the surety and duly authorized representatives of either shall have access to the premises described in the relocation permit for the purpose of inspecting the progress of the work.

Sec. 12-3.9 Fees for Permits.

The fees for the issuance of relocation permits shall be computed in accordance with Table No. 1-A under Section 108 of the International Building Code; provided, however, if a permit is issued after the commencement of the relocation of a building or structure for which a permit is required, an investigation and a fee shall be required accordingly to Section 108.4.

Sec. 12-3.10 Violations and Penalties.

For violations and penalties see Section 113, Chapter 1 Administration, International Building Code.

Article 4. Factory Built Housing, Structure and Trailer Home

Sec. 12-4.1 Applicability.

(a) These provisions are applicable to the design, construction, installation and transportation of factory-built housing, structure or trailer home within the County of Kauaʻi. Unless otherwise specified this Article shall be applicable only to factory-built housing, structure and trailer home which is sold or offered for sale.

(b) All provisions of the Building, Electrical and Plumbing Codes shall be applicable unless indicated otherwise in this Article.

Sec. 12-4.2 Definitions.

The following terms are for specialized use within this Article.

"Certificate of approval" means a tag, tab, stamp, label, or other device issued or approved by the Building Official to indicate compliance with the statutes and these rules.

"Factory built housing" means any structure or portion thereof which is designed for use as a building or dwelling; prefabricated or assembled at a place other than the building site; and capable of complying with the standards and requirements contained in Section 12-4.5.

"Factory built structure" means any structure or portion thereof which is: designed for use as a building other than a dwelling; prefabricated or assembled at a place other than the building site.

"Installation" means the assembly of factory built housing on site and the process of affixing factory built housing to land, a foundation, or an existing building.

"Manufacture" means the process of making, fabricating, constructing, forming, or assembling a product from raw, unfinished, or semi-finished materials to produce factory built housing.

"Recreational trailer" means a portable structure, used or designed for human habitation or occupancy and built on a chassis with wheels, which is capable of being licensed as a motor vehicle, a vehicle or a trailer pursuant to Hawai'i Revised Statutes Chapter 249 and transported on a highway, but which is unable, due to its size, design, construction or other attributes, to comply with the minimum standards and requirements applicable to dwellings or buildings, or portions thereof, contained in Section 12-4.5.

"Site" is the parcel of land on which factory built housing is installed.

"Trailer homes" means factory built housing which is capable of being licensed as a vehicle or trailer pursuant to Hawai'i Revised Statutes Chapter 249 and transported upon a highway.

Sec. 12-4.3 Building Permit.

No person shall install or relocate any factory built housing, structure and trailer home on any land within the County, or cause the foregoing to be done, without first obtaining a separate building permit from the Building Official for each such factory built housing, structure and trailer home.

Sec. 12-4.4 Building Permit Fee.

A fee for each building permit shall be paid to the Building Official as provided in this code. The fee will be based on valuation of the factory built house structure and trailer home in place and the value of all additions or alterations to be made, including the value of carports, fences, retaining walls, etc.

Sec. 12-4.5 Building Permit Requirements.

All factory built housing, structure and trailer home for which a building permit is sought shall be subject to the following requirements:

(a) All provisions of Chapter 8 (Comprehensive Zoning Ordinance), Chapter 9 (Subdivision Ordinance), Chapter 12 (Building Code), Chapter 13 (Electrical Code), Chapter 14 (Plumbing Code), Chapter 15 (Building and Construction Regulations) and Chapter 15A (Fire Code) shall apply to the construction, installation and use of factory built housing, structure, and trailer homes unless specifically excluded or amended by this Article.

(b) All factory built housing, structure and trailer home shall be permanently affixed to the ground and shall have their wheels and axles, if any, removed.

(c) All factory built housing, structure and trailer home shall conform to: the applicable standards and requirements of the Department of Health, State of Hawai'i, including Chapter 11 (Sanitation), Title 11, Administrative Rules of the Department of Health, as updated and amended; Chapter 62, Title 11, Administrative Rules of the Department of Health, as updated and amended, relating to individual wastewater systems and wastewater treatment works; the standards and specifications contained in the Uniform Mechanical Code, as updated and amended, published by the International Code Council and the International Association of Plumbing and Mechanical Officials; and the requirements of Chapter 464 of the Hawai'i Revised Statutes.

(d) All factory built housing, structure and trailer home must have a certificate of approval as provided in this Article.

(e) Five (5) sets of plans and specifications for the particular model of factory built housing structure and trailer home must be provided to the Building Official. One (1) shall be left with the Planning Department. One (1) will be retained by the Building Official. One (1) approved set will be returned as a job site copy to the applicant and one (1) approved set will be submitted to the Department of Finance, Real Property Tax Division.

Sec. 12-4.6 Certificate of Approval.

(a) No factory built housing, structure and trailer home shall be used, or shall be sold or offered for sale for the purpose of installation or use, within this County as a dwelling, building or structure, unless it has received and bears a certificate of approval issued or approved by the Building Official.

(b) A certificate of approval shall be issued pursuant to Section 12-4.9 and shall be granted to all factory built housing, structure and trailer home that meet the applicable requirements contained in Section 12-4.5.

(c) No factory built housing, trailer home which has received a certificate of approval pursuant to Section 12-4.10 shall be modified in any way prior to or during installation or relocation unless approval of such modification is first made by the Building Official.

(1) Modifications made during the term of a pending building permit, prior to the final completion of all required construction, shall be subject to the requirements of Sections 105, 106, 108, and 109 of the International Building Code, as amended by this Chapter, including the payment of additional fees. Except as otherwise provided in this Chapter, such modifications shall not of themselves require the issuance of a new certificate of approval, pursuant to Section 12-4.10; provided, however, that the Building Official may charge for all costs resulting from the inspection and approval of such modifications.

(2) Modifications made after the expiration of a building permit, or after final completion of all required construction, shall require the issuance of a new building permit subject to the requirements of Sections 105, 106, 108, and 109 of the International Building Code, as amended by this Chapter. Except as otherwise provided in this Chapter, such modifications shall not of themselves require the issuance of a new certificate of approval, pursuant to Section 12-4.10; provided, however, that the Building Official may charge for all costs resulting from the inspection and approval of such modifications.

Sec. 12-4.7 Certificate Fees.

A certificate of approval fee is required and which will be part of the building permit fee pursuant to Section 12-4.4. Fees shall be paid to the Building Official as follows:

(a) Certificate of approval fee is required for all models of factory built housing, structure and trailer home constructed in accordance with plans and specifications and complying with the standards and requirements contained in this Article.

(b) In addition to the certificate of approval fee, the Building Official shall require, in accordance with Section 12-4.8(b), that the person applying for the certificate of approval pay all costs incurred by the Building Official in making the inspection and determination required by Section 12-4.8(a).

Sec. 12-4.8 Inspection.

(a) The Building Official shall issue no certificate of approval, pursuant to Section 12-4.10, unless the factory built housing, structure and trailer home has first been inspected and determined to be in compliance with the requirements of Section 12-4.6(b). The Building Official may make such a determination by any of the following means:

(1) By making an actual inspection of the individual unit or trailer home;

(2) By accepting a similar inspection and determination from another jurisdiction. In such a case, the Building Official must first find that the standards for construction and inspection of factory built housing, structure and trailer homes prescribed by the statutes, rules, regulations or ordinances of another jurisdiction are at least equal to the standards and requirements prescribed in this Article and that such standards and requirements are actually enforced by such other jurisdiction;

(3) By accepting a similar inspection and determination by the International Code Council or any other such professional organization approved by the Building Official. In such a case, the Building Official must first find that the standards for construction and inspection of the factory built housing and trailer homes followed by the professional organization are at least equal to the standards and requirements prescribed in this Article.

(b) All costs incurred by the Building Official in making the inspection and determination required by Subsection (a) of this Section shall be paid by the person applying for the certificate of approval. Such payment shall be made to the Building Official prior to the issuance of any certificate of approval.

Sec. 12-4.9 Transportation.

(a) No factory built housing, structure and trailer home which exceeds the weight, width, height or length restrictions contained in Chapter 16 Kauaʻi Traffic Code or Hawaiʻi Revised Statutes Sections 291-34 and 291-35 shall be transported on any street or highway within this County unless permits have been obtained in accordance with Article 3 (Relocation of Buildings), Chapter 16 Kauaʻi Traffic Code and Hawaiʻi Revised Statutes Section 291-36.

(b) No trailer home shall be transported on its wheels on any street or highway within this County unless it is licensed in accordance with Hawaiʻi Revised Statutes Chapter 249 and complies with all applicable provisions of Article 2, Chapter 5 (Motor Vehicle Weight Tax) Taxation and Financial Administration, Chapter 16 Kauaʻi Traffic Code, Hawaiʻi Revised Statutes Chapters 286, 291, 291C, and all other applicable County or State laws regulating the operation and licensing of vehicles and trailers.

Sec. 12-4.10 Relocation.

(a) No factory built housing, structure and trailer home which has been initially located on a lot in accordance with the provisions of this Article shall be relocated to another lot unless permits have been obtained in accordance with Section 12-4.3, Section 12-4.9 and Article 3 (Relocation of Buildings).

(b) No factory built housing, structure and trailer home shall be relocated pursuant to Subsection (a) of this Section unless found by the Building Official to be in conformance with the standards and requirements of Section 12-4.6 existing at the time of the requested relocation. If the factory built housing, structure and trailer home no longer conforms to the then existing standards and requirements, then it shall not be relocated unless it is modified to meet such new standards and requirements.

Sec. 12-4.11 Violations and Penalties.

For violations and penalties see Section 113, Chapter 1, Administration, International Building Code.

Article 5. Thatched Material on Exterior of Building: Protection Against Exposure Fires

Sec. 12-5.1 Applicability.

(a) Thatched material on the exterior of buildings, including the roof, shall be permitted only for buildings used primarily for assembly, demonstration, exhibit, mercantile or nonresidential purposes. Thatched material may be any grass or leaf material cultivated, grown and harvested in the State of Hawai‘i.

(b) Thatched material shall not be permitted on any buildings or structures housing Group R, Division 3 Occupancies or any accessory buildings or structures of Group U Occupancies relating to Group R, Division 3 Occupancies.

(c) The thatched material permitted in this Article shall be used for decorative purposes on the roof or wall of buildings. The entire building, except for the thatched material, shall comply with all applicable provisions of the Building Code.

(d) When thatched material is used as permitted in this Article, an automatic sprinkler system shall be installed. Automatic sprinkler systems and standpipes shall be provided pursuant to the Fire Code.

Exception: Synthetic thatched material having an approved Class A fire resistance rating may be installed without automatic sprinkler system and standpipes.

Sec. 12-5.2 Violations and Penalties.

For violations and penalties, see Section 113, Chapter 1, Administration, International Building Code.

Article 6. Energy Conservation Code

Sec. 12-6.1 Purpose.

This Article is for the purpose of adoption and incorporation by reference of the 2009 Edition of the International Energy Conservation Code as the Energy Code; providing amendments thereto, regulating the construction, alteration or equipment of buildings or structures in the County of Kaua‘i. This code will recognize the need for a modern, up-to-date energy conservation code that addresses the design of energy-efficient building envelopes and installation of energy efficient mechanical, lighting and power system through requirement emphasizing performance.

Sec. 12-6.2 Title.

This Article shall be known as the Energy Code of the County of Kauaʻi, and may be cited as the "Energy Code."

Sec. 12-6.3 Adoption of the International Energy Conservation Code.

The International Energy Conservation Code (IECC), 2009 Edition, as copyrighted and published in 2009 by the International Code Council, Incorporated, 4051 West Flossmoor Road, County Club Hills, Illinois, 60478-5795, is by reference incorporated herein and made a part hereof as the Energy Code, subject to the following amendments.

Sec. 12-6.4 Local Amendments to the IECC.

101.1 Title. This code shall be known as the Energy Conservation Code of the County of Kauaʻi, and shall be cited as such. It is referred to herein as "this code."

101.2 Scope. This code applies to residential and commercial buildings. It sets forth the minimum requirement for design and construction of buildings for the effective uses of energy and is intended to provide flexibility to all the use of innovative approaches and techniques to achieve the effective use of energy.

101.5.2 Low energy buildings. The following buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with this code shall be exempt from the building thermal envelope provisions of this code:

1. Conditioned spaces with a peak design rate of energy usage less than 3.4 Btu/h ft^2 (10.7 W/m^2) or 1.0 watt/ft^2 (10.7 W/m^2) of floor area for space conditioning purposes.
2. Unconditioned spaces that are non-habitable spaces.
3. Unconditioned habitable spaces are exempt from wall insulation requirements of the building thermal envelope provisions.

103.1 General. Plans, specifications and necessary computations shall be submitted to indicate compliance with this code. Plans, specifications, and necessary computations for work to comply with this code shall be prepared, designed, approved, certified, and stamped by a duly registered licensed professional as required by Chapter 464 of the Hawaiʻi Revised Statutes, for the following work:

(A) All electrical power, equipment and lighting requirements shall be completed and certified by an electrical engineer.

(B) All requirements of heating, ventilating, air conditioning systems and equipment, service water heating systems and equipment shall be completed and certified by a mechanical engineer.

(C) For all elements of building envelope and building performance requirements shall be completed and certified by an architect or mechanical engineer.

EXCEPTION: A duly registered professional architect may prepare, design, approve, certify and stamp the following plans, specifications and necessary computations when any of the following conditions are complied with.

(1) Lighting and/or electrical plans when the total load of all electrical work shall not exceed 35 kilo-volt amperes.

(2) Mechanical plans when the building or structure is heated, ventilated, or equipped and cooled with any air conditioning systems with a total capacity of not more than 60,000 BTU/Hr.

Specifications and necessary computations need not be submitted when authorized by the Building Official.

103.3.1 Approval of construction documents. When the Building Official issues the permit, he shall affix an official stamp of approval to the specifications and each sheet of the Job Site Copy of the plans. Such approved plans and specifications shall not be changed, modified, or altered without authorization from the Building Official and all work shall be done in accordance with the approved plans. The building permit shall be posted in a conspicuous place on the site during the progress of work.

One (1) set of approved plans shall be retained by the Building Official as the official records, one set of approved plans shall be returned to the applicant as the approved Job Site Copy, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

103.5 Retention of construction documents. One (1) set of approved construction documents shall be retained by the code official as required by Chapter 12, Building Code, K.C.C. 1987 as amended.

104.4 Reinspections. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

This section is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection.

Reinspection fees may be assessed when the building permit card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the Building Official.

To obtain reinspection, the applicant shall file an application thereof in writing on a form furnished by the Building Official and pay the reinspection fee of fifty dollars ($50.00) for each additional inspection.

In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

104.5 Approved inspection agencies. The code official is authorized to accept inspections of approved special inspection agencies, provided such agencies meets the qualifications and reliability requirements and complies with special inspections accordingly to Chapter 12, Building Code, K.C.C. 1987 as amended.

104.8 Approval. After required inspections indicate that the work complies in all respects with this code, a notice of inspection or certificate of occupance shall be issued by the code official.

SECTION 107 FEES

107.1 Fees. If the work described in an application for a permit and the plans filed therewith conform to the requirements of Chapter 12, Building Code, K.C.C., 1987 as amended, and other

pertinent laws and ordinances the code official shall issue a permit therefore to the owner. Payment for any permit fee shall be paid upon the issuance of such permit. All requirements for permit fee shall comply with the requirements of the Building Code.

SECTION 108 STOP WORK ORDER

108.1 Authority. Whenever the code official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the code official is authorized to issue a stop work order and all such order shall comply with the requirements of the Chapter 12, Building Code, K.C.C., 1987 as amended.

SECTION 109 BOARD OF APPEALS

109.1 General. The Board of Appeals shall hear and decide cases of appeals, orders, decisions, or determinations made by the code official relative to the application and interpretation of this code. All cases of appeals shall comply with the requirements of Chapter 12, Building Code, K.C.C., 1987, as amended.

SECTION 110 VIOLATION AND PENALTIES

110.1 General. All violations and penalties relative to this code shall comply with the requirements of Chapter 12, Building Code, K.C.C. 1987, as amended.

Section 202 is amended to read as follows:

The following paragraph is added after the definition of "BUILDING THERMAL ENVELOPE."

CERTIFICATION. As used herein, the word certify shall mean an expression of the licensed professional's opinion to the best of it information, knowledge, and belief, and does not constitute a warranty or guarantee.

The following paragraphs are added after the definition of "HUMIDISTAT."

ICC. Means the International Code Council.

IECC. Means the ICC, International Energy Conservation Code, as copyrighted by the International Code Council.

The following paragraph is added after the definition of "SCREW LAMP HOLDERS."

SECTION. Means a section of a chapter of the International Energy Conservation Code.

The first sentence of Section 401.3 is amended to read as follows:

When required by the code official, a permanent certificate shall be posted on or in the electrical distribution panel.

Sections 402.1.1.1 to Section 402.1.1.8.1 are added to read as follows:

402.1.1.1 Ceiling insulation alternative. Insulation requirements for ceilings in unconditioned habitable spaces constructed in climate zone one (1) shall meet one (1) of the design options in Table 402.1.1.1.

402.1.1.2 Definitions. For the purpose of this Section, the following terms shall be defined as follows:

GROSS AREA OF OPAQUE ROOF SURFACES. Gross area of opaque roof surfaces means the total surface of the roof assembly exposed to outside air or unconditioned spaces. The opaque roof assembly shall exclude skylight surfaces, service openings, and overhangs.

NET FREE VENT AREA. Net free vent area means the total area through which air can pass in a screen, grille face or register.

ROOF AREA. Roof area means attic floor area; or, if there is no attic, "roof area" means the horizontal projection of a roof area measured from the outside surface of the exterior wall.

402.1.1.3 Construction Documents. Plans shall be submitted which indicate insulation type, thickness, and location; ventilation opening types, sizes and locations; radiant barrier location; and roof surface type as appropriate, depending on the option selected from Table 402.1.1.1.

402.1.1.4 Roof insulation. Roof insulation shall be provide as follows:

1. In buildings with an attic space provide either:
    1.1. R-30 insulation installed above the ceiling level, or
    1.2. R-19 insulation installed at the roof level between the roof framing members.
2. In buildings without an attic space provide either:
    2.1. R-19 insulation installed at the roof level between the roof framing members, or
    2.2. R-15 entirely above the roof deck.

402.1.1.5 Ventilation. Ventilation shall be provided by at least one (1) of the following:

1. A baffled ridge vent installed in accordance with manufacturer's instructions in addition to lower inlet openings to provide a total of no less than one (1) square foot of net free vent area for each 300 square feet of roof area. No less than 30 percent of the total vent area shall be in either the ridge vent or the lower half of the ventilated space.
2. A solar-powered exhaust fan that provides at least one (1) cubic foot per minute of airflow for each square foot of roof area.
3. Upper and lower vents with total net free vent area of at least one (1) square foot for each 150 square feet of roof area. At least 30 percent of the total vent area shall be in the upper of the ventilated space and at least 30 percent of the total vent area shall be in the lower half of the ventilated space.

402.1.1.6 Radiant Barrier. A radiant barrier shall have an emissivity of no greater than 0.05 as tested in accordance with ASTM E-408. The radiant barrier shall be installed with the shiny side facing down and with a minimum air gap thickness of 3/4-inch below. The radiant barrier may be securely attached to the roof framing or may be laminated to the bottom of the roof sheathing.

402.1.1.7 Cool Roof. A cool roof shall have an infrared emittance of no more than 0.75 when tested in accordance with ASTM E-408 and a high solar reflectance. The manufacturer's test results shall be acceptable for compliance.

402.1.1.8 Roof Heat Gain Factor. The Roof Heat Gain Factor (RHGF) shall not exceed 0.05 when calculated as described in Equation 402.1.1-1.

Equation 402.1.1-1: $RHGF=U_r \times a \times RB$

Where:

- RHGF = Roof Heat Gain Factor ($Btu/ft^2\text{-}h\text{-}^0F$)
- U_r = overall thermal transmittance value for the gross area of opaque roof surfaces ($Btu/ft^2\text{-}h\text{-}^0F$)
- a = roof surface absorptivity. Between 0.3 and 1.0 (unitless)

- RB = Radiant Barrier credit. Equals 0.33 if a radiant barrier is installed and

1.00 otherwise (unitless). Radiant barrier installation must comply with Section 402.1.1.7.1 to qualify for radiant barrier credit.

402.1.1.8.1 Radiant Barrier Credit. To qualify for the radiant barrier credit (RB) described in Section 402.1.1.8, the installation of the radiant barrier must meet the following criteria:

1. The emissivity of the radiant barrier must be 0.10 or less. The manufacturer must provide test data or documentation of the emissivity as tested in accordance with ASTM E-408.
2. The radiant barrier must be securely installed in a permanent manner using one of the following installation methods:
   2.1. The radiant barrier shall be draped with the shiny side facing down over the top cord of the truss before the roof deck is installed. A minimum air gap of ¾-inch must be provided between the radiant barrier and the roof deck above at the center of the span. A minimum ¾-inch air gap must also be provided between the radiant barrier and the ceiling or insulation below.
   2.2. The radiant barrier shall be stretched with the shiny side facing down between the top cords of the truss and stapled or otherwise secured at each side. A minimum air space of ¾-inch above and below is required.
   2.3. For attic installations only, the radiant barrier shall be stapled or otherwise secured to the bottom surface of the top cord of the truss and draped below with the shiny side facing down. A minimum air space of 3/4-inch above and below is required.
   2.4. For open beam ceiling construction only, the radiant barrier shall be laid on top of the roof deck with the shiny side facing up and a minimum ¾-inch air gap between the radiant barrier and the roofing material above. The roof slope must be greater than or equal to 140 from horizontal.
3. At least one (1) square foot of free area for ventilation shall be provided per 150 square feet of attic floor area, or in the case of vaulted or open beam ceilings, per 150 square feet of ceiling area. In vaulted or open beam ceilings, the air space shall be vented with vent area approximately evenly distributed between the top and bottom. In vaulted ceiling, vents shall be provided for each air space between rafters.

Table 402.1.1 is amended to read:

Table 402.1.1
Insulation and Fenestration Requirements by Component

Climate Zone	Fenestration U-Factor	Skylight[b] U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement[c] Wall R-Value	Slab[d] R-Value & Depth	Crawl Space Wall R-Value
1	1.20	0.75	0.30	See Section 402.1.1.1	13	3	NR	NR	NR	NR

2	0.75	0.75	0.30	30	13	4	13	0	0	0
3	0.65	0.65	0.30[e]	30	13	5	19	0	0	5/13
4 except marine	0.40	0.60	NR	38	13	5	19	10/13	10, 2 ft	10/13
5 and marine 4	0.35	0.60	NR	38	19 or 13+5[g]	13	30[f]	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	19 or 13+5[g]	15	30[f]	10/13	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19	30[f]	10/13	10, 4 ft	10/13

For SI: 1 foot = 304.8 mm.

NR = No Requirement.

a. R-values are minimums. U-factors and SHGC are maximums. R-1 shall be permitted to be compressed into a 2 x 6 cavity.

b. The Fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. The first R-value applies to continuous insulation. The second to framing cavity insulation; either insulation meets the requirements.

d. R-5 shall be added to the required slab edge R-value for heated slabs.

e. There are no SHGC requirements in the marine zone.

f. Or insulation sufficient to fill the framing cavity, R-19 minimum.

g. "13 + 5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

Table 402.1.1.1 is added to read:

Table 402.1.1.1
Ceiling Insulation Alternative

	Design and Construction Components				
Design Option	**Roof Insulation (Section 402.1.1.4)**	**Attic Ventilation (Section 402.1.1.5)**	**Radiant Barrier (Section 402.1.1.6)**	**Cool Roof (Section 402.1.1.7)**	**Roof Heat Gain Factor below 0.05 (Section 402.1.1.8)**
1	R				
2[a]		R	R		
3[a]			R	R	
4[a]					R

R = Required

[a] Design option is not allowed at building sites above a 2,400-foot elevation.

Table 402.1.3 is amended to read:

Table 402.1.3
Equivalent U-Factors[a]

Climate Zone	**Fenestration U-Factor**	**Skylight U-Factor**	**Ceiling U-Factor**	**Frame Wall U-Factor**	**Mass Wall U-Factor**	**Floor U-Factor**	**Basement Wall U-Factor**	**Crawl Space Wall U-Factor**

1	1.2	0.75	0.035	0.082	0.197	NR	NR	NR
2	0.75	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.65	0.65	0.035	0.082	0.141	0.047	0.360	0.136
4 except marine	0.40	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and marine 4	0.35	0.60	0.030	0.060	0.082	0.033	0.059	0.065
6	0.35	0.60	0.026	0.060	0.060	0.033	0.059	0.065
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	0.059	0.065

NR = No Requirement

[a] Nonfenestration U-Factors shall be obtained from measurement, calculation or an approved source.

Section 402.3.3 is amended read:

402.3.3 Glazed fenestration exemption. Up to 15 square feet (1.4m^2) of glazed fenestration per dwelling unit shall be permitted to be exempt from U-factor and SHGC requirements in Section 402.1.1. North-facing windows and windows with a projection factor of 1.0 or more shall be permitted to be exempt for SHGC requirements in Section 402.1.1. This exemption shall not apply to the U-factor alternative approach in Section 402.1.3 and the Total UA alternative in Section 402.1.4. SHGC requirement for jalousie windows shall be 0.65.

Section 402.4.1.1 is added to read:

402.4.1.1 Unconditioned building exemption. Unconditioned residential buildings are exempt from compliance with Section 402.4. The free-vent fenestration area of unconditioned buildings shall be no less than 14% of the floor area. All interior doors shall be capable of being secured in the open position and ceiling fan stub-ins shall be provided to living areas and bedrooms.

The exceptions in Section 402.4.4 are amended to read:

Exceptions:

1. Site-built windows, skylight and doors.
2. Jalousie windows shall not exceed 1.2 cfm per square foot (6.1 L/s/m^2).
3. Residential pools.

Entire Section 503.2.9 is amended to read:

503.2.9 Mechanical system commissioning and completion requirements. Prior to the issuance of certificate of occupancy, the design professional shall provide a written statement of system completion in accordance with Section 503.2.9.1 through 503.2.9.2.

503.2.9.1 System commissioning. Commissioning is a process that verifies and documents that the selected building systems have been designed, installed, and function according to the owner's project requirements and construction documents. Drawing notes shall require commissioning and completion requirements in accordance with the section. Drawing notes may refer to specifications for further requirements. Copies of all documentation shall be given to the owner.

503.2.9.1.1 Commissioning plan. A commissioning plan shall include as a minimum the following items:

1. A detailed explanation of the original owner's project requirements.

2. A narrative describing the activities that will be accomplished during each phase of commissioning, including guidance on who accomplishes the activities and how they are completed.
3. Equipment and systems to be tested, including the extent of tests.
4. Functions to be tested (for example calibration, economizer control, etc.).
5. Conditions under which the test shall be performed (for example winter and summer design conditions, full outside air, etc.).
6. Measurable criteria for acceptable performance.

503.2.9.2 Systems adjusting and balancing. All HVAC systems shall be balanced in accordance with generally accepted engineering standards. Air and water flow rates shall be measured and adjusted to deliver final flow rates within 10% of design rates. Test and balance activities shall include as a minimum the following items:

1. Air systems balancing: Each supply air outlet and zone terminal device shall be equipped with means for air balancing in accordance with the requirements of Chapter 6 of the International Mechanical Code. Discharge dampers are prohibited on constant volume fans and variable volume fans with motors 10 hp (18.6 kW) and larger. Air systems shall be balanced in a manner to first minimize throttling losses then, for fans with system power of greater than 1 hp, fan speed shall be adjusted to meet design flow conditions.

Exception: Fan with fan motors of 1 hp or less.

2. Hydronic systems balancing: Individual hydronic heating and cooling coils shall be equipped with means for balancing and pressure test connections. Hydronic systems shall be proportionately balanced in a manner to first minimize throttling losses, then the pump impeller shall be trimmed or pump speed shall be adjusted to meet design flow conditions. Each hydronic system shall have either the ability to measure pressure across the pump, or test ports at each side of each pump.

Exceptions:

1. Pumps with pump motors of 5 hp or less.
2. When the throttling result is no greater than 5% of the nameplate horsepower draw above that required if the impeller were trimmed.

Chapter 6 is amended by adding the following reference to ASTM Standards to read:

ASTM E 408-2008, Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection Meter Techniques 402.1.1.6, 402.1.1.7, 402.1.1.8.1.]”

SECTION 3. Chapter 12, Kauaʻi County Code 1987, as amended, is hereby amended to read as follows and all other and prior ordinances or parts of ordinances in conflict herewith are hereby repealed:

"**Chapter 12 BUILDING CODE**

ARTICLE 1. GENERAL PROVISIONS

ARTICLE 2. ADOPTION OF THE INTERNATIONAL BUILDING CODES AND AMENDMENTS THERETO

ARTICLE 3. RELOCATION OF BUILDINGS

ARTICLE 4. FACTORY-BUILT HOUSING, STRUCTURES, AND TRAILER HOMES

ARTICLE 5. THATCHED MATERIAL ON EXTERIOR OF BUILDING: PROTECTION AGAINST EXPOSURE FIRES

ARTICLE 6. ENERGY CONSERVATION CODE

ARTICLE 1. GENERAL PROVISIONS

Sec. 12-1.1 Purpose.

The purpose of this Chapter is to adopt and incorporate building codes and provide amendments thereto, for regulating the construction, alteration, equipment, moving, or demolition of buildings or structures in the County of Kauaʻi, providing for the issuance of permits and collection of fees thereof, and providing penalties for the violation thereof.

Sec. 12-1.2 Title.

This Chapter shall be known as the Building Code of the County of Kauaʻi and may be cited as the "Building Code."

Sec. 12-1.3 Administration.

The following provisions reference the International Building Code, 2018 Edition, amended to read as follows, but shall apply generally to any construction-related reference to Chapter 12, Kauaʻi County Code 1987, as amended, and shall supersede and survive any county adoption deadlines relating to various code effective dates pursuant to action of the State Building Code Council:

(1) Amending Section **[A] 101.1. Title.** Section [A] 101.1 is amended to read:

> **[A] 101.1 Title.** These regulations shall be part of the Building Code of the County of Kauaʻi, hereafter referred to as "this code."

(2) Amending Section **[A] 101.2. Scope.** Section [A] 101.2 is amended to read:

> **[A] 101.2 Scope.** The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every

building or structure or any appurtenances connected or attached to such buildings or structures within the County inland of the shoreline, except:

- Where located primarily in the public way;
- Public utility towers or poles;
- Electrical and mechanical equipment cabinets not specifically regulated in this code;
- Hydraulic flood control structures; and
- Recreational playground equipment.

Exceptions: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress, and their accessory structures not more than three stories above grade plane in height, shall be permitted to comply with the *International Residential Code* as adopted by the County of Kauaʻi if provided with debris impact protection in accordance with Section 1609.2 Protection of Openings. Exception 3 in Section 1609.2 shall not apply.

(3) Amending Section **[A] 101.2.1 Appendices.** Section [A] 101.2.1 is amended to read:

[A] 101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

Exceptions:

1. Appendix U, Hawaiʻi Hurricane Sheltering Provisions for New Construction, shall be adopted.
2. Appendix W, Hawaiʻi Wind Design Provisions for New Construction, shall be adopted.
3. Appendix X, Hawaiʻi Provisions for Indigenous Hawaiian Architecture Structures, shall be adopted.

(4) Amending Section **[A] 101.4 Referenced codes.** Section [A] 101.4 is amended to read:

[A] 101.4 Referenced codes. The other codes referenced elsewhere in this code shall be considered a part of this code to the prescribed extent of each such reference.

(5) Amending Section **[A] 101.4.1 Gas.** Section [A] 101.4.1 is amended to read:

[A] 101.4.1 Other codes. Other referenced codes not listed in Section 101.4 are considered referenced guidelines and not mandatory.

(6) Amending Section **[A] 101.4.2 Mechanical.** Section [A] 101.4.2 is amended to read:

[A] 101.4.2 Gas. Whenever the term International Fuel Gas Code is used in this code, it shall mean the County of Kauaʻi Plumbing Code.

(7) Amending Section **[A] 101.4.3 Plumbing.** Section [A] 101.4.3 is amended to read:

[A] 101.4.3 Plumbing. Whenever the term International Plumbing Code is used in this code, it shall mean the County of Kauaʻi Plumbing Code.

(8) Amending Section **[A] 101.4.4 Property maintenance.** Section [A] 101.4.4 is amended to read:

[A] 101.4.4 Electrical code. The provisions of the County of Kauaʻi Electrical Code shall apply.

(9) Amending Section **[A] 101.4.5 Fire prevention.** Section [A] 101.4.5 is amended to read:

[A] 101.4.5 Fire prevention. Whenever the term International Fire Code is used in this code, it shall mean the Fire Code.

(10) Amending Section **[A] 101.4.6 Energy.** Section [A] 101.4.6 is amended to read:

[A] 101.4.6 Energy. Whenever the term International Energy Conservation Code is used in this code, it shall mean Article 6 Energy Conservation Code of this Code.

(11) Adding Section **[A] 101.4.8 Conflicts with other codes.** If a referenced code conflicts with another applicable law of the jurisdiction, then said applicable law shall prevail over the referenced code.

(12) Amending Section **[A] 102.2 Other laws.** Section [A] 102.2 is amended to read:

[A] 102.2 Other Codes and Ordinances. Any provisions of this code contrary notwithstanding, the following shall be at all times in full force and effect, and in case of conflicting requirements, except where Federal and/or State law preempts County law, the stricter shall be complied with:

- Hawaiʻi Revised Statutes;

- Ordinances of the County of Kauaʻi;
- Rules and Regulations of the Land Use Commission, State of Hawaiʻi;
- Subdivision Rules and Regulations adopted pursuant to the Subdivision Ordinance;
- Rules and Regulations of the Department of Water, County of Kauaʻi;
- Public Health Regulations of the Department of Health, State of Hawaiʻi;
- Rules and Regulations of the Department of Labor and Industrial Relations, State of Hawaiʻi;
- Fire Code of the County of Kauaʻi;
- Airport Zoning Regulations of the Director of Transportation, State of Hawaiʻi.

(13) Amending Section **[A] 102.6 Existing structures.** Section [A] 102.6 is amended to read:

[A] 102.6 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the County adoption of the *International Existing Building Code*, or the Fire Code.

(14) Deleting Section **[A] 102.6.1 Buildings not previously occupied.** Section [A] 102.6.1 is deleted in its entirety.

(15) Deleting Section **[A] 102.6.2 Buildings previously occupied.** Section [A] 102.6.2 is deleted in its entirety.

(16) Amending **SECTION 103 DEPARTMENT OF BUILDING SAFETY.** Section 103 is amended to read:

SECTION 103 – ORGANIZATION AND ENFORCEMENT

[A] 103.1 Creation of enforcement agency. There is hereby established in this jurisdiction a code enforcement agency that shall be under the administrative operational control of the *building official*.

[A] 103.2 Deputies. In accordance with the prescribed procedures and with the approval of the appointing authority, the *building official* may appoint technical officers, inspectors, plans examiners and other employees. The *building official* may deputize such inspectors or employees as may be necessary. Such employees shall have powers as delegated by the *building official*.

The *building official* may temporarily deputize inspectors, employees or volunteers to carry out the functions of the code enforcement agency in the event of a natural disaster.

(17) Amending Section **[A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas.** Section 104.2.1 is amended to read:

[A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas. For applications for reconstruction, rehabilitation, *repair*, *alteration*, *addition* or other improvement of existing buildings or structures located in *flood hazard areas*, requirements of Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended, shall prevail.

(18) Amending Section **[A] 104.7 Department records.** Section 104.7 is amended to read:

[A] 104.7 Department records. The *building official* shall keep official records of applications received, *permits* and certificates issued, fees collected, reports of inspections, and notices and orders issued. The official records under the jurisdiction of the *building official* shall be maintained as public records for the following:

1. Building, electrical, and plumbing permit applications for construction of all buildings and structures which fall under this Code shall be maintained for a period of seven (7) years.
2. Residential building plans for all residential buildings and structures within a residential area shall be maintained for a period of seven (7) years.
3. Commercial building plans for all commercial buildings within a commercial, industrial or resort area shall be maintained for a period of fifteen (15) years.
4. Records for plans and permits submitted and issued under electronic plan review shall be retained according to County policy.

(19) Amending Section **[A] 104.10.1 Flood hazard areas.** Section 104.10.1 is amended to read:

[A] 104.10.1 Flood hazard areas. The *building official* shall not grant modifications to any provision required in *flood hazard areas* as established by Section 1612.3 unless a variance is issued in accordance with Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended.

(20) Amending Section **[A] 105.1 Required.** Section [A] 105.1 is amended to read:

[A] 105.1 Required. No person, firm or corporation shall erect, construct, enlarge, repair, move, alter, improve, remove, convert, or demolish any building or structure in the County of Kauaʻi, or cause the same to be done, without first obtaining a separate building permit for each such building or structure from the *building official*.

(21) Amending Section **[A] 105.1.1 Annual permit.** Section [A] 105.1.1 is amended to read:

[A] 105.1.1 Solar permit required. No person shall install any solar energy system on any premises, building or structure within the County, or cause the foregoing to be done, without first obtaining a permit, issued under the authority of this Section.

Exception: Solar energy system work by an electrical utility or serving agency operating under a franchise or charter granted by the State of Hawaiʻi.

(22) Deleting Section **[A] 105.1.2 Annual permit records**. Section [A] 105.1.2 is deleted in its entirety.

(23) Amending Section **[A] 105.2 Work exempt from permit**. Section [A] 105.2 is amended to read:

[A] 105.2 Work exempt from permit. A building permit shall not be required for the following; however, all other governmental agency codes and laws shall be complied with:

1. Work accepted under Section 101.2.
2. One-story detached accessory buildings used as tool and storage sheds, playhouses, animal shelters, green houses, trash enclosures and similar uses, provided the floor area does not exceed 300 square feet and complies with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended and the Administrative Laws and Rules of the Department of Health, State of Hawaiʻi.
3. Fences and structures such as architectural barriers and planter boxes not over 6 feet in height, measured from the finish grade to the top of the structures and constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code 1987, as amended.

4. Retaining walls, which are not over 4 feet in height, measured from the finish grade to the top of the wall. Rip-rap type retaining walls with a slope of not less than 1:1 and having a vertical dimension not over 4 feet in height, constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1 Floodplain Management and Chapter 16, Traffic Code, Kaua'i County Code 1987, as amended.

5. Sidewalks, driveways, outside paving and curbs.

6. Painting, decorating, papering, floor covering, tiling, carpeting, cabinets, counter tops and similar finish work.

7. Installation of sidings over existing exterior walls of building of Group R-3 or U Occupancy. Reroofing work for Group R-3 or U Occupancy, providing that the roofing material shall be of similar type material or application.

8. Temporary construction buildings, sheds, platforms, fences and similar structures used during the construction project or for use as props for motion pictures, filming, television, theater stage sets, scenery and live play performances.

9. Prefabricated swimming pools accessory to Group R Occupancy in which the pool walls are entirely above the adjacent grade and the capacity of water does not exceed 5,000 gallons.

10. Tents or other similar coverings used for private parties or for camping. Tents or other similar coverings erected as accessory uses in relationship to Group R and Group U Occupancies, provided such tents or other similar covering is not used as a dwelling and erected in accordance with Chapter 8, Comprehensive Zoning Ordinance and Chapter 15, Article 1, Floodplain Management, Fire Code, Kaua'i County Code 1987, as amended.

11. Temporary tents or other similar coverings erected for commercial, ceremonial or religious purposes such as rallies, festivals and amusements provided no person, firm or corporation shall erect any tent or similar structure, which is to be used as a dwelling. Tents or other similar coverings shall be erected in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management and Chapter 15A, Fire Code, Kaua'i County Code 1987, as amended.

12. Awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support of Group R and Group U Occupancies.

13. Moveable cases, counters and partitions not over 5 feet 9 inches (1753mm) in height.

14. Home television and radio antennas. Standard electroliers and flagpoles not over 35 feet in height above the finish grade.

15. Repairs which involve only the replacement of component parts or existing work with similar material for the purpose of maintenance, and which do not aggregate over $20,000.00 in valuation in any 12-month period, and do not affect any electrical or mechanical installations. Repairs exempt from permit requirements shall not include any additions, change or modification in construction, exit facilities, or permanent fixtures or equipment.

16. Architectural barriers, curbs, retaining walls, fences and structures approved and constructed with roadway or highway construction, subdivision of lands and in accordance with plans approved by the County under subdivision rules and regulations or under a grading permit.

17. Structures such as decorative water features, lagoons, fishponds or aquatic ponds not used for human occupancy and constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987 as amended and the Administrative Rules of the Department of Water, County of Kauaʻi.

18. Shade cloth structures constructed for nursery or agricultural purposes. Shade cloth structures or other similar coverings shall be erected in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management and Chapter 15A, Fire Code, Kauaʻi County Code 1987, as amended.

19. Work on building or premises owned by or under the direct control of the United States or the State of Hawaiʻi, except where permits are specially requested by said governmental agency.

(24) Deleting Section **[A] 105.2.2 Public service agencies.** Section [A] 105.2.2 is deleted in its entirety.

(25) Amending Section **[A] 105.3.1 Action on application.** Section [A] 105.3.1 is amended to read:

[A] 105.3.1 Issuance of permits. A building, electrical, or plumbing permit may be issued to an applicant to perform the work under Chapter 444, Hawaiʻi Revised Statutes. The applicant shall provide a statement concerning licensure or exemption in accordance with Chapter 444, Hawaiʻi Revised Statutes.

The application, plans and specifications filed by an applicant for a permit shall be checked by the *building official.* Such plans shall be reviewed by other departments of the County to check for compliance with laws and ordinances under their jurisdiction. If the work described in an application

for permit, and the plans filed therewith, conform to the requirements of this Code and other pertinent laws and ordinances, and the fee specified in Section 109 has been paid, the *building official* shall issue a permit therefore to the applicant. Payment for any permit fee shall be paid prior to the issuance of such permit; provided, however, that no permit shall be granted for the moving of any building or structure or portion thereof which has deteriorated or been damaged to an extent greater than 50 percent of the cost of the replacement (new) of such building or structure.

When the *building official* issues the permit, he shall affix an official stamp of approval to the specifications and each sheet of the Job Site Copy of the plans. Such approved plans and specifications shall not be changed, modified, or altered without authorization from the *building official* and other agencies granting approval, and all work shall be done in accordance with the approved plans. The permit shall be posted in a conspicuous place on the site during the progress of work.

A fee of ten dollars ($10.00) shall be imposed and collected for the reproduction of any building, electrical, plumbing or sign permit card for which a permit was issued by the *building official.*

Solar Permits. The issuance of the permit shall cover the building, electrical and plumbing code requirements pertinent to the solar energy system and the scope of work for each specialty classification.

To whom permits may be issued to covering the scope of work for each specialty classification:

1. A homeowner complying with the provisions set forth in Chapter 444 HRS.
2. A person, firm, partnership, association or corporation holding a valid unexpired license and complying with the provisions set forth in Chapter 444 HRS for the scope of work covered by the permit.

(26) Amending Section **[A] 105.5 Expiration**. Section [A] 105.5 is amended to read:

105.5 Expiration. Every permit issued by the *building official* under the provisions of this Code shall expire by limitation and become null and void, if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the construction or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.

Where a permit has expired, been suspended or abandoned, a new permit shall be first obtained by the permittee, his agent, or his successor in interest, and a new permit fee equal to one-half the amount established from Table No. 1-A of this Code rounded off to the nearest dollar, based on the original valuation of such permit shall be paid, provided no changes have been made or will be made to the original plans and specifications for such work; and provided, further, that such permit has not exceeded a period of one year from the date of permit issuance or the date of suspension or abandonment of work authorized, whichever is later.

Any permittee, his agent or his successor in interest holding an unexpired permit, who is unable to commence work, may apply for an extension. Upon written request by the permittee, the *building official* may, in writing, extend the permit for a period of 180 days, however, in the event of strikes or other causes beyond the control of the building contractor or permittee, the *building official* may extend the permit for the duration of the event. No permit shall be extended more than once.

For building permits issued prior to July 1, 1984, the *building official* shall not activate and reissue a permit. If a permittee, his agent, or his successor in interest, desires to have the permitted building certified that it was done in compliance with all County of Kauaʻi or State of Hawaiʻi laws, codes and ordinances at the time the original permit was issued, and that the building does not violate any laws, codes and ordinances, he may hire a duly registered licensed structural engineer or architect as required by Chapter 464, Hawaiʻi Revised Statutes, as amended, to provide such certification.

Exception: The *building official* may activate and reissue an expired permit for the purpose of continuing the permitted work or to secure all inspections required by this Code, the Electrical or Plumbing Codes, when the permittee complies with the following conditions:

1. For permits issued after July 1, 1984, the permittee, his agent, or his successor in interest shall submit a request to Building Division to renew plans originally submitted electronically. Permits originally submitted on paper have the option of renewing with a minimum of three (3) copies of the original approved plans. In the event the approved plans are not available, the permittee shall submit plans prepared, approved and stamped by a duly registered licensed structural engineer or architect as required by Chapter 464, Hawaiʻi Revised Statutes, as amended, certifying to

the *building official* that the plans are the same as the original approved plans and complies to all County of Kauaʻi or State of Hawaiʻi laws, codes, and ordinances at the time the permit was issued.

2. All work that was started on an expired permit and completed according to the approved plans prior to the reissuance of such permit shall remain valid under the Code it was issued. Any new work shall conform to the current Code. The *building official* may waive the requirement for submitting plans if the original is on file.

When a permit is activated and reissued, a permit fee therefore shall be required as provided in this Section.

(27) Amending Section **[A] 105.7 Placement of permit.** Section [A] 105.7 is amended to read:

Work requiring a permit shall not commence until the permit card is conspicuously posted on the building or structure where the work is to be done to allow the *building official* to conveniently make the required entries regarding inspection of the work. This permit card shall be posted, maintained and made available by the permit holder until final inspection has been completed by the *building official*.

(28) Adding Section **[A] 105.8 Transferability of permit**. Section [A] 105.8 is added to read:

[A] 105.8 Transferability of permit. Any assignment and/or transfer of any substantial interest in any permit shall be subject to the approval and consent of the Department of Public Works. Such approval and consent shall not be unreasonably withheld provided that the assignee and/or transferee agrees in writing to the following:

1. To comply with the plans and specifications upon which the permit was issued in the absence of any subsequent amendments to any applicable existing laws and ordinances as indicated in (2) below; or
2. To comply with the terms and provisions of any subsequent amendments to the Comprehensive Zoning Code, Building Code, as well as all relevant laws, ordinances, and rules and regulations which would affect either the development's height, floor area, lot coverage, fire safety and/or land use.

3. The stricter requirements prescribed in subsection (2) hereinabove shall not be applicable in situations where the permit holder can offer documented evidence to the *building official* that the permit holder has made, in good faith, a substantial and material change in position in reliance upon the issuance of the permit.

Upon approval by the *building official*, Building Division shall issue a transferability permit and receive payment of the required non-refundable transfer fee of fifty dollars ($50.00).

(29) Amending Section **[A] 106.1 Live loads posted.** Section [A] 106.1 is amended to read:

[A] 106.1 Live loads posted. In commercial or industrial buildings, for each floor or portion thereof designed for live loads 100 psf (4.80 kN/m^2), such design live loads shall be conspicuously posted by the owner or owner's authorized agent in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

(30) Amending Section **[A] 107.1 General.** Section [A] 107.1 is amended to read:

[A] 107.1 General. Submittal documents consisting of *construction documents*, statement of *special inspections*, and other data shall be submitted with each *permit* application. All plans and specifications relating to work which affects the public safety or health and for which a building permit is required shall be prepared, designed, approved and stamped by a registered professional licensed as required by Chapter 464 of the Hawai'i Revised Statutes, as amended. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a *registered design professional.* Procedures for plan submission shall comply with Policy and Standard Operating Procedure BU007 BUILDING PERMIT PROCESSING POLICY.

All plans for retaining walls five (5) feet or more in height shall be prepared, designed, approved and stamped by a duly registered licensed architect or engineer in the structural or civil branches.

Exception: The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a *registered design professional* if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code.

(31) Amending Section **[A] 107.2 Construction documents.** Section [A] 107.2 is amended to read:

[A] 107.2 Construction documents. *Construction documents* shall be in accordance with Sections 107.2.1 through 107.2.7.

(32) Amending Section **[A] 107.2.1 Information on construction documents**. Section [A] 107.2.1 is amended to read:

[A] 107.2.1 Information on construction documents. *Construction documents* shall be dimensioned and drawn to scale on suitable material. Electronic media documents are permitted to be submitted where *approved* by the *building official. Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official.*

The plans are graphic representations of the building or structure. Plans, building sections and detail drawings shall be provided and drawn to scale. Building section and detail drawings need to be of an adequate scale to clearly show details. A complete set of plans shall include the minimum drawings:

1. Plot or site plan.
2. Floor plan.
3. Foundation plan.
4. Framing plans:
    - Floor framing plan.
    - Roof framing plan with roof truss details.
5. Elevation plans:
    - Exterior elevations of the building.
    - Interior elevations of kitchen, bathroom, and laundry area.
6. Building cross sections and section details along with door and window schedules.
7. Electrical and mechanical/HVAC plans.

Solar system permits require the following minimum plans:

1. Plot or site plan.
2. Equipment specifications.
3. Information as listed on the "Plan Review Checklist for Photovoltaic System Installation" handout.
4. Commercial plans shall be stamped and signed by a registered design professional.

(33) Deleting Section **[A] 107.2.6.1 Design flood elevations.** Section 107.2.6.1 is deleted in its entirety.

(34) Deleting Section **[A] 107.2.8 Relocatable buildings.** Section [A] 107.2.8 is deleted in its entirety.

(35) Amending Section **[A] 107.3 Examination of documents.** Section [A] 107.3 is amended to read:

The *building official* shall examine or cause to be examined the accompanying submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances. The jurisdiction is limited to nonstructural plan review.

(36) Amending Section **[A] 107.3.1 Approval of construction documents.** Section [A] 107.3.1 is amended to read:

[A] 107.3.1 Approval of construction documents. The application, plans and specifications filed by an applicant for a permit shall be checked by the *building official.* Such plans shall be reviewed by other departments of the County to check for compliance with laws and ordinances under their jurisdiction. If the work described in an application for permit, and the plans filed therewith, conform to the requirements of this code and other pertinent laws and ordinances, and the fee specified in Section 109 has been paid, the *building official* shall issue a permit to the owner; provided, however, that no permit shall be granted for the moving of any building or structure or portion thereof which has deteriorated or been damaged to an extent greater than 50 percent of the cost of replacement (new) of such building or structure.

When the *building official* issues the permit, an official stamp of approval shall be affixed to the specifications and each sheet of the plans. Such approved plans and specifications shall not be changed, modified, or altered without authorization from the *building official* and other agencies granting approval, and all work shall be done in accordance with the approved plans. The building permit shall be posted in a conspicuous place on the site during the progress of work.

A fee of ten dollars ($10.00) shall be imposed and collected for the reproduction of any building, electrical, plumbing, or sign permit cards, for which a permit was issued by the *building official*.

Solar Permits. The issuance of solar permits shall cover the building, electrical and plumbing code requirements pertinent to the solar energy systems and the scope of work for each specialty classification.

To whom permits may be issued covering the scope of work for each specialty classification:

1. A homeowner complying with the provisions set forth in Chapter 444, HRS.
2. A person, firm, partnership, association, or corporation holding a valid unexpired license and complying with the provisions set forth in Chapter 444, HRS for the scope of work covered by the permit.

The applicant shall provide the name of the licensed individual or firm who will perform the incidental specialty work covered by Chapter 448E, HRS.

(37) Amending Section **[A] 107.3.4 Design professional in responsible charge.** Section [A] 107.3.4 is amended to read:

[A] 107.3.4 Design professional in responsible charge.

Where plans, specifications and documents must be prepared, designed, stamped, and approved by architects or engineers, and/or the architects or engineers act as duly registered professionals of record, the architect or engineer shall comply with and perform their duties according to the following:

a. Chapter 464, Hawai'i Revised Statutes, Professional Engineers, Architects, Surveyors and Landscape Architects, as amended.
b. Title 16, Chapter 115, Department of Commerce and Consumer Affairs, Hawai'i Administrative Rules Professional Engineers, Architects, Surveyors, and Landscape Architects, State of Hawai'i, as amended.

If the circumstances require, the owner may designate a substitute design professional in responsible charge who shall perform all or a portion of the duties of the r*egistered design professional* in responsible charge. The *building official* shall be notified in writing by the *owner* or the owner's authorized agent if the *registered design professional in responsible charge* is changed or is unable to continue to perform the duties.

The *registered design professional in responsible charge* shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

(38) Amending Section **[A] 107.5 Retention of construction documents.** Section [A] 107.5 is amended to read:

[A] 107.5 Retention of construction documents. For paper plan submissions, one set of *approved construction documents* shall be retained by the *building official* as the official records, and one set of *approved construction documents* shall be returned to the applicant as the approved Job Site Copy. The Job Site Copy shall be kept on the site of the building or work area at all times during which the work authorized is thereby in progress.

For plans submitted electronically, one set of *approved construction documents* shall be printed on 24" x 36" paper by the permit holder and kept on the site of the building or work area at all times during which the work authorized is thereby in progress.

The official records under the jurisdiction of the *building official* shall be maintained as public records for the following:

1. Building, electrical, and plumbing permit applications for construction of all buildings and structures, which fall under this Code, shall be maintained for a period of seven (7) years.
2. Residential building plans for all residential buildings and structures within a residential area shall be maintained for a period of seven (7) years.
3. Commercial building plans for all commercial buildings within a commercial, industrial or resort area shall be maintained for a period of fifteen (15) years.
4. Records for plans and permits submitted and issued under electronic plan review shall be retained according to County policy.

(39) Deleting **SECTION 108 TEMPORARY STRUCTURES AND USES.** Section 108 is deleted in its entirety.

(40) Amending Section **[A] 109.2 Schedule of permit fees**. Section [A] 109.2 is amended to read:

[A] 109.2 Schedule of permit fees. When permits are required, a fee for each permit shall be paid in accordance with the schedule as established by the *building official.*

Exceptions:

1. The County of Kaua‘i and its agencies and contractors, except for the Department of Water, thereof shall be exempt from the requirement of paying permit fees.
2. Housing projects or portions of housing projects that are developed to be affordable to low-income household as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt provided such projects conform to applicable provisions of the County's affordable housing program.
3. Housing projects or portions of housing projects that are developed to be affordable to gap-group households as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt from one-half of the Building Permit fee, rounded off to the nearest dollar, provided such projects conform to applicable provisions of the County's affordable housing program.
4. Additional Rental Units ("ARU") pursuant to Chapter 8, Article 30, Kaua‘i County Code 1987, as amended, shall be exempt provided such ARU received certification from the Housing Agency that the ARU qualifies as affordable housing.

(41) Adding Section **[A] 109.2.1 Permit fees.** Section [A] 109.2.1 is added to read:

[A] 109.2.1 Permit fees. The fee for each permit shall be as set forth in Table 1-A.

(42) Amending Section **[A] 109.3 Building permit valuations.** Section [A] 109.3 is amended to read:

[A] 109.3 Building permit valuations. The *building official* shall make the determination of value or valuation under any provision of this code. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued, as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire extinguishing systems, and any other permanent equipment. Final building permit valuation shall be set by the *building official* in Policy and Standard Operating Procedure BU006 BUILDING VALUATION POLICY.

(43) Amending Section **[A] 109.4 Work commencing before permit issuance.** Section [A] 109.4 is amended to read:

[A] 109.4 Work commencing before permit issuance. Whenever any work for which a permit is required by this code has been commenced

without first obtaining said permit, a special investigation may be made with the approval of the *building official.*

(44) Adding Section **[A] 109.4.1 Fee.** Section [A] 109.4.1 is added to read:

[A] 109.4.1 Fee. An investigation fee, in addition to the permit fee, may be collected whether or not a permit is then subsequently issued. The investigation fee shall be equal to the amount of the permit fee fixed by Table 1-A for such work. However, in all such cases, there may be a minimum combined amount for investigation and permit fees of two hundred dollars ($200.00) for any such work commenced without a permit.

The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this Code, nor from any penalty prescribed by law.

(45) Amending Section **[A] 109.5 Related fees.** Section [A] 109.5 is amended to read:

[A] 109.5 Building plan review fees. When a plan or other data is required to be submitted by Section 107, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fees shall be fifteen (15) percent of the building fees established from Table 1-A rounded off to the nearest dollar, based upon a preliminary estimated valuation of work.

When the plan review is completed or when after the issuance of the building permit, new plans, revisions or other documents are submitted to require a new plan review, an additional plan review fee for each additional review shall be charged. The new plan review fee shall be equal to the original fee paid for the proposed project.

Where a plan review fee has been paid, the plan review fee payment shall be deposited to the Plan Review, Permit Processing and Inspection Revolving Fund. Plan review fees are non-refundable.

(A) There is hereby established and created a fund to be known as the "Plan Review, Permit Processing and Inspection Revolving Fund." The fees collected pursuant to this subsection are hereby deemed appropriated upon receipt and may be expended for the hiring of persons employed on a fee, contract or piecework basis, or independent contractors to assist in plan checking, permit processing and inspections. The Budget Ordinance shall determine the maximum number of persons that may be hired with these fees. The fee may also

be expended for training, materials, supplies, and equipment that facilitate plan review, code enforcement, and for payment of overtime for plan checking, permit processing and inspections. At the end of the County's fiscal year, any fund balance in excess of $300,000.00 in uncommitted funds shall be transferred and deposited into the General Fund.

Exceptions:

1. The County of Kaua'i and its agencies and contractors, except for the Department of Water, thereof shall be exempt from the requirement of paying plan review fees.
2. Housing projects or portions of housing projects that are developed to be affordable to low-income household as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt provided such projects conform to applicable provisions of the County's affordable housing program.
3. Housing projects or portions of housing projects that are developed to be affordable to gap-group households as determined by the Housing Director or his authorized representative of the County Housing Agency shall be exempt from one-half of the Building Permit fee, rounded off to the nearest dollar, provided such projects conform to applicable provisions of the County's affordable housing program.
4. Additional Rental Units ("ARU") pursuant to Chapter 8, Article 30, Kaua'i County Code 1987, as amended, shall be exempt provided such ARU received certification from the Housing Agency that the ARU qualifies as affordable housing.

(46) Adding Section **[A] 109.5.1 Expiration of building plan review**. Section [A] 109.5.1 is added to read:

[A] 109.5.1 Expiration of building plan review. Applications for which plan review fees have been paid and for which no permit is issued within 365 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the *building official.* In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

(47) Amending Section **[A] 109.6 Refunds.** Section [A] 109.6 is amended to read:

[A] 109.6 Fee refunds. The *building official* shall refund an amount equal to fifty precent (50%) of the permit fee paid under the provisions of Section 109 where a permittee, due to a material change in circumstances or

financial difficulties, is unable to commence work authorized by the permit issued therefore. A request for refund shall be made in writing and reviewed by the *building official* on a case-by-case basis no later than fifteen (15) days after the expiration date of such permit; and provided further that where the *building official* has extended the expiration date of the original permit pursuant to Section 105.5, application for refund shall be made not later than fifteen (15) days after the new expiration date.

Where more than one permit has been erroneously procured by the permittee and/or his agent for the same construction of work, the *building official* shall approve one permit and refund the total amount of fees paid for the other permits upon the surrender thereof; provided that no refund shall be made on any permit which has been surrendered after 180 days from the issuance of such permit, or where the amount to be refunded is less than twenty dollars ($20.00).

Notwithstanding the foregoing provisions, no refund shall be made in any case where a new permit has been obtained under the provisions of Section 105.5, for recommencing the same work, or where the amount to be refunded is less than twenty dollars ($20.00). All permits upon which refunds have been made in accordance with the foregoing shall thereafter be null and void.

(48) Amending Section **[A] 110.1 General.** Section [A] 110.1 is amended to read:

[A] 110.1 General. Construction or work for which a *permit* is required shall be subject to inspection by the *building official* and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the *owner* or the owner's authorized agent to cause the work to remain visible and able to be accessed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Any inspections required by the *building official* shall be solely for the purpose of ascertaining compliance with the plans, specifications and code requirement as they relate to the structural integrity of the building and as they relate to health and safety. The inspections shall not be for the purpose of validating the workmanship of the building; such validation, if desired, shall be the responsibility of the building's owner and shall be done by a

special inspector, hired and paid for by the builder, owner or respective party.

A survey of the lot may be required by the *building official* to verify that the structure is located in accordance with the approved plans.

(49) Adding Section **[A] 110.1.1 Inspection of solar installations.** Section 110.1.1 is added to read:

[A] 110.1.1 Inspection of solar installations. Work for which a permit is required shall be subject to inspections by the *building official*. Requests for inspection shall be in accordance with the requirements set forth in this code. All inspection requests for incidental specialty work shall be requested by the licensed individual performing the work and in accordance with the requirements set forth in the Electrical or Plumbing Codes.

(50) Amending Section **[A] 110.3 Required inspections**. Section [A] 110.3 is amended to read:

[A] 110.3 Required inspections. The *building official*, upon notification from the holder of the building permit or their duly authorized agent, shall make the following inspections set forth in Sections 110.3.1 through 110.3.11 and shall either approve that portion of the construction as completed or shall notify the holder of the building permit or duly authorized agent if the same fails to comply.

(51) Amending Section **[A] 110.3.3 Lowest floor elevation.** Section [A] 110.3.3 is amended to read:

In *flood hazard areas*, upon placement of the lowest floor, including the *basement*, and prior to further vertical construction, the elevation certification required in Section 1612.4 shall be submitted to the Flood Engineer in accordance with Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended.

(52) Adding Section **[A] 110.3.3.1 Complete load path and uplift ties inspection.** Section [A] 110.3.3.1 is added to read:

[A] 110.3.3.1 Complete load path and uplift ties inspection. This inspection is required after tie straps, approved framing anchors or mechanical fasteners are installed and prior to any concealment by sheathing.

(53) Amending Section **[A] 110.3.5 Lath, gypsum board and gypsum panel product inspection.** Section [A] 110.3.5 is amended to read:

[A] 110.3.5 Lath, gypsum board and gypsum panel product inspection. Lath, gypsum board and gypsum panel product inspections shall be made after lathing, gypsum board and gypsum panel products, interior and exterior, are in place but before any plastering is applied or gypsum board and gypsum panel product joints and fasteners are taped and finished.

(54) Amending Section **[A] 110.3.9 Other inspections.** Section [A] 110.3.9 is amended to read:

[A] 110.3.9 Other inspections. In addition to the inspections specified in Sections 110.3.1 through 110.3.8, the *building official* is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of the code and other laws that are enforced by the code enforcement agency.

(55) Amending Section **[A] 110.3.11.1 Flood hazard documentation.** Section [A] 110.3.11.1 is amended to read:

[A] 110.3.11.1 Flood hazard documentation. If located in a *flood hazard area*, documentation of the elevation of the lowest floor as required in Section 1612.4 shall be submitted to the Flood Engineer in accordance with Chapter 15, Article 1, Floodplain Management prior to the final inspection.

(56) Amending Section **[A] 110.5 Inspection requests.** Section [A] 110.5 is amended to read:

[A] 110.5 Inspection requests. It shall be the duty of the holder of the building *permit* or their duly authorized agent to notify the *building official* when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

The *building official* may require that every request for inspection be filed at least two (2) working days before the day for which inspection is requested. The request may be communicated in writing, via email or by telephone at the option of the *building official*.

The permittee may authorize representatives to undertake the management of notification for inspections. Duly authorized representatives shall be authorized in writing by the person granting authorization.

(57) Adding Section **[A] 110.7 Reinspections.** Section [A] 110.7 is added to read:

[A] 110.7 Reinspections. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

This section is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection.

Reinspection fees may be assessed when the building permit card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the *building official*.

To obtain reinspection, the applicant shall file an application thereof in writing on a form furnished by the building official and pay the reinspection fee of fifty dollars ($50.00) for each additional inspection.

In an instance where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

(58) Amending Section **[A] 111.1 Change of occupancy.** Section [A] 111.1 is amended to read:

[A] 111.1 Use and occupancy. A building or structure shall not be used or occupied, and a change of occupancy of a building or structure or portion thereof shall not be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

Exceptions:

1. Certificates of occupancy are not required for work exempt from *permits* in accordance with Section 105.2.
2. Certificates of occupancy are not required for Group U occupancies.
3. The *building official* will have the discretion to issue a certificate of inspection in place of a certificate of occupancy.

(59) Deleting **SECTION 112 SERVICE UTILITIES**. SECTION 112 is deleted in its entirety.

(60) Amending **SECTION 113 BOARD OF APPEALS**. SECTION 113 is amended to read:

SECTION 113
BOARD OF APPEALS

[A] 113.1 Creation. There shall be and is hereby created a Board of Appeals, hereinafter called the Board, consisting of seven members who shall be qualified by experience and training to pass upon matters pertaining to building construction and fire safety and who shall be appointed by the Mayor with the approval of the County Council. One member shall be currently registered as an engineer or architect with the State of Hawai'i Board of Registration of Professional Engineers, Architects and Land Surveyors and Landscape Architects. Two members shall be qualified by experience or training to pass upon matters pertaining to fire safety.

One member shall be qualified by experience and training to pass upon matters pertaining to electrical work. One member shall be qualified by experience and training to pass upon matters pertaining to plumbing work. One member shall be qualified by experience and training to pass upon matters pertaining to building construction work. One member shall be from the public at large. The Board shall select a chairperson and vice chairperson annually.

[A] 113.2 Term of office. The members of the Board of Appeals shall serve for staggered terms of three (3) years and until their successors are appointed. However, no holdover term shall extend beyond ninety (90) days.

[A] 113.3 Limitation on number of terms. No member of the Board of Appeals shall serve for more than two (2) consecutive terms. Any partial term of more than two (2) years shall be considered a term as used herein.

[A] 113.4 Quorum. A majority of the entire membership shall constitute a quorum and the affirmative vote of a majority of the entire membership shall be necessary to take any action.

[A] 113.5 Powers and duties. The Board shall:

(a) Hear and determine appeals from the decisions of the *building official* in the administration of the County of Kaua'i Building Code, Electrical Code, Plumbing Code, and Sign Ordinance involving any denial of the use of new or alternate materials, types of construction, equipment, devices or appliances.

In the case of any denial of the use of new or alternate materials, types of construction, equipment, devices or appliances, an appeal may be sustained if the record shows:

(I) that such new or alternate materials, types of construction, equipment, devices or appliances meet the required standards established by the Codes being appealed from;

(II) that permitting the use thereof will not jeopardize life, limb or property; and

(III) that such use will not be contrary to the intent and purpose of the Code being appealed from. In such appeals, the appellant shall pay all expenses necessary for tests which may be ordered by the Board.

The Board may reverse, affirm or modify, wholly or partly the decision appealed from.

(b) Hear and determine appeals from the decision of the Fire Official in the administration of the County of Kaua'i Fire Code; and any denial in the use of new or alternate materials, types of construction, equipment, devices, or appliances.

The criteria for the use of new or alternate materials, types of construction, equipment, devices, or appliance shall be the same as for (a) above.

(c) Hear and determine petitions for varying the application of the Building Code, Electrical Code, Plumbing Code, and Sign Ordinance. A variance may be granted if the Board finds:

(I) that the strict application, operation or enforcement of the Code being appealed from would result in practical difficulty or unnecessary hardship;

(II) that safety to life, limb, and property will not be jeopardized; and

(III) that the granting of variance would not be injurious to any adjoining lot and any building thereon, would not create additional fire hazards, and would not be contrary to the purpose of the Code and the public interest. In making its determination, the Board shall take into account the character, use and type of occupancy and construction of an adjoining lot and any building involved.

[A] 113.6 Procedure. The proceedings of the Board shall be subject to the provisions of Chapter 91, Hawai'i Revised Statutes, as amended. The Board shall adopt rules and regulations for conducting its meetings, hearings, and investigations in conformity therewith and may impose fees to cover the costs of such proceedings.

(61) Amending SECTION 114 VIOLATIONS. SECTION 114 is amended to read:

SECTION 114
VIOLATIONS AND PENALTIES

114.1 Violations. Whenever any building is being used or constructed contrary to the provisions of this code, the *building official* shall serve a notice to the party responsible for the violation to make the structure or portions thereof comply with the requirements of this Code.

114.2 Penalties.

(a) General. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy, or maintain any building or structure or cause or permit the same to be done in violation of this code.

(b) Notice of violation. Whenever any person, firm or corporation violates any provision of this code, the *building official* shall serve a notice of violation to the party responsible for the violation to make the building or structure or portion thereof comply with the requirements of this code. Such notice of violation shall include:

(1) The date of the notice;

(2) The name and address of the person noticed, and the location of the violation;

(3) The section number of the ordinance, code or rule which has been violated;

(4) The nature of the violation; and

(5) The deadline for compliance with this notice.

The notice of violation may be served in person or by registered or certified mail or in any other manner provided by law.

(c) Criminal prosecution.

(1) Any person, firm, or corporation violating any of the provisions of this code shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this code is committed, continued, or permitted, and upon conviction of any such violation such person shall be punishable by a fine of not more than $2,000.00, or by imprisonment for not more than one (1) year, or by both such fine and imprisonment.

It shall be a misdemeanor for any person, firm or corporation as defined herein to knowingly allow or knowingly fail to prevent a violation of this code.

(2) Any officer, or authorized representative designated by the *building official*, may issue a summons or citation in accordance with the procedure specified in this Section. Nothing in this Section shall be construed as barring such authorized representative from initiating prosecution by warrant or such other judicial process as is permitted by statute or rule of court.

(3) Any authorized representative designated by the *building official*, upon making an arrest for a violation of the building code, may take the name and address of the alleged violator and shall issue to the violator in writing a summons or citation hereinafter described, requiring the violator to answer the complaint at a place and at a time provided in said summons or citation.

(4) There shall be provided for use by authorized representative, a form of summons or citation for use in citing violators of the building code, which does not mandate the physical arrest of such violators. The form and content of such summons or citation shall be as adopted or prescribed by the administrative judge of the district court and shall be printed on a form commensurate with the form of other summonses or citations used in modern methods of criminal prosecution, so designed to include all necessary information to make the same valid within the laws and regulations of the State of Hawai‘i and the County of Kaua‘i.

(5) In every case when a citation is issued, the original of the same shall be given to the violator; if the administrative judge of the district court may prescribe that the violator be given a copy of the citation and provide for the disposition of the original and any other copies.

(b) Notice of violation. Whenever any person, firm or corporation violates any provision of this code, the *building official* shall serve a notice of violation to the party responsible for the violation to make the building or structure or portion thereof comply with the requirements of this code. Such notice of violation shall include:

(d) Administrative enforcement. In lieu of or in addition to, pursuant to Section 114.2(c), if the *building official* determines that any person, firm or corporation is not complying with a notice of violation, the *building official* may have the party responsible for the violation served, by mail or delivery, with an order pursuant to this Section.

(1) Contents of the order. The order may require the party responsible for the violation to do any or all of the following:

(A) Correct the violation within the time specified in the order;

(B) Pay a civil fine not to exceed $1,000.00 in the manner, at the place and before the date specified in the order;

(C) Pay a civil fine not to exceed $1,000.00 per day for each day in which the violation persists, in the manner and at the time and place specified in the order.

(D) The fine for each order shall be set forth in Table 1-B.

(2) The order shall advise the party responsible for the violation that the order shall become final thirty (30) days after the date of the delivery. The order shall also advise that the *building official*'s action may be appealed to the Board of Appeals.

(3) Effect of order; right to appeal. The provisions of the order issued by the *building official* under this Section shall become final thirty (30) calendar days after the date of the delivery of the order. The party responsible for the violation may appeal the order to the Board of Appeals as provided by Section 113 of this code. The appeal must be received in writing on or before the date the order becomes final. However, an appeal to the Board of Appeals shall not stay any provision of the order.

(4) Judicial enforcement of order. The *building official* may institute a civil action in any court of competent jurisdiction for the enforcement of any order issued pursuant to this Section. Where the civil action has been instituted to enforce the civil fine imposed by said order, the *building official* need only show that the notice of

violation and order were served, that a civil fine was imposed; the amount of the civil fine imposed has not been paid; that either the order has not been appealed or that, if appealed, the order was sustained by the Board of Appeals, and that the order or the Board of Appeals decision, as the case may be, was not clearly erroneous.

(62) Amending Section **[A] 116.1 Conditions.** Section 116.1 is amended to read:

[A] 116.1 Conditions. All buildings or structures which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life, or which in relation to existing use constitute a hazard to safety, health, or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, or abandonment, as specified in this code or any other effective ordinance are, for the purpose of this Section, unsafe buildings. All such unsafe buildings are hereby declared public nuisances and shall be abated by repair, rehabilitation, demolition, or removal in accordance with this Section.

(63) Amending Section **[A] 116.3 Notice.** Section [A] 116.3 is amended to read:

[A] 116.3 Notice to owner. The *building official* shall examine or cause to be examined every structure or equipment or portion thereof reported as dangerous or damaged and, if such is found to be an unsafe structure or equipment as defined in this Section, the *building official* shall give to the owner, agent or person in control of the structure or equipment a written notice stating the defects thereof. This notice may require the owner or person in charge of the structure or premises, within sixty (60) days to secure all required permits, to commence either the required repairs or improvements or demolition and removal of the structure or equipment or portions thereof, and all such work shall be completed within 180 days from date of permit issuance, unless otherwise required by the *building official.* If necessary, such notice also shall require the structure, equipment or portion thereof to be vacated forthwith and not reoccupied until the required repairs and improvements are completed, inspected, and approved by the *building official.*

Any building or structure declared to be an unsafe building and constitute an immediate danger to the life, limb, property or safety of the public or occupants of such building, within 48 hours it shall be vacated, secured and maintained against any entry by the owner or person in charge of such building, structure or premises.

Proper service of such notice shall be by personal service, registered mail or certified mail upon the owner of record, provided, that if such notice is by registered mail or certified mail, the designated period within which said

owner or person in charge is required to comply with the order of the *building official* shall begin as of the date he receives such notice.

(64) Adding Section **[A] 116.3.1 Posting of signs.** Section [A] 116.3.1 is added to read:

[A] 116.3.1 Posting of signs. The *building official* shall cause to be posted at each entrance to structures ordered vacated a notice to read: DO NOT ENTER UNSAFE TO OCCUPY, BUILDING DIVISION, DEPARTMENT OF PUBLIC WORKS, COUNTY OF KAUAʻI. Such notice shall remain posted until the required repairs, demolition, or removals are completed. Such notice shall not be removed without written permission of the *building official* and no person shall enter the structure except for the purpose of making the required repairs or of demolishing the structure.

(65) Adding Section **[A] 116.4.1 Action upon noncompliance.** Section [A] 116.4.1 is added to read:

[A] 116.4.1 Action upon noncompliance. In case the owner shall fail, neglect, or refuse to comply with the notice to repair, rehabilitate, or to demolish and remove said structure or equipment or portion thereof, the *building official* may order the owner of the structure or equipment prosecuted as a violator of the provisions of this code.

Nothing contained herein shall be construed to limit or restrict the *building official* from instituting, on behalf of the County any other legal or equitable proceedings, in addition to those specified herein, to obtain compliance with the notice to repair, rehabilitate, or to demolish and remove said structure or equipment or portion thereof, and to recover the cost of such work from the owner or attach a lien to the property.

(66) Adding **TABLE 1-A BUILDING PERMIT FEES.** TABLE 1-A is added to read:

The fees for the issuance of building permits shall be computed in accordance with the following schedule:

Total Estimated Valuation of Work	**Fee to Be Charged**
$1 to $500	$15.00
$501 to $2,000	$15.00 for the first $500.00 plus $2.00 for each additional $100.00 or fraction thereof, to and including $2,000.00.

$2,001 to $25,000	$45.00 for the first $2,000.00 plus $8.00 for each additional $1,000.00 or fraction thereof, to and including $25,000.00.
$25,001 to $50,000	$229.00 for the first $25,000.00 plus $7.00 for each additional $1,000.00 or fraction thereof, to and including $50,000.00.
$50,001 to $100,000	$404.00 for the first $50,000.00 plus $6.00 for each additional $1,000.00 or fraction thereof, to and including $100,000.00.
$100,001 to $1,000,000	$704.00 for the first $100,000.00 plus $5.00 for each additional $1,000.00 or fraction thereof to and including $1,000,000.00.
$1,000,001 to $25,000,000	$5,204.00 for the first $1,000,000.00 plus $4.00 for each additional $1,000.00 or fraction thereof to and including $25,000,000.00.
$25,000,001 to $50,000,000	$101,204.00 for the first $25,000,000.00 plus $3.00 for each additional $1,000.00 or fraction thereof to and including $50,000,000.00.
$50,000,000 & up	$176,204 for the first $50,000,000.00 plus $2.00 for each additional $1,000.00 or fraction thereof.

After-the-fact permits. Building permit fees and plan review fees will be double the computed amount for after-the-fact permits.

Solar energy system fees. A building plan review fee of fifteen (15) percent of the established building permit fee, rounded off to the nearest dollar, shall be paid at the time of submittal of plans and specifications for review. The permit fees for the issuance of a solar energy system permit which covers the building, electrical and plumbing code requirements shall be one hundred dollars ($100.00) for one- and two- family dwellings and five hundred dollars ($500.00) for all other buildings and structures.

(67) Adding **TABLE 1-B VIOLATIONS AND PENALTIES.** TABLE 1-B is added to read:

VIOLATION	NO. OF DAYS TO CORRECT VIOLATION	AMOUNT OF INITIAL FINE	NO. OF DAYS AFTER NOTICE OR ORDER BEFORE DAILY FINES ARE TO BE ASSESSED	AMOUNT OF DAILY FINES
1.a. Building w/o a building permit b. Occupying the building w/o a certificate of occupancy c. Demolition w/o a building permit d. Relocation of a building w/o a relocation permit	30 30 30 30	Footnote 1 Footnote 1 Footnote 1 Footnote 1	30 0 30 30	Footnote 1 Footnote 1 Footnote 1 Footnote 1
2. Not complying with stop work order	Immediately	Footnote 1	0	Footnote 1
3. Change in use of the building or space w/o a building permit and/or certificate of occupancy	30	100	30	100
4. Construction not following approved plans	30	100	30	100
5. Safety hazards; examples: exits, hazardous occupancies, fire alarm, fire sprinkler, standpipe system, protection of	Immediately	100	0	100

pedestrians during construction or demolition, safety glazing, barb wire, swimming pool enclosure, etc.				
6. Unsafe structures and equipment IBC Section 116 a. Minor violation b. Major violation	30 30	50 100	30 30	50 100
7. Building code violations with a building permit a. Minor violation b. Major violation	30 30	100 200		100 200
8. Recurring violation	3	Double of previous fees up to $2,000	30	Double of previous fees up to $2,000
Footnote 1. Based on total estimated valuation rounded to the nearest dollar: Up to $99,999 100,0000 – 499,999 500,000 – 999,999 1,000,000 – 9,999,999 10,000,000 – 24,999,999 25,000,000 – 49,999,999 50,000,000 – 99,999,999 100,000,000 and over	 100 200 300 500 700 1000 1500 2000			 100 200 300 500 700 1000 1500 2000

(68) Amending **SECTION 202 DEFINITIONS**. Section 202 is amended to read:

The definition of "**AFTER-THE-FACT PERMIT**" is added to read:

AFTER THE FACT PERMIT. In instances where work that requires a permit has been completed without such, this type of permit may be used to gain acceptance of the "as-built" or after-the-fact" work.

The definition of "**ASSISTANTS**" is added to read:

ASSISTANTS. When the term "assistants" is used in this code, it shall be construed to mean the authorized representatives of the *building official*.

The definition of "**ASSISTED LIVING FACILITIES**" is added to read:

ASSISTED LIVING FACILITIES. A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services and are licensed by the State of Hawai'i.

The definition of "**AUTHORIZED REPRESENTATIVES**" is added to read:

AUTHORIZED REPRESENTATIVES. When the term "Authorized Representatives" is used in this code, it means all building plans examiners, building inspectors and their supervisors designated as subordinate officers to the *building official* in enforcement of this code.

The definition of "**BUILDING**" is amended to read:

[A] BUILDING. A building is any structure used or intended for supporting any use or occupancy. The term shall include but not be limited to any structure mounted on wheels such as a trailer, wagon or vehicle which is parked and stationary for any 24-hour period, and is used for business or living purposes; provided however that the term shall not include a push cart or push wagon which is readily moveable and which does not exceed twenty-five (25) square feet in area, nor shall the term include a recreational trailer or trailer or vehicle, used exclusively for the purpose of selling any commercial product there from, which holds a vehicle license and actually travels on public or private streets.

The definition of "**BUILDING, EXISTING**" is added to read:

BUILDING, EXISTING is a building for which legal building permits have been issued, or one which complied with the Building Code in effect at the time the building was erected.

The definition of "**BUILDING OFFICIAL**" is amended to read:

[A] BUILDING OFFICIAL means the County Engineer or his authorized representative.

The definition of "**CARPORT**" is added to read:

CARPORT. Carport is a private garage, which is at least one hundred percent (100%) open on one side and with fifty percent (50%) net openings on another side or which is provided with an equivalent of such openings on two or more sides.

A private garage which is one hundred percent (100%) open on one side and twenty-five percent (25%) open on another side with the latter opening so located to provide adequate cross ventilation may be considered a carport when approved by the *building official*.

The definition of "**COUNTY**" is added to read:

COUNTY means the County of Kauaʻi.

The definition of "**COUNTY COUNCIL**" is added to read:

COUNTY COUNCIL means the Council of the County of Kauaʻi.

The definition of "**DANGEROUS**" is amended to read:

[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment, or dislodgement of any portion of the building or structure under service loads, or under snow, wind, rain, flood, earthquake, or other environmental loads.

The definition of "**FAMILY**" is added to read:

FAMILY. Family shall be defined in the Comprehensive Zoning Ordinance of the County except than an adult residential care home, a special treatment facility, or other similar facility shall be limited to five persons in order to be considered under this code.

The definitions of "**FIRE CHIEF**" and "**FIRE OFFICIAL**" are added to read:

FIRE CHIEF and **FIRE OFFICIAL** may be used synonymously and means the Chief of the Fire Department of this County or their regularly authorized representative.

The definition of "**FIRE CODE**" is added to read:

FIRE CODE means the Fire Code of the County of Kauaʻi.

The definition of "**HISTORIC BUILDINGS**" is amended to read:

[A] HISTORIC BUILDINGS are buildings or structures officially listed on the State of Hawaiʻi or National Register of Historic Places.

The definition of "**IBC**" is added to read:

IBC means the International Building Code, 2018 edition as published by the International Code Council and adopted by the County of Kauaʻi.

The definition of "**ICC**" is added to read:

ICC means the International Code Council.

The definition of "**IEBC**" is added to read:

IEBC means the International Existing Building Code, 2018 edition as published by the International Code Council and adopted by the County of Kauaʻi.

The definition of "**IECC**" is added to read:

IECC means the International Energy Conservation Code, 2018 edition as published by the International Code Council and adopted by the County of Kauaʻi.

The definition of "**IRC**" is added to read:

IRC means the International Residential Code, 2018 edition as published by the International Code Council and adopted by the County of Kauaʻi.

The definition of "**PERSON**" is amended to read:

[A] PERSON. Any individual, firm, partnership, association, corporation, or utility company shall include each and every owner of any whole or fractional interest in the property concerned, whether in fee, any lesser freehold or tenancy at will.

The definition of "**PERSONAL CARE SERVICE**" is amended to read:

PERSONAL CARE SERVICE. The care of residents who do not require chronic or convalescent, health, medical, or nursing care. Personal care involves responsibility for the safety of the resident while inside the building. The types of facilities providing personal care services shall include, but not be limited to, the following: assisted living facilities, residential care facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug abuse centers, and convalescent facilities.

The definition of "**SOLAR ENERGY COLLECTORS**" is added to read:

SOLAR ENERGY COLLECTORS. A collecting device or array panel used to absorb energy from the sun.

The definition of "**SOLAR ENERGY SYSTEM**" is added to read:

SOLAR ENERGY SYSTEM. Any configuration of equipment and components used to collect, convey, store, and convert the sun's energy for a purpose.

The definition of "**SOLAR PHOTOVOLTAIC POWER SYSTEM**" is added to read:

SOLAR PHOTOVOLTAIC POWER SYSTEM. All components and subsystems that, in combination, collect, convey, store, and convert the sun's energy into electrical energy suitable for connection to a utilization load.

The definition of "**SOLAR WATER HEATING SYSTEM**" is added to read:

SOLAR WATER HEATING SYSTEM. Any configuration of equipment and components assembled to collect, convey, store, and convert the sun's energy primarily to supply hot water.

The definition of "**STATE**" is added to read:

STATE means the State of Hawai'i.

The definition of "**STRUCTURAL OBSERVATION**" is amended to read:

[BS] STRUCTURAL OBSERVATION. The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural observation is equivalent to "observation of construction" of the structural system, as defined in Hawai'i Administrative Rules Chapter 16-115, implementing Hawai'i Revised Statutes Chapter 464. Structural observation does not include or waive the responsibility for the inspection required by Section 1705 or other sections of this code.

The definition of "**WINDBORNE DEBRIS REGION**" is amended to read:

WINDBORNE DEBRIS REGION. Areas in Hawai'i where the basic design wind speed is 130 mph (63 m/s) or greater. For Risk Category II buildings and structures, the windborne debris region shall be based on Figure 26.5-2B of ASCE 7. For Risk Category III buildings and structures, the windborne debris region shall be based on Figure 26.5-2C of ASCE 7. For Risk Category IV buildings, the windborne debris region shall be based on Figure 26.5-2D of ASCE 7.

ARTICLE 2. ADOPTION OF THE INTERNATIONAL BUILDING CODES AND AMENDMENTS THERETO

Section 12-2.1 Adoption of the International Building Codes.

The following codes published by the International Code Council, Incorporated, 4051 Flossmoor Road, Country Club Hills, IL 60478, are by reference incorporated herein and made a part hereof, subject to the amendments of this article:

(i.) The International Building Code, 2018 Edition as copyrighted and published in 2017.

(ii.) The International Residential Code for One- and Two-Family Dwellings, 2018 Edition as copyrighted and published in 2017.

(iii.) The International Existing Building Code, 2018 Edition as copyrighted and published in 2017.

Section 12-2.2 Amendments to the International Building Code.

The International Building Code, 2018 Edition, is amended as follows:

(1) Adding **Section 402.7.6 Fire alarm system.** Section 402.7.6 is added to read:

402.7.6 Fire alarm system. Fire alarm systems shall comply with the Fire Code.

(2) Amending **Section [F] 403.4.6 Fire command.** Section 403.4.6 is amended to read:

[F] 403.4.6 Fire command station. Fire command stations shall comply with the Fire Code and be approved by the fire chief.

(3) Deleting Section 403.6.2 Occupant evacuation elevators. Section 403.6.2 is deleted in its entirety.

(4) Amending **SECTION 423 STORM SHELTERS.** SECTION 423 is amended to read:

SECTION 423 FENCES

423.1 General. Fences within required yard space shall be constructed in accordance with Chapter 8, Comprehensive Zoning Ordinance; Chapter 15, Article 1, Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code 1987, as amended. In areas where fence height is not regulated by the Comprehensive Zoning Ordinance, fences over six (6) feet in height will be subject to approval of the Fire Department as to access.

423.2 Barbed or razor wire fences. Barbed or razor wire shall not be used for the construction of any fence.

Exception:

1. Barbed or razor wire may be used in fences enclosing the following premises, if barbed or razor wire shall be placed along or above the height of six (6) feet from the ground, subject to the approval of the Fire Department.

    1.1. Any "public utility" as defined in Section 269-1, Hawai'i Revised Statutes.
    1.2. Premises zoned industrial and used for storage or handling of hazardous materials.
    1.3. Zoos for keeping animals and birds for public view or exhibition.
    1.4. Jails, prisons, reformatories, and other institutions, which are involved in law enforcement or military activities where security against entry is an important factor.

2. For premises located in open and agriculture-zoned districts, as defined by the Comprehensive Zoning Ordinance, barbed wire may be used in fences enclosing premises used for pasturing farm animals.

423.3 Construction barrier. For fences allowed during construction or demolition, see CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION.

423.4 Electric wired fence. Installation of electrically charged wire fences shall conform to Chapter 142, Part III, Section 142-61 of the Hawai'i Revised Statutes, as amended.

(5) Amending Section **[F] 502.1 Address identification.** Section [F] 502.1 is amended to read:

[F] 502.1 Premises identification. Numbers shall be provided for all new buildings as specified in Chapter 15, Article 3, Kaua'i County Code 1987, as amended, Numbering of Houses in portions of the County of Kaua'i.

(6) Amending Section **[F] 903.2.8 Group R**. Section [F] 903.2.8 is amended to read:

[F] 903.2.8 Group R. An *automatic sprinkler system* installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R *fire area.*

Exception: In accordance with HRS 46-19.8 Fire Sprinklers; residences, until June 30, 2027 no County shall require the installation

or retrofitting of automatic fire sprinklers or an automatic fire sprinkler system in:

1. Any new or existing detached one- or two-family dwelling unit in a structure used only for residential purposes; and
2. Nonresidential agricultural and aquacultural buildings and structures located outside an urban area; provided that this section shall not apply to new homes that require a variance from access roads or firefighting water supply requirements.

(7) Amending **SECTION 906 PORTABLE FIRE EXTINGUISHERS.** Section 906 is amended to read:

SECTION 906 PORTABLE FIRE EXTINGUISHERS

906.1 General. Portable fire extinguishers shall be provided as required by the Fire Code.

(8) Amending Section **[F] 911.1 General.** Section [F] 911.1 is amended to read:

[F] 911.1 General. Where required by other sections of this code, a fire command center for fire department operations shall be provided and shall comply with the Fire Code.

(9) Amending **SECTION 913 FIRE PUMPS.** Section 913 is amended to read:

SECTION 913 FIRE PUMPS

913.1 Fire pumps. Where provided, fire pumps shall be installed in accordance with the Fire Code.

(10) Amending Section **1008.3.1 General.** Section 1008.3.1 is amended to read:

1008.3.1 General. In the event of power supply failure in rooms and spaces that require two or more means of egress, an emergency electrical system shall automatically illuminate all the following areas:

1. Aisles.
2. Corridors.
3. Exit access stairways and ramps.
4. Enclosed stairways of buildings more than two stories in height.

(11) Amending Section **1010.2 Gates.** Section 1010.2 is amended to read:

1010.2 Gates. Gates serving the *means of egress* system shall comply with the requirements of this section. Gates used as a component in a *means of egress* shall conform to the applicable requirements for doors.

Exceptions:

1. Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.
2. Security gates may be permitted across corridors or passageways in school buildings if there is a readily visible durable sign on or adjacent to the gate, stating: THIS GATE IS TO REMAIN SECURED IN THE OPEN POSITION WHENEVER THIS BUILDING IS IN USE. The sign shall be in letters not less than one inch high on a contrasting background. The use of this exception may be revoked by the *building official* for due cause.

(12) Deleting Section **1027.2 Use in a means of egress.** Section 1027.2 is deleted in its entirety.

(13) Amending Section **1030.1 General. Exceptions.** Section 1030.1 is amended by adding Exception 5 to read:

5. Glass jalousie bladed windows may be used for emergency escape or rescue.

(14) Amending entire **CHAPTER 11 ACCESSIBILITY.** CHAPTER 11 is amended to read:

CHAPTER 11

ACCESSIBILITY

SECTION 1101
GENERAL

1101.1 Scope. Buildings or portions of buildings shall be accessible to persons with disabilities in accordance with the following regulations:

1. For construction of buildings or facilities of the State and County Governments, compliance with Section 103-50 HRS, administered

by the Disability and Communication Access Board, State of Hawai'i.

2. Department of Justice's Americans with Disabilities Act Standards for Accessible Design.
3. Housing and Urban Development recognized "safe harbors" for compliance with the Fair Housing Acts design and construction requirements.
4. Other pertinent laws relating with disabilities shall be administered and enforced by agencies responsible for their enforcement.

Prior to the issuance of a building permit, the owner (or the owner's representative, professional architect, or engineer), shall submit a statement that all requirements, relating to accessibility for persons with disabilities, shall be complied with.

(15) Deleting **SECTION 1203 TEMPERATURE CONTROL.** This SECTION is deleted in its entirety.

(16) Amending **SECTION 1502 ROOF DRAINAGE**. Section 1502 is amended by adding Sections 1502.5 and 1502.6 to read as follows:

1502.5 Slope. Roof shall be sloped a minimum of 1 unit vertical in 48 units horizontal (2 per cent slope) for drainage unless designed for water accumulation in accordance with Section 1611. Leaders, conductors, and storm drains shall be sized on the basis of Figure 1611.1 and the Plumbing Code.

1502.6 Roof drains. Unless roofs are sloped to drain over the roof edges, roof drains shall be installed at each low point of the roof.

(17) Amending Section **1512.1 Photovoltaic panels and modules.** Section 1512.1 is amended to read:

1512.1 Photovoltaic panels and modules. *Photovoltaic panels* and *modules* installed on a roof or as an integral part of a roof assembly shall comply with the requirements of this code and the Fire Code.

(18) Amending **SECTION 1602 NOTATIONS.** This Section is amended in **Section W103** of Appendix W HAWAI'I WIND PROVISIONS FOR NEW CONSTRUCTION.

(19) Amending Section **1603.1 General.** Section 1603.1 is amended to read:

1603.1 General. *Construction documents* shall show the size, section and relative locations of structural members with floor levels, column centers and offsets dimensioned. The design loads and other information pertinent to the structural design required by Sections 1603.1.1 through 1603.1.9 shall be indicated on the *construction documents.*

Exception: *Construction documents* for buildings constructed in accordance with the *conventional light-frame construction* provisions of Section 2308 shall indicate the following structural design information:

1. Floor and roof dead and live loads.
2. Ground snow load, P_g.
3. Basic design wind speed, *V*, miles per hour (mph) (km/hr) and effective allowable stress design wind speed, $V_{eff\text{-}asd}$, as determined in accordance with Section 1609.3.1 and wind exposure.
4. Design spectral response acceleration parameters, S_{DS} and S_{D1}.
5. *Seismic design category* and *site class.*
6. Flood design data, if located in *flood hazard areas* established in Section 1612.3.
7. Design load-bearing values of soils.
8. Rain load data.

(20) Amending Section **1603.1.4 Wind design data.** This Section is amended in **Section W104** of APPENDIX W HAWAIʻI WIND PROVISIONS FOR NEW CONSTRUCTION.

(21) Amending **SECTION 1609 WIND LOADS.** This Section is amended in **Sections W105** and **W106** of APPENDIX W HAWAIʻI WIND PROVISIONS FOR NEW CONSTRUCTION.

(22) Amending Section **1612.2 Design and construction.** Section 1612.2 is amended to read:

1612.2 Design and construction. The design and construction of buildings and structures located in *flood hazard areas*, including *coastal high hazard areas* and *coastal A zones*, shall be in accordance with Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended.

(23) Amending Section **1612.3 Establishment of flood hazard areas.** Section 1612.3 is amended to read:

1612.3 Establishment of flood hazard areas and flood hazard data. Flood hazard areas and flood hazard data shall be established in accordance with Chapter 15, Article 1, Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code 1987, as amended.

(24) Deleting Sections **1612.3.1 Design flood elevations, 1612.3.2 Determination of impacts,** and **1612.4 Flood hazard documentation.** These Sections are deleted in their entirety.

(25) Amending **TABLE 1613.2.5(1) SEISMIC DESIGN CATEGORY BASED ON SHORT PERIOD (0.2 second) RESPONSE ACCELERATION.** TABLE 1614.2.5(1) is amended to read:

TABLE 1613.2.5(1) SEISMIC DESIGN CATEGORY BASED ON SHORT-PERIOD (0.2 second) RESPONSE ACCELERATION

VALUE OF S_{DS}	**RISK CATEGORY**		
	I or II	**III**	**IV**
$S_{DS} < 0.167g$	A	A	A
$0.167g \leq S_{DS} < 0.33g$	B	B	C
$0.33g \leq S_{DS} < 0.50g$	C	C	D
$0.50g \leq S_{D1} < 0.60g$	**C**	**D**	**D**
$0.60g \leq S_{DS}$	D	D	D

(26) Amending **TABLE 1613.2.5(2) SEISMIC DESIGN CATEGORY BASED ON 1-SECOND PERIOD RESPONSE ACCELERATION.** TABLE 1614.2.5(2) is amended to read:

TABLE 1613.2.5(2) SEISMIC DESIGN CATEGORY BASED ON 1-SECOND PERIOD RESPONSE ACCELERATION

VALUE OF S_{D1}	**RISK CATEGORY**		
	I or II	**III**	**IV**
$S_{D1} < 0.067g$	A	A	A
$0.067g \leq S_{D1} < 0.133g$	B	B	C
$0.133g \leq S_{D1} < 0.20g$	C	C	D
$0.20g \leq S_{D1} < 0.27g$	**C**	**D**	**D**
$0.27g \leq S_{D1}$	D	D	D

(27) Amending Section **1704.2 Special inspections and tests.** Section 1704.2 is amended to read:

1704.2 Special inspections and tests. Where application is made to the building official for construction, the owner or the registered design professional in responsible charge acting as the owner's authorized agent, shall employ one or more special inspectors independent of the contractors performing the work to provide special inspections and tests during construction on the types of work specified in Section 1705 and identify the special inspectors to the building official. These special inspections and tests are in addition to the inspections by the building.

Exceptions:

1. Special inspections and tests are not required for construction of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Unless otherwise required by the building official, special inspections and tests are not required for Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.
3. Special inspections and tests are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.1.2 or the conventional light-frame construction provisions of Section 2308. For these structures, Section 1705.11 shall nevertheless apply.
4. The contractor is permitted to employ the special inspectors where the contractor is also the owner.
5. The employment of a special inspector shall not be required for construction work for any government agency that provides for its own special inspections and tests.
6. Special inspections and tests are not required for building components unless the design involves the practice of professional engineering or architecture as defined by Hawai'i Revised Statutes Chapter 464.

(28) Amending Section **1704.2.1 Special inspector qualifications.** Section 1704.2.1 is amended to read:

1704.2.1 Special inspector qualifications. Prior to the start of the construction, each special inspector shall provide written documentation to the building official demonstrating the competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction. Experience or training shall be considered to be relevant where the documented experience or training is related in

complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as special inspector**s** for the work designed by them, provided they qualify as special inspectors.

(29) Amending Section **1704.2.3 Statement of special inspections.** Section 1704.2.3 is amended to read:

1704.2.3 Statement of special inspections. The applicant shall submit a statement of special inspections in accordance with Section 107.1 as a condition for permit issuance. This statement shall be deemed to be satisfied by Section 1704.3.

(30) Amending Section **1704.2.4 Report requirement.** Section 1704.2.4 is amended to read:

1704.2.4 Report requirement. Special Inspectors shall keep records of special inspections and tests. The special inspector shall submit reports of special inspections and tests to the owner and licensed engineer or architect of record. Reports shall indicate whether the work inspected and tested was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the licensed engineer or architect of record and to the building official. The special inspector shall submit a final signed report to the owner and licensed engineer or architect of record, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of this code.

Prior to the final inspection by the *building official* required under Section 110.3, the licensed engineer or architect of record shall submit a written statement verifying receipt of the final special inspection reports and documenting that there are no known unresolved code requirements that create significant public safety deficiencies.

(31) Amending Section **1704.3 Statement of special inspections.** Section 1704.3 is amended to read:

1704.3 Statement of special inspections. Where special inspection or testing is required by Section 1705, the construction drawings shall include a complete list of special inspections required by this Section.

(32) Amending Section **1704.5 Submittals to the building official.** Section 1704.5 is deleted in its entirety.

(33) Amending Section **1705.3 Concrete construction.** Section 1705.3 is amended to read:

1705.3 Concrete construction. Special inspections and tests of concrete construction shall be performed in accordance with this section and Table 1705.3.

Exception: Unless required by Section **1705.11 Special inspections for wind resistance** or Section **1705.12 Special inspections for seismic resistance** special inspections and tests shall not be required for concrete used in:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock where:
   1.1. The footings support columns of light-frame construction.
   1.2. The structural design of the footing is based on a specified compressive strength, f'_c, not more than 2,500 pounds per square inch (psi) (17.2 MPa), regardless of the compressive strength specified in the approved construction documents or used in the footing construction.
2. Continuous concrete footings supporting walls of buildings three stories or less above grade plane that are fully supported on earth or rock where:
   2.1. The footings support walls of light-frame construction.
   2.2. The footings are designed in accordance with Table 1809.7.
   2.3. The structural design of the footing is based on a specified compressive strength, f'_c, not more than 2,500 pounds per square inch (psi) (17.2 MPa), regardless of the compressive strength specified in the approved construction documents or used in the footing construction.
3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 MPa).
4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.
5. Concrete patios, driveways and sidewalks, on grade.

(34) Amending Section **1705.11 Special inspections for wind resistance.** Section 1705.11 is amended to read:

1705.11 Special inspections for wind resistance. Special inspections for wind resistance specified in Section 1705.11.1, unless exempted by the

exceptions to Section 1704.2, are required for buildings and structures constructed where the basic design wind speed, *V*, is 120 mph (53 m/sec) or greater.

(35) Amending Section **1705.11.1 Complete load path and uplift ties.** Section 1705.11.1 is amended to read:

1705.11.1 Complete Load Path and Uplift Ties. Metal connectors, anchors, or fasteners for wood and cold-formed steel construction at the following locations: roof ridges, roof rafters to beam or wall supports, beams to posts, posts or walls to floor framing or foundation below, ground anchors, and all other connections that are part of the load path to resist uplift forces.

Continuous special inspection is required during field gluing operations of elements of the main windforce-resisting system.

The special inspector need not be present during the installation of all of the connectors, provided that the special inspector verifies that all of the connectors are installed in conformance with the requirements of this code.

(36) Deleting Section **1705.11.2 Cold-formed steel light-frame construction**. Section 1705.11.2 is deleted in its entirety.

(37) Deleting Section **1705.11.3 Wind-resisting components.** Section 1705.11.3 is deleted in its entirety.

(38) Amending Section **1810.3.6 Splices.** Section 1810.3.6 is amended to read:

1810.3.6 Splices. Splices shall be constructed so as to provide and maintain true alignment and position of the component parts of the deep foundation element during installation and subsequent thereto and shall be designed to resist the axial and shear forces and moments occurring at the location of the splice during driving and under service loading.

Splices occurring in the upper 10 feet (3048 mm) of the embedded portion of an element shall be designed to resist at allowable stresses the moment and shear that would result from an assumed eccentricity of the axial load of 3 inches (76 mm), or the element shall be braced in accordance with Section 1810.2.2 to other deep foundation elements that do not have splices in the upper 10 feet (3048 mm) of embedment.

(39) Adding Section **1904.3 Concrete Strap Type Anchors.** Section 1904.3 is added to read:

1904.3 Concrete Strap Type Anchors. Concrete strap-type anchors made out of cold-formed steel shall not be used along the perimeter edges of a slab on grade where the steel does not have at least 1-1/2 inches side cover or other adequate protection.

(40) Adding Section **1905.1.9 ACI 318, Section 19.3.2.1 Water cement ratio.** Section 1905.1.9 is added to read:

1905.1.9 ACI 318, Section 19.3.2.1 Water cement ratio. Modify ACT 318 Table 19.3.2.1 as follows: Change the Maximum w/cm ratio for Exposure Class C1 to 0.50.

(41) Adding Section **1905.1.10 ACT 318, Section 20.7 Embedments.** Section 1905.1.10 is added to read:

1905.1.10 ACT 318, Section 20.7 Embedments. Add ACI 318, Section 20.7.5 anchor bolts at the perimeter edge of a slab on grade. Anchor bolts shall be hot dipped galvanized in accordance with ASTM F2329 and have a minimum concrete side cover of 1-1/2 inches unless provisions have been made to protect the anchor bolts from corrosion.

(42) Adding Section **1905.2 ACI 318, Section 1.4.2 Incorporation of ACI 562.** Section 1905.2 is added to read:

1905.2 ACI 318, Section 1.4.2 Incorporation of ACI 562. 1.4.2 Applicable provisions of ACI 318 shall be permitted to be used for structures not governed by the general building code. Where repairs and rehabilitation are not required to satisfy the provisions of ACI 318, the provisions of ACI 562-16 shall be permitted to be used for the assessment, repair, and rehabilitation of existing structures.

(43) Adding Section **2104.1.3 Cleanouts.** Section 2104.1.3 is added to read:

2104.1.3 Cleanouts. Cleanouts shall be provided for all grout pours over 5 feet 4 inches in height. Special provisions shall be made to keep the bottom and sides of the grout spaces, as well as the minimum total clear area required by TMS 602 clean and clear prior to grouting.

Exception: Cleanouts are not required for grout pours 8 feet or less in height provided all of the following conditions are met:

1. The hollow masonry unit is 8-inch nominal width or greater.

2. The specified compressive strength of masonry, f'm, is less than or equal to 2,000 psi as determined per TMS 602 Table 2;
3. Fine grout is used complying with ASTM C-476 with a minimum compressive of 3,000 psi; and
4. Special inspection is provided.

(44) Adding Section **2203.2 Protection of sill track.** Section 2203.2 is added to read:

2203.2 Protection of sill track. Cold formed steel framing sills that directly bear on concrete or masonry that is in direct contact with earth shall be shielded along the exterior flange and bottom of the sill track with a self-adhered rubberized asphalt flashing material with a minimum thickness of 25 mil (0.64 mm) or other moisture barrier conforming to ASTM D412, D570, and E96/E96M.

(45) Amending Section **2211.1.2 Prescriptive framing.** Section 2211.1.2 is amended to read:

2211.1.2 Prescriptive framing. Detached one- and two-family dwellings and townhouses, less than or equal to three stories above grade plane, shall be permitted to be constructed in accordance with AISI S230 subject to the limitations therein. Prescriptive framing shall not be applicable for structures designed using exception 3 in Section 1609.2 Protection of Openings in the Hawai'i Amendments to this code.

(46) Amending Section **2302.1 General.** Section 2302.1 is amended to read:

2302.1 General. The design of structural elements or systems, constructed partially or wholly of wood or wood-based products, shall be in accordance with one of the following methods:

1. *Allowable stress design* in accordance with Sections 2304, 2305 and 2306.
2. Load and resistance factor design in accordance with Sections 2304, 2305 and 2307.
3. *Conventional light-frame* construction in accordance with Section 2304 and 2308.
4. AWC WFCM in accordance with Section 2309.
5. The design and construction of log structures in accordance with the provisions of ICC 400.

Exception: Prescriptive requirements applicable to the exterior roof and wall enclosure in 2304, 2308, and 2309 shall not be applicable for

structures designed using exception 3 in Section 1609.2 Protection of Openings.

Method 3 and method 4 shall not be applicable for structures designed using exception 3 in Section 1609.2 Protection of Openings.

(47) Deleting Section **2303.1.9 Preservative-treated wood.** Section 2303.1.9 is deleted in its entirety and replaced to read:

2303.1.9 Preservative-treated wood. Structural lumber, including plywood, posts, beams, rafters, joists, trusses, studs, plates, sills, sleepers, roof and floor sheathing, flooring and headers of new wood-frame buildings and additions shall be:

1. Treated in accordance with AWPA Standard U1 (IC1 thru UC4B) for AWPA Standardized Preservatives, all marked or branded and monitored by an approving agency. Incising is not required, providing that the retention and penetration requirements of these standards are met.

2. For SBX disodium octaborate tetrahydrate (DOT), retention shall be not less than 0.28 pcf B_2O_3 (0.42 = pcf DOT) for exposure to Formosan termites. All such lumber shall be protected from direct weather exposure as directed in AWPA UC1 and UC2.

3. For structural glued-laminated members made up of dimensional lumber, engineered wood products, or structural composite lumber, pressure treated in accordance with AWPA U1 (UC1 thru UC4B) or by Light Oil Solvent Preservative (LOSP) treatment Standard as approved by the *building official*. Water based treatment processes as listed in paragraphs 1 and 2 are not allowed to be used on these products unless specified by a structural engineer for use with reduced load values and permitted by the product manufacturer.

4. For structural composite wood products, treated by non-pressure processes in accordance with AWPA Standard U1 (UC1, UC2 and UC3A) or approved by the *building official*.

2303.1.9.1 Treatment. Wood treatment shall include the following:

1. A quality control and inspection program which meets or exceeds the current requirements of AWPA Standards M2-01 and M3-03;

2. Inspection and testing for the treatment standards as adopted by this code shall be by an independent agency approved by the *building official*, accredited by the American Lumber Standards Committee (ALSC) and contracted by the treating company;

3. Field protection of all cut surfaces with a preservative, which shall be applied in accordance with AWPA Standard M4-02 or in accordance with the approved preservative manufacturer's ICC-Evaluation Services report requirements.

2303.1.9.2 Labeling. Labeling shall be applied to all structural lumber 2 inches or greater nominal thickness, with the following information provided on each piece as a permanent ink stamp on one face or on a durable tag permanently fastened to ends with the following information:

1. Name of treating facility;
2. Type of preservative;
3. AWPA use category;
4. Quality mark of third-party inspection agency;
5. Retention minimum requirements; and
6. Year of treatment.

All lumber less than 2 inches in nominal thickness shall be identified per bundle by means of a label consisting of the above requirements. Labels measuring no less than 6 inches by 8 inches shall be placed on the lower left corner of the strapped bundle.

2303.1.9.3 Moisture content. Where preservative-treated wood treated with a water-borne preservative is used in enclosed locations where drying in service cannot readily occur, such wood shall be at a moisture content of nineteen percent (19%) or less before being covered with insulation, interior wall finish, floor covering or other material.

(48) Amending **Section 2304.6.1 Wood structural panel sheathing.** Section 2304.6.1 is amended in **Section W107** of APPENDIX W HAWAIʻI WIND PROVISIONS FOR NEW CONSTRUCTION.

(49) Amending **Table 2304.6.1.** Table 2304.6.1 is amended in **Section W108** of APPENDIX W HAWAIʻI WIND PROVISIONS FOR NEW CONSTRUCTION.

(50) Deleting Section **2304.12 Protection against decay and termites.** Section 2304.12 is deleted in its entirety and replaced to read:

2304.12 Protection against decay and termites. Wood shall be protected from decay and termites in accordance with the applicable provisions of Sections 2304.12.1 through 2304.12.10.

2304.12.1 General. Where required by this section, protection from decay and termites shall be provided by the use of naturally durable or preservative-treated wood.

2304.12.2 Wood used above ground. Structural lumber installed above ground shall be preservative-treated wood in accordance with Section 2303.1.8.

2304.12.2.1 Soil treatment and termite barriers. Where structural lumber of wood frame buildings or structures are supported directly on the ground by a concrete slab, or concrete and/or masonry foundation, Formosan subterranean termite protection shall be provided by either chemically treating the soil beneath and adjacent to the building or structure by a Hawai'i licensed pest control operator, or stainless-steel termite barrier, or other termite protection measures approved by the building official. All soil treatment, stainless steel termite barrier, and termite protection measures shall be installed according to manufacturer's recommendations for control of Formosan subterranean termites, with chemical barriers applied at the maximum label rates.

2304.12.3 Wood in ground contact. Wood supporting permanent buildings and structures, which is in direct soil contact or is embedded in concrete or masonry in direct contact with earth shall be treated to the appropriate commodity specification of AWPA Standard U1. Wood in direct soil contact but not supporting any permanent buildings or structures shall be treated to the appropriate commodity specification of AWPA Standard U1 for ground contact.

2304.12.4 Retaining walls. Wood in retaining or crib wall shall be treated to AWPA Standard U1.

2304.12.5 Wood and earth separation. Where wood is used with less than 6-inch vertical separation from earth (finish grade), the wood shall be treated for ground-contact use. Where planter boxes are installed adjacent to wood frame walls, a 2-inch-wide (51 mm) air space shall be provided between the planter and the wall. Flashings shall be installed when the air space is less than 6 inches (152 mm) in width. Where flashing is used, provisions shall be made to permit circulation of air in the air space. The wood-frame wall shall be provided with an exterior wall covering conforming to the provisions of Section 2304.6.

2304.12.6 Under-floor clearance for access and inspection. Minimum clearance between the bottom of floor joists or bottom of floors without joists and the ground beneath shall be 24 inches; the minimum clearance between the bottom of girders and the ground beneath shall be 18 inches.

> **Exception:** Open slat wood decks shall have ground clearance of at least 6 inches for any wood member.

Accessible under-floor areas shall be provided with a minimum 18-inch by 24-inch access opening, effectively screened or covered. Pipes, ducts, and other construction shall not interfere with the accessibility to or within under-floor areas.

2304.12.7 Wood used in retaining walls and cribs. Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 (Commodity Specifications A or F) for soil and freshwater use.

2304.12.8 Weather exposure. All portions of timbers (over 5-inch nominal width) and glued-laminated timbers that form structural supports of a building or other structure shall be protected by a roof, eave, overhangs, flashings, or similar coverings. All wood or wood composite panels, in weather-exposed applications, shall be of exterior type.

2304.12.9 Water splash. Where wood-frame walls and partitions are covered on the interior with plaster, tile or similar materials and are subject to water splash, the framing shall be protected with approved waterproof paper conforming to Section 1404.2.

2304.12.10 Pipe and other penetrations. Insulations around plumbing pipes shall not pass through ground floor slabs. Openings around pipes or similar penetrations in a concrete or masonry slab, which is in direct contact with earth, shall be filled with non-shrink grout, BTB, or other approved physical barrier.

(51) Amending Section **2308.1 General.** Section 2308.1 is amended to read:

2308.1 General. The requirements of this section are intended for conventional light-frame construction. Other construction methods are permitted to be used, provided that a satisfactory design is submitted showing compliance with other provisions of this code. Interior non-load-bearing partitions, ceilings and curtain walls of conventional light-frame construction are not subject to the limitations of Section 2308.2. Detached one- and two-family dwellings and townhouses not more than three stories

above grade plane in height with a separate means of egress and their accessory structures shall be permitted to comply with the *International Residential Code* as adopted subject to the limitations of Sections 2308.2 and 101.2.

(52) Amending Section **2308.1.1 Portions exceeding limitations of conventional light-frame construction.** Section 2308.1.1 is amended to read:

2308.1.1 Portions exceeding limitations of conventional light-frame construction. Where portions of a building or otherwise conventional light-frame construction exceed the limits of Section 2308.2 and the other provisions of this code, those portions and the supporting load path shall be designed in accordance with accepted engineering practice and the provisions of this code. For the purposes of this section, the term "portions" shall mean parts of buildings containing volume and area such as a room or a series of rooms. The extent of such design need only demonstrate compliance of the nonconventional light-framed elements with other applicable provisions of this code and shall be compatible with the performance of the conventional light-framed system.

(53) Amending Section **2309.1 Wood Frame Construction Manual.** Section 2309.1 is amended to read:

2309.1 Wood Frame Construction Manual. Structural design in accordance with the AWC WFCM shall be permitted for buildings assigned to Risk Category I or II subject to the limitations of Section 1.1.3 of the AWC WFCM, Section 1609.1.1.1 and the load assumptions contained therein. Structural elements beyond these limitations shall be designed in accordance with accepted engineering practice.

(54) Amending Section **3001.1 Scope.** Section 3001.1 is amended to read:

3001.1 Scope. This chapter governs the design and construction of the building elements for elevator and conveying systems. The design, construction, installation, alteration, repair, and maintenance of elevators and conveying systems and their components are regulated by the State of Hawai'i, Department of Labor and Industrial Relations, Hawai'i Occupational Safety and Health Division, Boiler and Elevator Inspection Branch.

(55) Deleting Section **3008 OCCUPANT EVACUATION ELEVATORS.** Section 3008 is deleted in its entirety.

(56) Amending Section **3107.1 General.** Section 3107.1 is amended to read:

3107.1 General. Signs shall be designed, constructed, and maintained in accordance with Outdoor Sign Ordinance, Chapter 15, Article 4, Kauaʻi County Code 1987, as amended.

(57) Adding Section **3109.2 Public swimming pools.** Section 3109.2 is added to read:

3109.2 Public swimming pools. Public swimming pools shall be completely enclosed by a fence at least 4 feet (1290 mm) in height or a screen enclosure. Openings in the fence shall not permit the passage of a 4-inch-diameter (102 mm) sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates.

Exception: Swimming, dipping or wading pools located on the premises of a hotel are not required to be enclosed.

(58) Amending Section **3111.1 General.** Section 3111.1 is amended to read:

3111.1 General. Solar energy systems shall comply with the requirements of this section, the *International Building Code* and the *International Residential Code*. The electrical portion of solar PV systems shall be installed in accordance with NFPA 70.

Exceptions:
1. For one- and two-family dwellings solar thermal energy systems see CHAPTER 23 SOLAR THERMAL ENERGY SYSTEMS of the *International Residential Code*.

2. These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal or less.

(59) Amending Section **3111.3.4 Access and pathways.** Section 3111.3.4 is amended to read:

3111.3.4 Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with this section. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstruction, such as vent pipes, conduit or mechanical equipment.

Exceptions:

1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises and similar structures.
2. Roof access, pathways and spacing requirements need not be provided where the *fire code official* has determined that rooftop operations will not be employed.

3111.3.4.1 Solar photovoltaic systems for Group R-3 buildings. Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 3111.3.4.1.1 through 3114.3.4.1.3.

Exception: These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal or less.

3111.3.4.1.1 Pathways to ridge. Not fewer than two 36-inch-wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36-inch-wide (914 mm) pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane or straddling the same and adjacent roof planes.

3111.3.4.1.2 Setbacks at ridge. For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (457 mm) wide is required on both sides of a horizontal ridge.

3111.3.4.1.3 Alternative setbacks at ridge. Where an automatic sprinkler system is installed within the dwelling in accordance with Section 903.3.1.3, setbacks at the ridge shall conform to one of the following:

1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.
2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.

(60) Amending Section **3111.3.5 Ground-mounted photovoltaic systems.** Section 3111.3.5 is deleted in its entirety and amended to read:

3111.3.5 Emergency escape and rescue openings. Panels and modules installed on Group R-3 buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway of not less than 36 inches (914 mm) wide shall be provided to the emergency escape and rescue opening.

(61) Adding Section **3111.3.6 Other than Group R-3 buildings.** Section 3111.3.6 is added to read:

3111.3.6 Other than Group R-3 buildings. Access to systems for buildings, other than those containing Group R-3 occupancies, shall be provided in accordance with Sections 3111.3.6.1 through 3111.3.6.3.

Exception: Where it is determined by the *fire code official* that the roof configuration is similar to that of a Group R-3 occupancy, the residential access and ventilation requirements in Sections 3111.3.4.1.1 through 3111.3.4.1.3 are a suitable alternative.

3111.3.6.1 Perimeter pathways. There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76 200 mm) or less, the clear perimeter around the edges of the roof shall be permitted to be reduced to a minimum width of 4 feet (1219 mm).

3111.3.6.2 Interior pathways. Interior pathways shall be provided between array sections to meet the following requirements:

1. Pathways shall be provided at intervals not greater than 150 feet (45 720 mm) throughout the length and width of the roof.
2. A pathway not less than 4 feet (1219 mm) wide in a straight line to roof standpipes or ventilation hatches.
3. A pathway not less than 4 feet (1219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.

3111.3.6.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Where nongravity-operated smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide shall be provided bordering all sides.
2. Smoke ventilation options between array sections shall be one of the following:
    2.1 A pathway not less than 8 feet (2438 mm) wide.

2.2 Where gravity-operated dropout smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide on not fewer than one side.

2.3 A pathway not less than 4 feet (1219 mm) wide bordering 4-foot by 8-foot (1219 mm by 2438 mm) venting cutouts every 20 feet (6096 mm) on alternating sides of the pathway.

(62) Adding Section **3111.3.7 Ground-mounted photovoltaic systems.** Section 3111.3.7 is added to read:

3111.3.7 Ground-mounted photovoltaic panel systems. Ground-mounted photovoltaic panel systems shall comply with Section 3111.1 and this section. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground-mounted photovoltaic arrays.

(63) Adding Section **3111.3.8 Buildings with rapid shutdown.** Section 3111.3.8 is added to read:

3111.3.8 Buildings with rapid shutdown. Buildings with rapid shutdown solar photovoltaic systems shall have permanent labels in accordance with Sections 3111.3.8.1 through 3111.3.8.3.

3111.3.8.1 Rapid shutdown type. The type of solar photovoltaic system rapid shutdown shall be labeled with one of the following:

1. For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 3111.3.8.1 (1) and state the following:

SOLAR PV SYSTEM EQUIPPED WITH
RAPID SHUTDOWN. TURN RAPID
SHUTDOWN SWITCH TO THE "OFF"
POSITION TO SHUT DOWN PV SYSTEM
AND REDUCE SHOCK HAZARD IN
ARRAY.

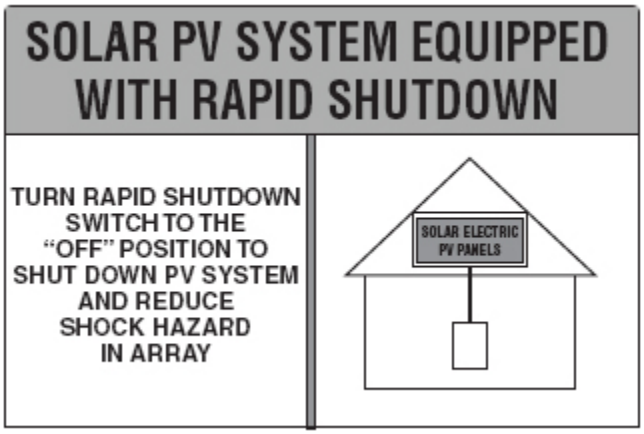


FIGURE 3111.3.8.1(1) LABEL FOR SOLAR PV SYSTEMS THAT REDUCE SHOCK HAZARD WITHIN ARRAY AND SHUT DOWN CONDUCTORS LEAVING ARRAY

2. For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in white on a red background and the remaining characters shall be uppercase with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 3111.3.8.1 (2) and state the following:

THIS SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN. TURN RAPID
SHUTDOWN SWITCH TO THE "OFF"
POSITION TO SHUT DOWN CONDUCTORS
OUTSIDE THE ARRAY. CONDUCTORS
WITHIN ARRAY REMAIN
ENERGIZED IN SUNLIGHT.

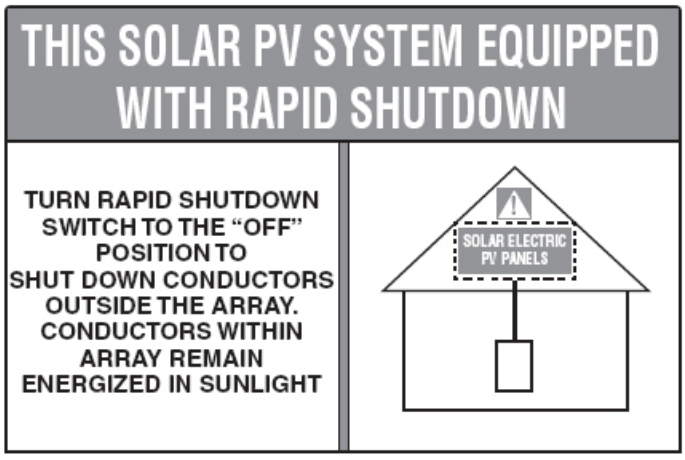


FIGURE 3111.3.8.1(2) LABEL FOR SOLAR PV SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS LEAVING THE ARRAY

3111.3.8.1.1 Diagram. The labels in Section 3111.3.8.1 shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.

3111.3.8.1.2 Location. The rapid shutdown label in Section 3111.3.8.1 shall be located not greater than 3 feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected, and shall indicate the location of all identified rapid shutdown switches if not at the same location.

(64) Adding Section **3111.3.8.2 Buildings with more than one rapid shutdown type.** Section 3111.3.8.2 is added to read:

3111.3.8.2 Buildings with more than one rapid shutdown type. Solar photovoltaic systems that contain rapid shutdown in accordance with both Items 1 and 2 of Section 3111.3.8.1 or solar photovoltaic systems where only portions of the systems on the building contain rapid shutdown, shall provide a detailed plan view diagram of the roof showing each different photovoltaic system and a dotted line around areas that remain energized after the rapid shutdown switch is operated.

(65) Adding Section **3111.3.8.3 Rapid shutdown switch.** Section 3111.3.8.3 is added to read:

3111.3.8.3 Rapid shutdown switch. A rapid shutdown switch shall have a label located not greater than 3 feet (914 mm) from the switch that states the following:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

(66) Appendix U is added to read:

APPENDIX U

HAWAIʻI HURRICANE SHELTERING PROVISIONS FOR NEW CONSTRUCTION

Section U101 Community storm shelters.

SECTION 423 COMMUNITY STORM SHELTERS

423.1 General. In addition to other applicable requirements in this code, designated earthquake, hurricane, or other community storm shelters shall be constructed in accordance with ICC-500.

423.1.1 Scope. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as hurricanes. Such structures shall be designated to be hurricane shelters.

423.2 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

COMMUNITY STORM SHELTER. A building, structure, or portion thereof, constructed in accordance with ICC/NSSA 500 Standard on the Design and Construction of Storm Shelters and designated for use during a severe windstorm event such as a hurricane.

Section U102 Hawai‘i Residential Safe Room.

SECTION 429 HAWAI‘I RESIDENTIAL SAFE ROOM

429.1 Performance-based design criteria. The residential safe room shall meet the minimum performance specifications of Sections 429.1.1 through 429.10.

429.1.1 Intent and scope. The intent of the residential safe room is to temporarily provide an enhanced protection area, fully enclosed within a dwelling or within an accessory structure to a residence, which is designed and constructed to withstand the wind pressures, windborne debris impacts, and other requirements of this section.

429.1.2 Alternative standards.

1. Manufactured safe room designs subject to approval. A manufactured safe room or safe room kit may be substituted if documentation is submitted and approved by the building official. The safe room shall be engineered, tested, and manufactured to meet or exceed the criteria of this section.

2. FEMA in-residence shelter designs permitted. It shall be permissible to build FEMA In-Residence Shelters of up to 64 square feet of floor area with walls up to 8 feet long that are built in accordance with construction details of FEMA 320.

429.2 Site criteria. Residential safe rooms shall not be constructed within areas subject to stream flooding, coastal flooding or dam failure inundation within any of the following areas:

1. FEMA Special Flood Hazard Areas (SFHA) subject to rainfall runoff flooding or stream of flash flooding;
2. Coastal zones "V" or "A" identified in the Flood Insurance Rate Map (FIRM) issued by FEMA for floodplain management purposes, in which the flood hazard are tides, storm surge, waves, tsunamis, or a combination of these hazards;
3. Areas subject to dam failure inundation as determined by the Department of Land and Natural Resources.

429.3 Size of safe room. The safe room shall be designed to provide a minimum of 15 square feet per person in a room which does not need to exceed 128 square feet (11.89 m^2) of floor area.

429.4 Provisions for exiting. The safe room shall be equipped with an inward-swinging interior door and an impact-protected operable window or exterior door suitable for a means of alternative exiting in an emergency.

429.5 Design for dead, live, wind, rain, and impact loads.

429.5.1 Structural integrity criteria.

1. The residential safe room shall be built with a complete structural system and a complete load path for vertical and lateral loads caused by gravity and wind.
2. The building that the residential safe room is in shall be assumed to be destroyed by the storm and shall not be taken as offering any protective shielding to the safe room enclosure.
3. The ceiling structure and wall shall be capable of supporting a superimposed debris load of the full weight of any building floors and roof above, but not less than 125 psf.
4. The residential safe room enclosure shall be capable of simultaneously resisting lateral and uplift wind pressures corresponding to a 145 mph 3-second peak gust ultimate design wind speed, determined in accordance with ASCE 7, Minimum Design Loads for Buildings and Other Structures. The site exposure factor shall be based on exposure C or the exposure shown in Figure 1609.4, whichever is the greater. The values for the gust factor and the directionality factor shall be taken as 0.85. Topographic wind amplification caused by mountainous terrain shall be considered in accordance with the building code. Internal pressure shall be determined in accordance with ASCE 7.

5. The residential safe room shall be anchored to a foundation system capable of resisting the above loading conditions.

429.5.2 Windborne debris impact protection of building enclosure elements. The entire enclosure of the safe room, including all walls, ceilings, and openings, fixed or operable windows, and all entry doors into the safe room, shall meet or exceed Level D requirements of ASTM E 1996 (Table 422.5-1), or be an approved assembly listed in Section 429.5.4. Any wall or ceiling penetration greater than 4 square inches shall be considered an opening.

Exception: Electrical outlet boxes and interior lighting switches not penetrating more than 2.5-inches into the interior wall surface and a plumbing piping or conduit not greater than 1.5-inch in diameter shall be exempted from this requirement.

429.5.3 Cyclic pressure loading of glazing and protective systems. Impact protective systems shall meet the ASTM E 1996 cyclic pressure requirement for the loading given in Table 429.5-1.

Table 429.5-1
Windborne Debris Protection and Cyclic Pressure Criteria for Residential Safe Rooms

ASTM 1996 Missile Level Rating	Debris Missile Size	Debris Impact Speed	Enclosure Wall Ceiling, and Floor Cyclic Air Pressure Testing – maximum inward and maximum outward pressures
D	2x4 weighing 9.0 lb. +/- 0.25 lb., and with min. length 8 ft. +/- 4-inch	50 ft./sec. or at least 34 mph	35 psf inward 45 psf outward

429.5.4 Approved Debris Impact Resistant Wall Assemblies. The following methods of wall assembly construction shall be deemed to comply with Section 429.5.2:

1. ¾-inch plywood on wood studs spaced at 16 inches on-center with #8 x 3-inch wood screws at 6 inches on-center.
2. ¾-inch plywood attached to double studs spaced at 16 inches on-center with #8 x 3-inch wood screws at 6 inches on-center.

3. 8-1/4 inch cementitious lap siding over 22 gage sheet metal attached to 350S-162-33 studs spaced at 24 inches on-center.

4. 8-1/4 inch cementitious lap siding attached to 250S-162-33 studs spaced at 24 inches on-center studs with interior ¾-inch interior plywood sheathing.

5. 8-1/4 inch cementitious lap siding attached to 350S-162-33 studs spaced at 24 inches on-center with ½-inch interior 22 gage sheet metal composite gypsum wallboard.

6. 8-1/4 inch cementitious lap siding attached to 2 inch x 4 inch wood studs spaced at 16 inches on-center with ½-inch interior 22 gage sheet metal composite gypsum wallboard.

7. 8-1/4 inch cementitious lap siding attached to 2 inch x 4 inch wood studs spaced at 16 inches on-center with 22 gage sheet metal and ½-inch interior gypsum wallboard.

8. Cementitious lap siding attached to 5/8-inch structural plywood on 2 inch x 4 inch wood studs spaced at 16 inches on-center.

9. Cementitious-panel siding attached to 5/8-inch structural plywood on 2 inch x 4 inch or 362S-137-43 steel studs spaced at 16 inches on-center.

10. EFS with ½-inch dens-glass gold exterior sheathing on 362S-137-43 steel studs spaced at 16 inches on-center and ½-inch interior gypsum wallboard.

11. 24 gage steel sheet (50 ksi) on girts.

12. Concrete with a thickness of 4 inches with reinforcing.

13. Concrete masonry units with a thickness of 6 inches with partial grouting and reinforcing spaced at 24 inches on-center.

14. Concrete masonry units with a thickness of 8 inches with partial grouting and reinforcing spaced at 24 inches on-center.

15. Interior or exterior wall with laterally braced 2 inch x 4 inch wood studs with sheathing on either side of 22 gage sheet metal.

Sheathing shall be attached to studs with fasteners at 6 inches (152 mm) on center for edge and field fastening.

429.6 Ventilation. The residential safe room shall be naturally ventilated to allow the enclosure to have approximately one air change every two hours. This requirement may be satisfied by 12 square inches of venting per occupant. There shall be at least two operable vents. The vents shall be protected by a cowling or other device that shall be impact tested to comply with ASTM E 1996-14 Level D. Alternatively, the room shall be evaluated to determine if the openings are of sufficient area to constitute an open or partially enclosed condition as defined in ASCE 7.

429.7 Communications. The residential safe room shall be equipped with a phone line and telephone that does not rely on a separate electrical power outlet. Alternatively, a wireless telephone shall be permitted to rely on an Uninterruptible Power Supply (UPS) battery device.

429.8 Construction documents. Construction documents for the residential safe room shall be directly prepared by a Hawai'i licensed professional structural engineer.

429.9 Special inspection. The construction or installation for the residential safe room shall be verified for conformance to the drawings in accordance with the appropriate requirements of Chapter 17.

429.10 Notification. The owner of the safe room shall notify the state department of defense and county civil defense agency of the property's tax map key or global positioning system coordinates.

Section U103 State- and County-owned public high occupancy buildings – design criteria for enhanced hurricane protection areas.

SECTION 430 STATE- AND COUNTY-OWNED PUBLIC HIGH OCCUPANCY BUILDINGS – DESIGN CRITERIA FOR ENHANCED HURRICANE PROTECTION AREAS

430.1 Intent. The purpose of this section is to establish minimum life safety design criteria for enhanced hurricane protection areas in high occupancy state- and county- owned buildings occupied during hurricanes of up to Saffir Simpson Category 3.

430.2 Scope. This section shall apply to state- and county-owned buildings which are of Risk Category III and IV defined by Table 1604.5 and of the following specific occupancies:

1. Enclosed and partially enclosed structures whose primary occupancy is public assembly with an occupant load greater than 300.
2. Health care facilities with an occupant load of 50 or more resident patients, but not having surgery or emergency treatment facilities.
3. Any other state-and county-owned enclosed or partially enclosed building with an occupant load greater than 5,000.
4. Hospitals and other health care facilities having surgery or emergency treatment facilities.

Exception: Facilities located within flood zone V and flood zone A that are designated by the owner to be evacuated during hurricane warnings

declared by the National Weather Service, shall not be subject to these requirements.

430.3 Site criteria.

430.3.1 Flood zones. Comply with ASCE 24-14, Flood Resistant Design and construction, based on provisions for Risk Category III.

1. Floor slab on grade shall be 1.5 foot above the base flood elevation of the county's flood hazard map, or a higher elevation as determined by a modeling methodology that predicts the maximum envelope and depth of inundation including the combined effects of storm surge and wave actions with respect to a Category 3 hurricane, nor less than the flood elevation associated with a 500-year mean recurrence interval.
2. Locate outside of V and Coastal A flood zones unless justified by site-specific analysis or designed for vertical evacuation in accordance with a method approved by the building official. When a building within a V or Coastal A flood zone is approved, the bottom of the lowest structural framing member of any elevated first floor space shall be 2 feet above the base flood elevation of the county's flood hazard map, or at higher elevation as determined by a modeling methodology that predicts the maximum envelope and depth of inundation including the combined effects of storm surge and wave actions with respect to a Category 3 hurricane, nor less than the flood elevation associated with a 500-year mean recurrence interval.

430.3.2 Emergency vehicle access. Provide at least one route for emergency vehicle access. The portion of the emergency route within the site shall be above the 100-year flood elevation.

430.3.3 Landscaping and utility laydown impact hazards. Landscaping around the building shall be designed to provide standoff separation sufficient to maintain emergency vehicle access in the event of mature tree blowdown. Trees shall not interfere with the functioning of overhead or underground utility lines, nor cause laydown or falling impact hazard to the building envelope or utility lines.

430.3.4 Adjacent buildings. The building shall not be located within 1,000 feet of any hazardous material facilities defined by Table 1604.5. Unanchored light-framed portable structures shall be not permitted within 300 feet of the building, unless the windborne debris hazard of the portable structure uplift is mitigated.

430.4 Enhanced hurricane protection area program requirements.

430.4.1 Applicable net area. At least fifty percent (50%) of the net square feet of a facility shall be constructed to qualify as an enhanced hurricane protection area. The net floor area shall be determined by subtracting from the gross square feet the floor area of excluded spaces, exterior walls, columns, fixed or moveable objects, equipment or other features that under probable conditions cannot be removed or stored during use as a storm shelter.

430.4.2 Excluded spaces. Spaces such as mechanical rooms, electrical rooms, storage rooms, attic and crawl spaces, shall not be considered as net floor area permitted to be occupied during a hurricane.

430.4.3 Occupancy capacity. The occupancy capacity shall be determined by dividing the net area of the enhanced hurricane protection area by 15 square feet net floor area per person.

430.4.4 Toilets and hand washing facilities. Toilet and hand washing facilities shall be located and accessible from within the perimeter of the enhanced hurricane protection area.

430.4.5 Accessibility. Where the refuge occupancy accommodates more than 50 persons, provide an ADA-accessible route to a shelter area at each facility with a minimum of 1 wheelchair space for every 200 enhanced hurricane protection area occupants determined in accordance with Section 430.4.3.

430.5 Design wind, rain, and impact loads.

430.5.1 Structural design criteria. The building main wind force resisting system and structural components shall be designed per ASCE 7 for a 145 mph minimum peak 3-second gust ultimate design wind speed. Topographic and directionality factors shall be the site-specific values determined per Appendix W. Design for interior pressure shall be based on the largest opening in any exterior façade or roof surface.

430.5.2 Windborne debris missile impact for building enclosure elements. Exterior glazing and glazed openings, louvers, roof openings and doors shall be provided with windborne debris impact resistance or protection systems conforming to ASTM E1996-14 Level D, i.e., 9 lb. 2 x 4 @ 50 fps (34 mph).

430.5.3 Cyclic pressure loading of impact resistive glazing or windborne impact protective systems. Resistance to the calculated

maximum inward and outward pressure shall be designed to conform to ASTM E1996-14.

430.5.4 Windows. All unprotected window assemblies and their anchoring systems shall be designed and installed to meet the wind load and missile impact criteria of this section.

430.5.5 Window protective systems. Windows may be provided with permanent or deployable protective systems, provided the protective system is designed and installed to meet the wind load and missile impact criteria and completely covers the window assembly and anchoring system.

430.5.6 Doors. All exterior and interior doors subject to possible wind exposure or missile impact shall have doors, frames, anchoring devices, and vision panels designed and installed to meet the wind load and missile impact criteria or such doors, frames, anchoring devices, and vision panels shall be provided with impact protective systems designed and installed to resist the wind load and missile impact criteria of this section.

430.5.7 Exterior envelope. The building envelope, including walls, roofs, glazed openings, louvers and doors, shall not be perforated or penetrated by windborne debris, as determined by compliance with ASTM E1996-14 Level D.

430.5.8 Parapets. Parapets shall satisfy the wind load and missile impact criteria of the exterior envelope.

430.5.9 Roofs

430.5.9.1 Roof openings. Roof openings (e.g., HVAC fans, ducts, skylights) shall be provided with protection for the wind load and missile impact criteria of Sections 430.5.2 and 430.5.3.

430.5.9.2 High wind roof coverings. Roof coverings shall be specified and designed according to the latest ASTM Standards for high wind uplift forces and Section 1507, whichever is the greater.

430.5.9.3 Roof drainage. Roofs shall have adequate slope, drains and overflow drains or scuppers sized to accommodate 100-year hourly rainfall rates in accordance with Section 1611.1, but not less than 2-inches per hour for 6 continuous hours.

430.6 Ventilation

430.6.1 Mechanical ventilation. Mechanical ventilation as required in accordance with the *International Mechanical Code.* Air intakes and

exhausts shall be designed and installed to meet the wind load and missile impact criteria of Sections 430.5.2 and 430.5.3.

430.6.2 HVAC equipment anchorage. HVAC equipment mounted on roofs and anchoring systems shall be designed and installed to meet the wind load criteria. Roof openings for roof-mounted HVAC equipment shall have a 12-inch-high curb designed to prevent the entry of rainwater.

430.7 Standby electrical system capability. Provide a standby emergency electrical power system per Chapter 27 and NFPA 70 **Article 700** Emergency Systems and **Article 701** Legally Required Standby Systems, which shall have the capability of being connected to an emergency generator or other temporary power source. The emergency system capabilities shall include:

1. An emergency lighting system;
2. Illuminated exit signs;
3. Fire protection systems, fire alarm systems and fire sprinkler systems; and
4. Minimum mechanical ventilation for health/safety purposes.

430.7.1 Emergency generator. When emergency generators are pre-installed, the facility housing the generator, permanent or portable, shall be an enclosed area designed to protect the generators from wind and missile impact. Generators hardened by the manufacturer to withstand the area's design wind and missile impact criteria shall be exempt from the enclosed area criteria requirement.

430.8 Quality assurance

430.8.1 Information on construction documents. Construction documents shall include design criteria, the occupancy capacity of the enhanced hurricane protective area, and Project Specifications shall include opening protection devices. Floor plans shall indicate all enhanced hurricane protection area portions of the facility and exiting routes there from. The latitude and longitude coordinates of the building shall be recorded on the construction documents.

430.8.2 Special inspection. In addition to the requirements of Chapter 17, special inspections shall include at least the following systems and components:

1. Roof cladding and roof framing connections;
2. Wall connections to roof and floor diaphragms and framing;

3. Roof and floor diaphragm systems, including collectors, drag struts and boundary elements;
4. Vertical windforce-resisting systems, including braced frames, moment frames and shear walls;
5. Windforce-resisting system connections to the foundation; and
6. Fabrication and installation of systems or components required to meet the impact-resistance requirements of Section 1609.1.2.

Exception: Fabrication of manufactured systems or components that have a label indicating compliance with the wind-load and impact-resistance requirements of this code.

430.8.3 Quality assurance plan. A construction quality assurance program shall be included in the construction documents and shall include:

1. The materials, systems, components, and work required to have special inspection or testing by the *building official* or by the registered design professional responsible for each portion of the work;
2. The type and extent of each special inspection;
3. The type and extent of each test;
4. Additional requirements for special inspection or testing for seismic or wind resistance; and
5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

430.8.4 Peer review. Construction documents shall be independently reviewed by a Hawai'i-licensed structural engineer. A written opinion report of compliance shall be submitted to Hawai'i Emergency Management Agency, the *building official*, and the owner.

430.9 Maintenance. The building shall be periodically inspected every three years and maintained by the owner to ensure structural integrity and compliance with this section. A report of inspection shall be furnished to the State Emergency Management Agency.

430.10 Compliance re-certification when altered, deteriorated, or damaged.
Alterations shall be reviewed by a Hawai'i-licensed structural engineer to determine whether any alterations would cause a violation of this section. Deterioration or damage to any component of the building shall require an evaluation by a Hawai'i-licensed structural engineer to determine repairs necessary to maintain compliance with this section.

(67) Appendix W is added to read:

APPENDIX W

HAWAIʻI WIND DESIGN PROVISIONS FOR NEW CONSTRUCTION

W101 Revisions to Chapter 2, Chapter 16 and Chapter 23.
Wind design shall be in accordance with this code as amended by Sections W101 through W109.

W102 Amendment to Windborne Debris Region definition.

The definition of "Windborne Debris Region" in Section 202 is amended to read:

WIND-BORNE DEBRIS REGION. Areas in Hawaiʻi where the basic design wind speed is 130 mph (63 m/s) or greater. For Risk Category II buildings and structures, the wind-borne debris region shall be based on Figure 26.5-2B of ASCE 7. For Risk Category III buildings and structures, the wind-borne debris region shall be based on Figure 26.5-2C of ASCE 7. For Risk Category IV buildings, the windborne debris region shall be based on Fig. 26.5-2D of ASCE 7.

W103 Amendment to SECTION 1602 NOTATIONS. The following Notations are added to Section 1602:

$V_{eff\text{-}asd}$ = Effective design wind speed, miles per hour (mph) (km/hr) where applicable, calculated per Section 1609.3.1, that includes the effect of the special Hawaiʻi factors for topographic effects and directionality.
V = Basic design wind speeds, miles per hour (mph) (km/hr) determined from Figures 26.5-2A through 26.5-2D of ASCE 7 map for the Risk Category, applied to the strength design of the structure.

V_{unt} = Ultimate design wind speed miles per hour, (mph) (km/hr), of the region prior to any pressure calculation adjustments of topographic effects per Section 1609.3.2 or directionality effects per Section 1609.3.3.

W104 Amendment to Section 1603.1.4 Wind design data. This Section is amended to read:

1603.1.4 Wind design data. The following information related to wind loads shall be shown, regardless of whether wind loads govern the design of the lateral force-resisting system of the structure:

1. Basic design wind speed, *V*, miles per hour (km/hr) and effective allowable stress design wind speed, $V_{eff\text{-}asd}$, as determined in accordance with Section 1609.3.1.

2. *Risk category.*

3. Wind exposure. Applicable wind direction if more than one wind exposure is utilized.

4. Applicable internal pressure coefficient.

5. Design wind pressures to be used for exterior component and cladding materials not specifically designed by the *registered design professional* responsible for the design of the structure, psf (kN/m^2).

W105 Amendment to SECTION 1609 WIND LOADS. Sections 1609.1 through 1609.4 are amended to read:

1609.1 Applications.
Buildings, structures, and parts thereof shall be designed to withstand the minimum wind loads prescribed herein. Decreases in wind loads shall not be made for the effect of shielding by other structures.

1609.1.1 Determination of wind loads.
Wind loads on every building or structure shall be determined in accordance with Chapters 26 to 30 of ASCE 7. Minimum values for Directionality Factor, K_d, Velocity Pressure Exposure Coefficient, K_z, and Topographic Factor, K_{zt}, shall be determined in accordance with Section 1609. The type of opening protection required, the basic design wind speed, V, and the exposure category for a site is permitted to be determined in accordance with Section 1609 or ASCE 7. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:
1. Subject to the limitations of Section 1609.1.1.1, the provisions of ICC 600 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of AWC WFCM.
3. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions AISI S230.
4. Designs using NAAMM FP 1001.

5. Designs using TIA-222 for antenna-supporting structures and antennas, provided the effect of topography is included in accordance with Section 1609.3.3 Topographic effects.
6. Wind tunnel tests in accordance with ASCE 49 and Sections 31.4 and 31.5 of ASCE 7.

The wind speeds in Figures 26.5-2A through 26.5-2D of ASCE 7 are basic design wind speeds, V, and shall be converted in accordance with Section 1609.3.1 to allowable stress design wind speeds, $V_{eff\text{-}asd}$ when the provisions of the standards referenced in Exceptions 4 and 5 are used.

1609.1.1.1 Applicability

The provisions of ICC 600 are applicable only to buildings located within Exposure B or C as defined in Section 1609.4.

The prescriptive provisions of ICC 600, AWC WFCM, or AISI S230 shall not be permitted for either of the following cases:

1. Structures which are more than three stories above grade plane in height.
2. Structures designed using exception 3 in Section 1609.2 Protection of Openings.

1609.2 Protection of openings.

In wind-borne debris regions, glazing in buildings shall be impact resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resistant standard or ASTM E1996 and ASTM E1886 referenced herein as follows:

1. Glazed openings located within 30 feet (9144 mm) of grade shall meet the requirements of the large missile test of ASTM E1996.
2. Glazed openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the small missile test of ASTM E1996.
3. Glazing in Risk Category II, III or IV buildings located over 60 feet (18 288 mm) above the ground and over 30 feet (9144 mm) above aggregate surface roofs located within 1,500 feet (458 m) of the building shall be permitted to be unprotected.
4. Glazing in Risk Category IV buildings and structures, and those Risk Category III buildings of the following occupancies shall be provided with wind-borne debris protection:
    a. Covered structures whose primary occupancy is public or educational assembly with an occupant load greater than 300.
    b. Health care facilities with an occupant load of 50 or more resident patients, but not having surgery or emergency treatment facilities.

c. Any other public building with an occupant load greater than 5,000.

5. Glazing in Risk Category I, II, and other Risk Category III buildings and structures are subject to the following exceptions:

Exceptions:

1. Wood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and maximum panel span of 8 feet (2438 mm) shall be permitted for opening protection in buildings with a mean roof height of 33 feet (10 058 mm) or less that are classified as a Group R-3 or R-4 occupancy. Panels shall be precut so that they shall be attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method and shall be secured with the attachment hardware provided. Attachments shall be designed to resist the components and cladding loads determined in accordance with the provisions of ASCE 7, with corrosion-resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table 1609.2 with corrosion-resistant attachment hardware provided and anchors permanently installed on the building is permitted for buildings with a mean roof height of 45 feet (13 716 mm) or less where $V_{eff\text{-}asd}$ determined in accordance with Section 1609.3.1 does not exceed 140 mph (63 m/s).

2. Glazing in Risk Category I buildings, including greenhouses that are occupied for growing plants on a production or research basis, without public access shall be permitted to be unprotected.

3. Risk Category II buildings shall be permitted to be designed with unprotected openings subject to the following requirements:

a. For each direction of wind, determination of enclosure classification shall be based on the assumption that all unprotected glazing on windward walls are openings while glazing on the remaining walls and roof are intact and are not assumed to be openings.

b. Partially enclosed and open occupancy R-3 buildings without wind-borne debris protection shall also include a residential safe room in accordance with Section 425, Hawai'i residential safe room, or alternatively provide an equivalently sized room structurally protected by construction complying with Section 429.5.

1609.2.1 Louvers.

Louvers protecting intake and exhaust ventilation ducts not assumed to be open that are located within 30 feet (9144 mm) of grade shall meet the requirements of AMCA 540.

1609.2.2 Application of ASTM E1996.
The text of Section 6.2.2 of ASTM E1996 shall be substituted as follows:

6.2.2 Unless otherwise specified, select the wind zone based on the basic design wind Speed, V, as follows:

6.2.2.1 *Wind Zone* 1-130 mph ≤ basic design wind speed, V < 140 mph.

6.2.2.2 *Wind Zone* 2-140 mph ≤ basic design wind speed, V < 150 mph at greater than one mile (1.6 km) from the coastline. The coastline shall be measured from the mean high water mark.

6.2.2.3 *Wind Zone* 3-150 mph (58 m/s) ≤ basic design wind speed, V < 160 mph (63 m/s), or 140 mph (54 m/s) ≤ basic design wind speed, V≤ 160 mph (63 m/s) and within one mile (1.6 km) of the coastline. The coastline shall be measured from the mean high water mark.

6.2.2.4 *Wind Zone 4* – basic design wind speed, V > 160 mph (63 m/s).

Table 1609.1.2
Wind-Borne Debris Protection Fastening Schedule for Wood Structural Panels [a, b, c, d]

Fastener Type	**Fastener Spacing**		
	Panel span ≤ 4 feet	**Panel span > 4 feet and ≤ 6 feet**	**Panel span > 6 feet and ≤ 8 feet**
No. 8 Wood screw based anchor with 2 inch embedment length	16”	10”	8”
No. 10 Wood screw based anchor with 2-inch embedment length	16”	12”	9”
¼-inch lag screw based anchor with 2-inch embedment length	16”	16”	16”

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 mile per hour = 1.609 km/h.

a. This table is based on a 175 mph ultimate design wind speed and a mean roof height of 45 feet.

b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located a minimum of 1 inch from the edge of the panel.

c. Anchors shall penetrate through the exterior wall covering with an embedment length of 2 inches minimum into the building frame. Fasteners shall be located a minimum of 2-1/2 inches from the edge of concrete block or concrete.

d. Where panels are attached to masonry or masonry/stucco, they shall be attached utilizing vibration-resistant anchors having a minimum withdrawal capacity of 1,500 pounds.

1609.2.3 Garage doors.

Garage door glazed opening protection for windborne debris shall meet the requirements of an approved impact-resisting standard of ANSI/DASMA 115.

1609.3 Basic design wind speed.

The basic design wind speed, V, in mph, for the determination of the wind loads shall be determined by Figures 26.5-2A through 26.5-2D of ASCE 7. The basic design wind speed, V, for use in the design of Risk Category I buildings and structures shall be obtained from Figure 26.5-2A of ASCE 7. The basic design wind speed, V, for use in the design of Risk Category II buildings and structures shall be obtained from Figure 26.5-2B of ASCE 7. The basic design wind speed, V, for use in the design of Risk Category III buildings and structures shall be obtained from Figure 26.5-2C of ASCE 7. The basic design wind speed, V, for use in the design of Risk Category IV buildings and structures shall be obtained from Figure 26.5-2D of ASCE 7. The basic design wind speed, V, shown for Hawai‘i in Figures 26.5-2A through 26.5-2D of ASCE 7 include topographic effects near mountainous terrain and near gorges, and shall be used with a topographic factor K_{zt} of 1.0 and the directionality factors given in Table 26.6-1 of ASCE 7.

Alternatively, when determining wind loads using both the explicit topographic factors given in Section 1609.3.2 and the explicit directionality factors of Section 1609.3.3, the ultimate design wind speed, V_{unt}, in mph, without topographic effects shall be as follows:

Risk Category I buildings and structures: 115 mph
Risk Category II buildings and structures: 130 mph
Risk Category III buildings and structures: 145 mph
Risk Category IV buildings and structures: 153 mph

1609.3.1 Wind speed conversion.

Where required, the basic design wind speeds of Figures 26.5-2A through 26.5-2D of ASCE 7 shall be converted to effective allowable stress design wind speeds, $V_{eff\text{-}asd}$, using Table 1609.3.1 or Equation 16-33.

$$V_{eff\text{-}asd} = V\sqrt{0.6} \qquad \textbf{(Equation 16-33)}$$

where:

$V_{eff\text{-}asd}$ = Effective allowable stress design wind speed applicable to methods specified in Exceptions 4 and 5 of Section 1609.1.1 and for Section 2308.10.1.

V = Basic design wind speeds determined from Figures 26.5-2A through 26.5-2D of ASCE 7.

Table 1609.3.1
Wind Speed Conversions [a, b, c]

V	100	110	120	130	140	150	160	170	180	190	200
$V_{eff\text{-}asd}$	78	85	93	101	108	116	124	132	139	147	155

For SI: 1 mile per hour = 0.44 m/s.

a. Linear interpolation is permitted.

b. $V_{eff\text{-}asd}$ = Allowable stress design wind speed applicable to methods specified in Exceptions 4 through 5 of Section 1609.1.1.

c. V = basic design wind speeds determined from Figures 26.5-2A through 26.5-2D of ASCE 7.

1609.3.2 Topographic effects.

Wind speed-up effects caused by topography shall be included in the calculation of wind loads by using the factor K_{zt}, where K_{zt} is given in Figure 1609.3.2 (a).

Exception: Site-specific probabilistic analysis of directional K_{zt} based on wind-tunnel testing of topographic speed-up shall be permitted to be submitted for approval by the *building official.* Basic design wind speed, V, is determined per Figures 26.5-2A through 26.5-2D of ASCE 7 that already include topographic effects near mountainous terrain and near gorges, which shall be used with a topographic factor K_{zt} of 1.0 and the directionality factors given in Table 26.6-1 of ASCE 7.

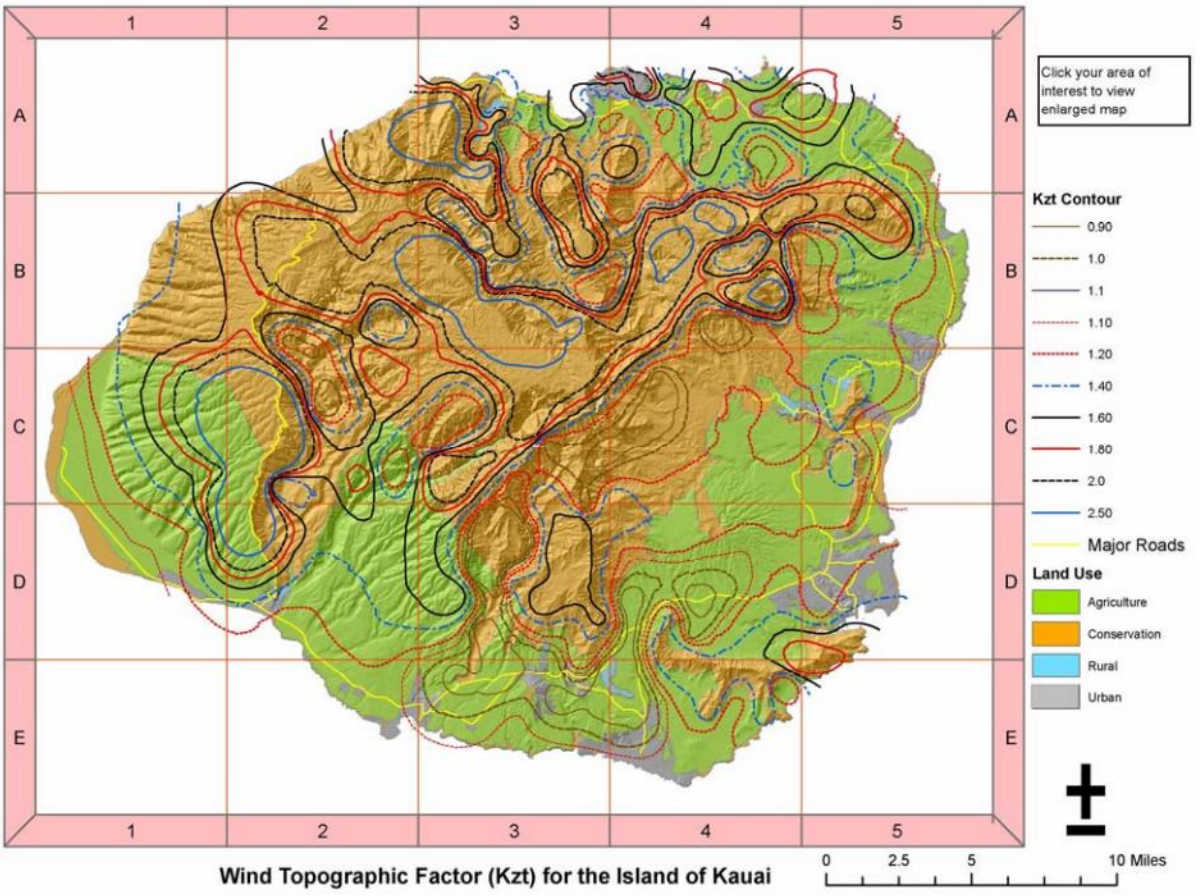


Figure 1609.3.2(a)
County of Kaua'i Peak Gust Topographic Factor K_{zt}

1609.3.3 Directionality factor.
The wind directionality factor, K_d, shall be determined from Figures 1609.3.3(a) and 1609.3.3(b).

Exception: Basic design wind speed, V, is determined per Figure 1609.3.3(a) that already include topographic effects near mountainous terrain and near gorges, which shall be used with a topographic factor K_{zt} of 1.0 and the directionality factors given in Table 26.6-1 of ASCE 7.

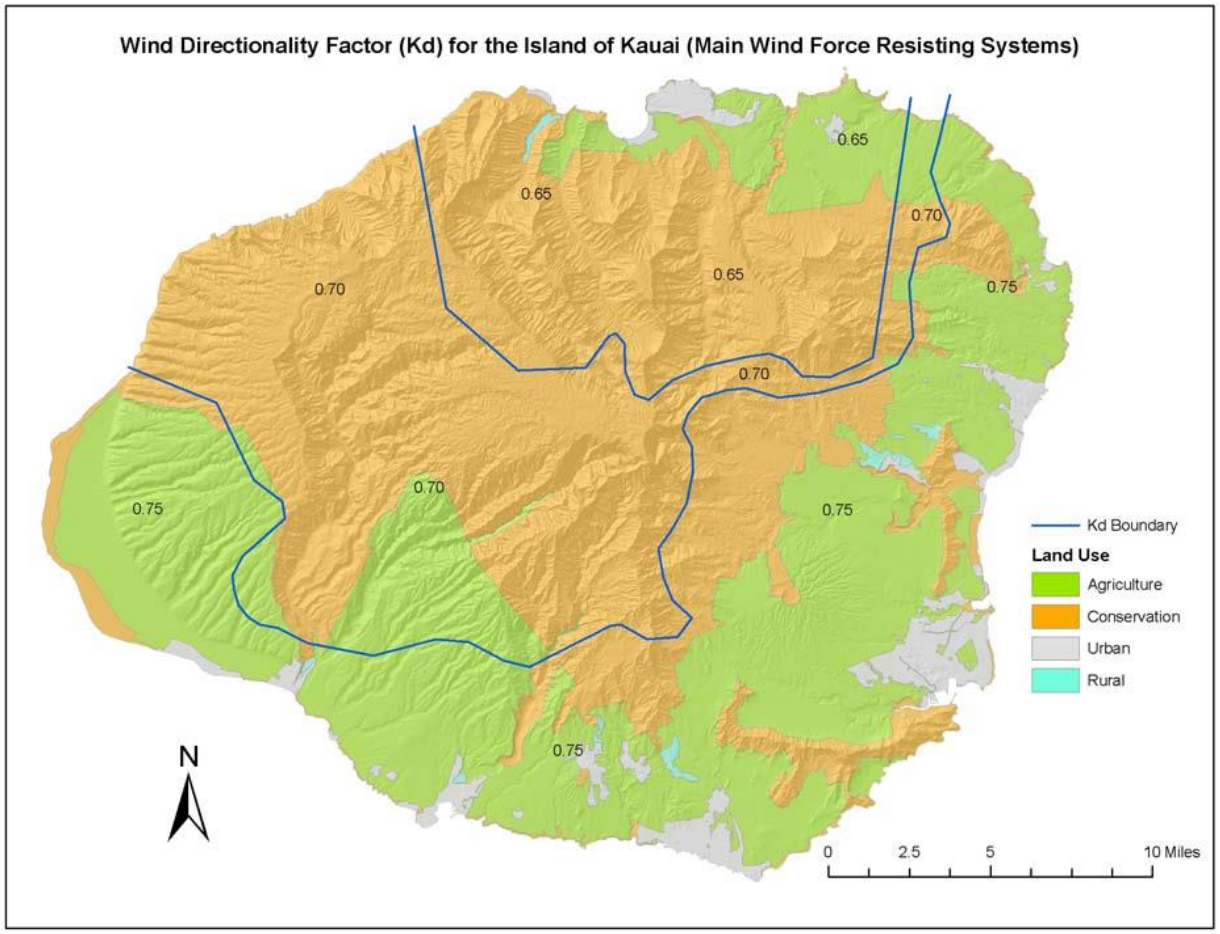


Figure 1609.3.3(a)
K_d Values for Main Wind Force Resisting Systems Sited on Kaua'i County, Hawai'i [a, b]

a. The values of K_d for other non-building structures indicated in ASCE-7 Table 26.6-1 shall be permitted.

b. Site-specific probabilistic analysis of K_d based on wind-tunnel testing of topography and peak gust velocity profile shall be permitted to be submitted for approval by the Building Official, but K_d shall have a value not less than 0.65.

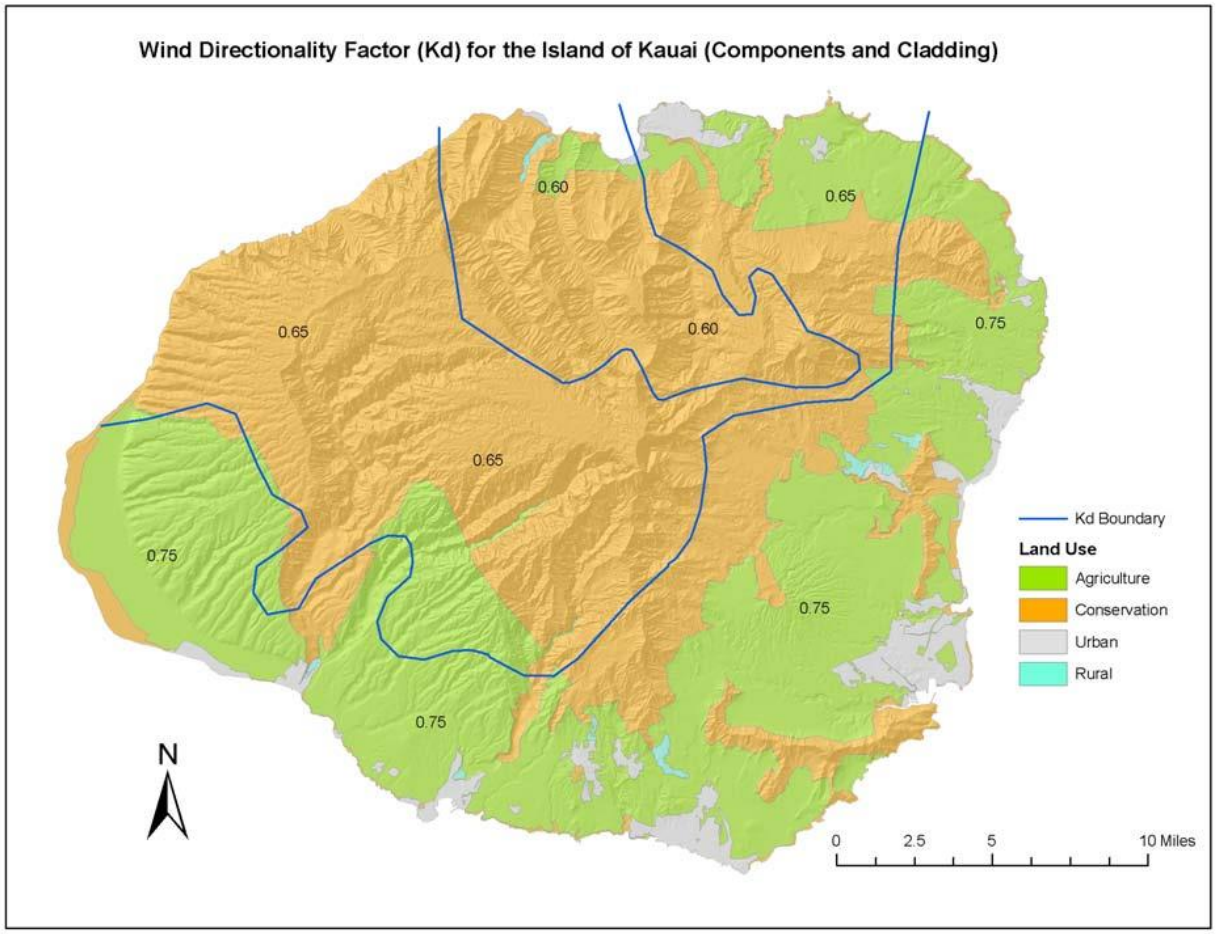


Figure 1609.3.3(b)
K_d Values for Components and Cladding of Buildings Sited on Kaua'i County, Hawai'i[a,b]

a. The values of K_d for other non-building structures indicated in ASCE-7 Table 26.6-1 shall be permitted.

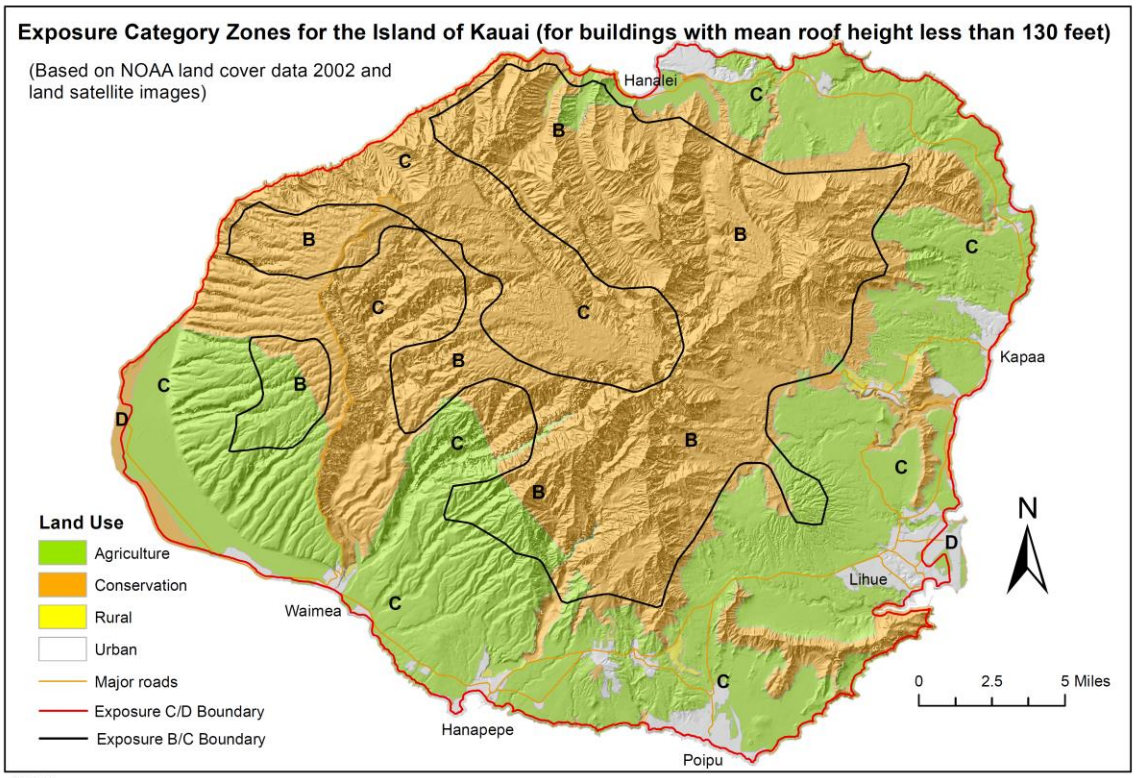
b. Site-specific probabilistic analysis of K_d based on wind-tunnel testing of topography and peak gust velocity profile shall be permitted to be submitted for approval by the Building Official, but K_d shall have a value not less than 0.65.

1609.4 Exposure Category.

For each wind direction considered, an exposure category that adequately reflects the characteristics of ground surface irregularities shall be determined for the site at which the building or structure is to be constructed. Account shall be taken of variations in ground surface roughness that arise from natural topography and vegetation as well as from constructed features.

1609.4.1 Wind directions and sectors.
For each selected wind direction considered, at which the wind loads are to be evaluated, the exposure of the building or structure shall be determined for the two upwind sectors extending 45 degrees (0.79 rad) either side of the selected wind direction. The exposures in these two sectors shall be determined in accordance with Sections 1609.4.2 and 1609.4.3 and the exposure resulting in the highest wind loads shall be used to represent winds from that direction.

Exception: Exposure categories shall be permitted to be determined using Figure 1609.4 (a).



Notes:
1. Intermediate exposures, between categories B and C and between C and D, are permitted when substantiated per ASCE 7 recognized methodology.
2. Sites located within the C (coastal) zone shall be permitted to be evaluated for exposure category B for the wind directions where an adjacent B zone exists in the applicable upwind sector.
3. Sites located within 600 feet from the coastline shall be exposure category D for onshore wind directions.
4. For buildings whose height is equal to or greater than 130 ft, exposure category shall be determined per Section 1609.4.1.
5. For buildings whose mean roof height is less than or equal to 30 ft, exposure category shall be permitted to be evaluated per Section 1609.4.

Figure 1609.4 (a)
Exposure Category Zones for Kaua'i County

W106 Roof-top Solar Panels. Section 1609.5.4 is added to read:

1609.5.4 Roof-top solar panels for conditions not included in ASCE 7 Chapter 29. The normal force on other configurations of roof-top panels not

regulated by ASCE 7 Chapter 29 shall be not less than that determined by Equation 1609-5:

$F = q_h(GC_p)C_N A$ (lb) (N) (Equation 1609-5)

Where:
C_N = pressure coefficients for monoslope free roofs from ASCE 7-16 Table 30.8-1 considering each elevated panel as a free roof surface in clear wind flow. The angle θ used for the determination of C_N shall be measured as the angle of the panel with respect to the plane of the roof (ω in Figure 1609.5-1). Values of C_N for forces on the panel may be taken as the Zone 1 coefficients.

Exception*:* Zone 2 coefficients for C_N shall be used where the panel angle, ω, is greater than 7.5 degrees; panels are located a distance less than or equal to twice the roof height measured from a roof corner; and the parapet is greater than 24 inches (610 mm) in height above the roof.
GC_p = the component and cladding external pressure coefficient for roofs for the roof zone corresponding to the location of the solar panel, and the effective wind area shall be that of the solar panel. The minimum magnitude of negative pressure values of GC_p in Zone 1 shall be taken as -1.0.

A = the total area of the solar panel element.
When located in roof zone 2 or 3 as defined in ASCE 7, the force F shall be applied with an eccentricity equal to a third of the solar panel width.

1609.5.4.1 Additive panel wind loads. The load on the panel shall be applied as point load anchorage reactions additive to the resultant of the pressure determined acting on the portion of the roof underlying the panel.

1609.5.4.2 Ballasted panels. Panels that are ballasted for uplift resistance and tilted at an angle α of 10 degrees or more from a horizontal plane shall be designed to resist the force determined by Equation 1609-7:

$$F_{ballast} \geq F\left(\frac{\mu\cos\beta + \sin\beta}{\mu\cos\alpha - \sin\alpha}\right)$$ (lb) (N) (Equation 1609-7)

Where:
F = the normal force on each panel determined in accordance with Section 1609.5.4.
α = the angle of the roof plane with respect to horizontal.
β = the angle of tilt of the panel with respect to the roof plane.
μ = the static friction coefficient between the panel base and its bearing surface.

Alternatively, to resist uplift and sliding, ballasted panels that are tilted at an angle of less than 10 degrees from a horizontal plane shall each be ballasted to resist a force equal to 2 times the normal force on each panel. Ballasted panels that are tilted at an angle between 10 degrees to 25 degrees from a horizontal plane shall each be ballasted to resist a force equal to 8 times the normal force on each panel.

1609.5.4.3 Permeability. A reduction of load on the panels for permeability of the panel system shall not be permitted unless demonstrated by approved wind-tunnel testing or recognized documentation for the type of panel system being considered. Testing or documentation shall replicate the panel separation spacing and height above the roof.

1609.5.4.4 Shielding. A reduction of load on the panels for shielding provided by the roof or other obstruction shall not be permitted unless demonstrated by approved wind-tunnel testing or recognized documentation for the type of panel system being considered. Testing or documentation shall replicate the panel separation spacing and height above the roof.

W107 Amendment to Section 2304.6.1 Wood structural panel sheathing. This Section is amended to read:

> **2304.6. Wood structural panel sheathing.** Where wood structural panel sheathing is used as the exposed finish on the exterior of outside walls, it shall have an exterior exposure durability classification. Where wood structural panel sheathing is used elsewhere, but not as the exposed finish, it shall be of a type manufactured with exterior glue (Exposure 1 or Exterior). Wood structural panel wall sheathing or siding used as structural sheathing shall be capable of resisting wind pressures in accordance with Section 1609. Maximum effective wind speeds for wood structural panel sheathing used to resist wind pressures shall be in accordance with Table 2304.6.1 for enclosed buildings with a mean roof height not greater than 30 feet (9144 mm).

W108 Amendment to Table 2304.6.1. Table 2304.6.1 is amended to read:

TABLE 2304.6.1
MAXIMUM EFFECTIVE ALLOWABLE STRESS DESIGN WIND SPEED, $V_{eff\text{-}asd}$ PERMITTED FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES[a,b,c]

MINIMUM NAIL	MINIMUM WOOD STRUCTURAL PANEL SPAN	MINIMUM NOMINAL PANEL	MAXIMUM WALL STUD SPACING	PANEL NAIL SPACING	MAXIMUM EFFECTIVE ALLOWABLE STRESS

		RATING	THICKNESS (inches)	(inches)			DESIGN WIND SPEED, $V_{eff\text{-}asd}$[d] (MPH)		
Size	Penetration (inches)				**Edges** (inches o.c.)	**Field** (inches o.c.)	**Wind exposure category**		
							B	C	D
6d common (2.0" × 0.113")	1.5	24/0	3/8	16	6	12	110	90	85
		24/16	7/16	16	6	12	110	100	90
						6	150	125	110
8d common (2.5" × 0.131")	1.75	24/16	7/16	16	6	12	130	110	105
						6	150	125	110
				24	6	12	110	90	85
						6	110	90	85

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

a. Panel strength axis shall be parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.

b. The table is based on wind pressures acting toward and away from building surfaces in accordance with Chapter 27 of ASCE 7. Lateral requirements shall be in accordance with Section 2305 or 2308.

c. Wood structural panels with span ratings of wall-16 or wall-24 shall be permitted as an alternative to panels with a 24/0 span rating. Plywood siding rated 16 o.c. or 24 o.c. shall be permitted as an alternative to panels with a 24/16 span rating. Wall-16 and plywood siding 16 o.c. shall be used with studs spaced a maximum of 16 inches o.c.

d. $V_{eff\text{-}asd}$ shall be determined in accordance with Section 1609.3.1.

W109 Amendment to Table 2308.7.5. Table 2308.7.5 is amended to read:

Table 2308.7.5 Required Rating of Approved Uplift Connectors (pounds)[a,b,c,d,e,f,g,h,i]								
Effective Allowable Stress Design Wind Speed,	Roof Span (feet)							Overhangs (pounds/ft)[d]
$V_{eff\text{-}asd}$, 3-sec gust	12	20	24	28	32	36	40	
85	-72	-120	-144	-168	-192	-216	-240	-38.55
90	-91	-152	-182	-213	-243	-274	-304	-43.22
100	-131	-218	-262	-305	-349	-392	-436	-53.36
110	-175	-292	-350	-409	-467	-526	-584	-64.56
120	-240	-400	-480	-560	-640	-720	-800	-76.83
130	-304	-506	-607	-708	-810	-911	-1012	-90.17

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 1.61 km/hr, 1 pound = 0.454 Kg, 1 pound/foot = 14.5939 N/m.

a. The uplift connection requirements are based on a 30-foot mean roof height located in Exposure B. For Exposure C and for other mean roof heights, multiply the above loads by the adjustment coefficients below.

Exposure	Mean Roof Height (feet)									
	15	20	25	30	35	40	45	50	55	60
B	1.00	1.00	1.00	1.00	1.05	1.09	1.12	1.16	1.19	1.22
C	1.21	1.29	1.35	1.40	1.45	1.49	1.53	1.56	1.59	1.62
D	1.47	1.55	1.61	1.66	1.70	1.74	1.78	1.81	1.84	1.87

For SI: 1 inch – 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 1.61 km/hr, 1 pound = 0.454 Kg, 1 pound/foot = 14.5939 N/m.

b. The uplift connection requirements are based on the framing being spaced 24 inches on center. Multiply by 0.67 for framing spaced 16 inches on center and multiply by 0.5 for framing spaced 12 inches on center.

c. The uplift connection requirements include an allowance for 10 pounds of dead load.

d. The uplift connection requirements do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing

spaced 24 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.

e. The uplift connection requirements are based upon wind loading on end zones as defined in Chapter 30, Figure 30.5-1, of ASCE 7. Connection loads for connections located a distance of 20 percent of the least horizontal dimensions of the building from the corner of the building are permitted to be reduced by multiplying the table connection value by 0.7 and multiplying the overhang load by 0.8.

f. For wall-to-wall and wall-to-foundation connections, the capacity of the uplift connector is permitted to be reduced by 100 pounds for each full wall above. (For example, if a 500-pound rated connector is used on the roof framing, a 400-pound rated connector is permitted at the next floor level down.)

g. Interpolation is permitted for intermediate values of basic wind speeds and roof spans.

h. The rated capacity of approved tie-down devices is permitted to include up to a 60-percent increase for wind effects where allowed by material specifications.

i. $V_{eff\text{-}asd}$ is determined from Section 1609.3.1.

(68) Appendix X is added to read:

APPENDIX X

HAWAIʻI PROVISIONS FOR INDIGENOUS HAWAIIAN ARCHITECTURE STRUCTURES

Section X101 General.

X101.1 Scope. The provisions of this appendix shall apply exclusively to Indigenous Hawaiian Architecture Structures. The purpose of these provisions is to acknowledge and establish procedures for designing and constructing indigenous Hawaiian architecture structures.

X101.2 Publications incorporated by reference. The following publications are incorporated by reference and made a part of these provisions. Where there is a conflict between Appendix X and the referenced documents, Appendix X shall prevail.

1. "Hawaiian Thatched House" (1971), by Russell A. Apple, published by the United States Department of the Interior,
2. "Hale Construction Standards" (2000), by Francis Sinenci and Bill Sides,
3. "The Hawaiian Grass House in Bishop Museum" (1988), by Catherine C. Summers, and
4. "Arts and Crafts of Hawaii", Section II, Houses (1957) by Te Rangi Hiroa (Peter H. Buck)

X101.3 Definitions. See Chapter 2 for general definitions. As used in this appendix:

CERTIFIED HALE BUILDER. A person who has obtained a certificate of completion for satisfactorily completing a course in Hawaiian hale construction from the University of Hawai'i, or any of its community colleges, or as approved by the *building official.*

GROUP OF STRUCTURES. 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.

HALE or INDIGENOUS HAWAIIAN ARCHITECTURE STRUCTURE. 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 this appendix and references.

SEPARATION. The clear distance between two structures.

SETBACK. The clear distance between a structure and a property line.

Section X201 Material requirements.

X201.1 Hale materials. Hale shall be constructed using only materials grown and harvested in the State of Hawai'i.

X201.2 Wood framing material. The wood members for the hale, such as posts and rafters, shall be, but not limited to hardwoods of unmilled, straight sections of trunks or branches of the following species:

1. Casurina equisitafolia (ironwood).
2. Prosopis-allid (kiawe).
3. Eucalyptus robusta (eucalyptus).
4. Psidium cattleianum (strawberry guava).
5. Metrosideros polymorpha (ohia).
6. Rizophora mangle (mangrove).

Exception: Ardisia elliptica (inkberry) may be used only for roof purlins as an alternative to specified woods listed in Items 1 through 6.

X201.3 Roofing and siding. Thatched roofing and siding materials for the hale may be any grass or leaf material grown and harvested in the State of Hawai'i, to include but not be limited to pili, kualohia, pueo, kawelu, sugarcane leaves, and ti leaves.

X201.4 Cord. 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.

X201.5 Metal prohibited. Metal shall not be used for the construction of the hale.

Section X202 Size and location.

X202.1 Height and size limitation. Hale shall be one-story, detached structure not exceeding 1,800 square feet. Hale shall not exceed the size indicated in Table X202.1.

Table X202.1
Maximum Size of Hale (feet)

Hale halawai	Hale kuʻai	Hale noa	Hale waʻa
30 X 60	14 X 20	14 X 24	30 X 60

X202.2 Zoning requirements. Hale shall comply with minimum yard requirements in the zoning codes.

X202.3 Minimum separation. 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.

X202.4 Hale Noa. Hale noa structures may only be constructed on property where a separate residence exists on the property.

Section X203 Allowable and prohibited uses.

X203.1 Allowable uses. To the extent permitted by other applicable law, allowable uses for hale structures shall be in accordance with Table X203.1.

Table X203.1
Allowable Use for Each Hale Type

Use	Hale halawai	Hale kuʻai	Hale noa	Hale waʻa
Eating (ai)	Allowed	Allowed	Not permitted	Allowed
Assembling (halawai)	Allowed	Allowed	Not permitted	Allowed

Sleeping (moe)	Not permitted	Not permitted	Allowed	Not permitted
Retailing (e.g., fruits) (kuʻai)	Allowed	Allowed	Not permitted	Allowed
Storage (papaʻa)	Not permitted	Allowed	Not permitted	Allowed

X203.2 Prohibited uses and activities. The following uses and activities shall be prohibited from occurring within 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.
8. No screen, mesh, plastic or any other similar material shall be attached to the hale.
9. Hale shall not be used as a food establishment as defined in the administrative rules adopted by the State Department of Health.

X203.3 Maintenance. The hale shall be maintained by the owner to ensure structural integrity. Repairs for maintenance of the hale shall not require additional building permits.

Section X301 Fire protection.

X301.1 Fire protection classifications. Fire protection for Indigenous Hawaiian architecture structures shall be as required in Table X301.1.

Table X301.1
Fire Protection Requirements Based on Setback

Class	**Setback Requirements**	**Fire Protection Requirements**
A	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:	No fire protection is required for the structure.

	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.	
B	The structure (or a group of structures) that conforms to applicable zoning setback requirements but does not satisfy Class A setback requirements.	Automatic fire sprinkler system shall be installed in accordance with design standards in Section X301.2. An electrical permit is required for fire sprinklers systems.

X301.2 Automatic fire sprinklers. The design standards for automatic fire sprinklers for Class B indigenous Hawaiian architecture structures shall be in accordance with NFPA 13.

Exception: The design standards for automatic fire sprinklers for Class B indigenous Hawaiian architecture structures shall be permitted as follows:

1. 18 gallons per minute for a single head at 140 square feet maximum coverage of roof area.
2. 13 gallons per minutes 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 head spacing shall not exceed 14 feet.

6. Sprinkler heads shall be open type upright, pendent, or sidewall with ½-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 quantity shown in Table X301.2(a).

Table X301.2(a)
Total Number of Fire Sprinklers Based on Pipe Size

Piping Size	Number of Sprinklers
1 inch diameter	2 sprinklers
1¼ inch diameter	3 sprinklers
1½ inch diameter	5 sprinklers
2 inch diameter	10 sprinklers
2½ inch diameter	30 sprinklers
3 inch diameter	60 sprinklers

9. The pipe schedule table in Item 8 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, et cetera, 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 sprinklers shall not exceed the number shown in Table X301.2(b).

Table X301.2(b)
Total Number of Fire Sprinklers Based on Water Meter Size

Size of Water Meter	Number of Sprinklers
5/8 inch water meter	1 sprinkler
¾ inch water meter	2 sprinklers
1 inch water meter	3 sprinklers
1½ inch water meter	7 sprinklers

2 inch water meter	11 sprinklers
3 inch water meter	27 sprinklers

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.
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 sprinkler system shall have a local alarm activated by a smoke detector.

X301.3 Certification of water supply. For any hale that requires fire protection pursuant to Section X301.1, the applicant shall provide a certification from a licensed 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.

X302 Smoke alarm. Any hale used for sleeping shall have an approved battery-operated smoke alarm installed in the hale.

Section X401 Design standards.

X401.1 General design standards. 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 measures 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.

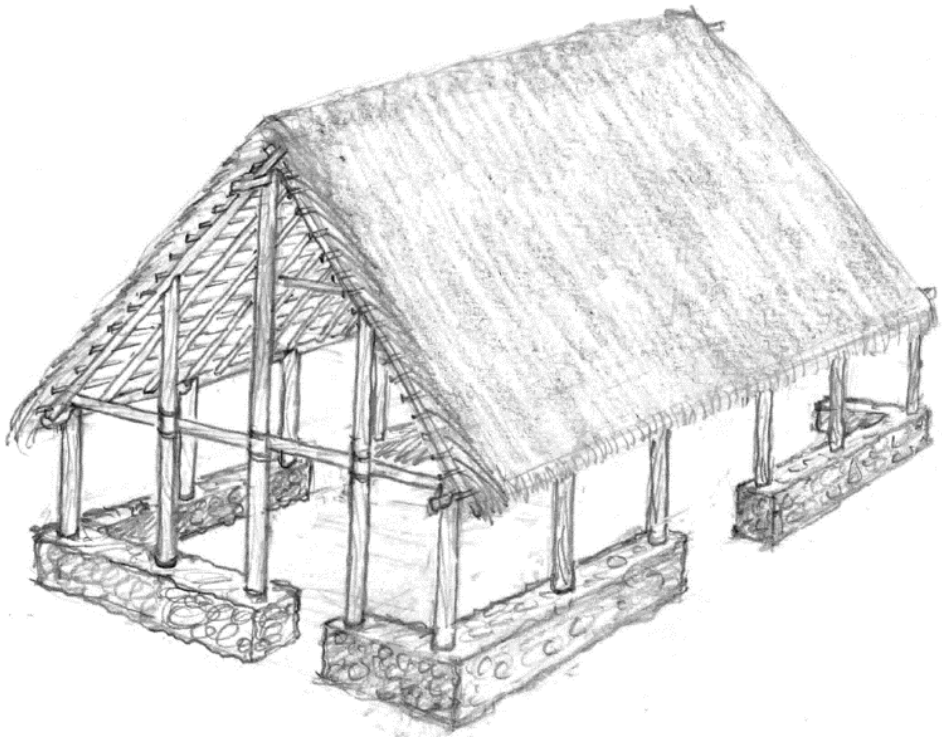
2. The specifications for structural members were estimated based on no wind loads. Hale shall be constructed to allow all thatching materials to separate from the structure prior to adding significant loads.

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.

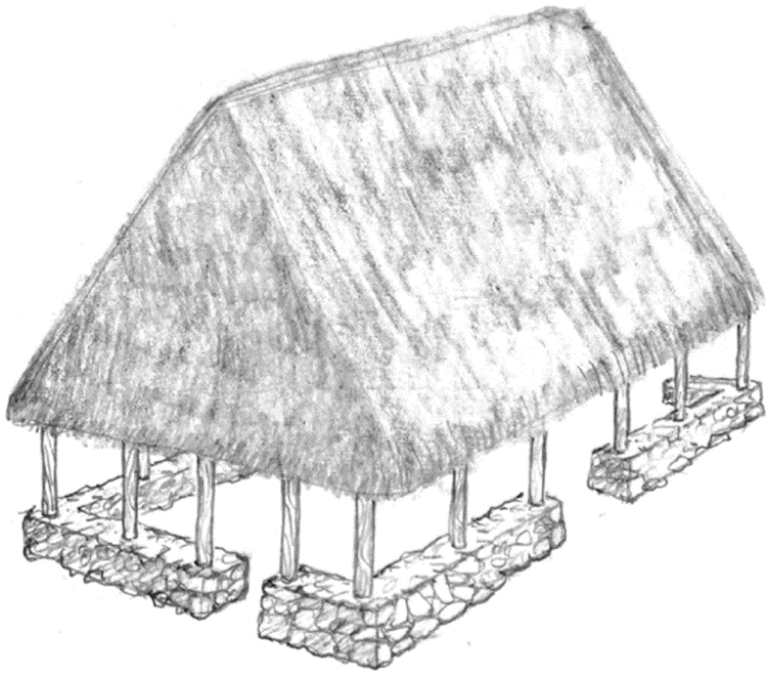
4. Every hale, except hale noa, shall have at least two sides completely open.

5. Lashing and thatching methods shall comply with illustrations found in "Arts and Crafts of Hawaii" or "The Hawaiian Grass House in Bishop Museum" referenced in Section X101.2. Hale shall be designed and constructed in accordance with the requirements in Sections 402.1 through 402.4.

X402.1 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 shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Halawai shall meet the size and spacing requirements in Table X402.1(a). Foundations for Hale Halawai shall be designed in accordance with Table X402.1(b).



HALE HALAWAI
Open End Style



HALE HALAWAI

Thatched End Style

FRAMING SCHEMATIC

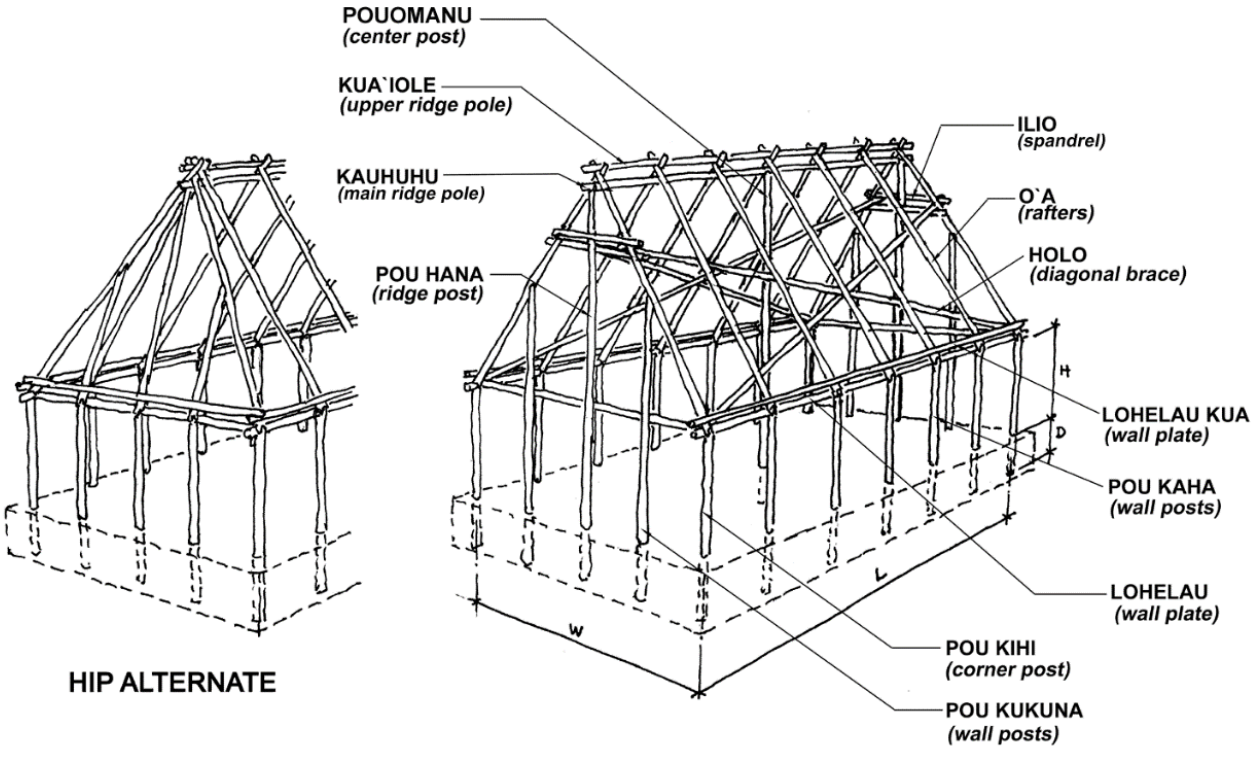
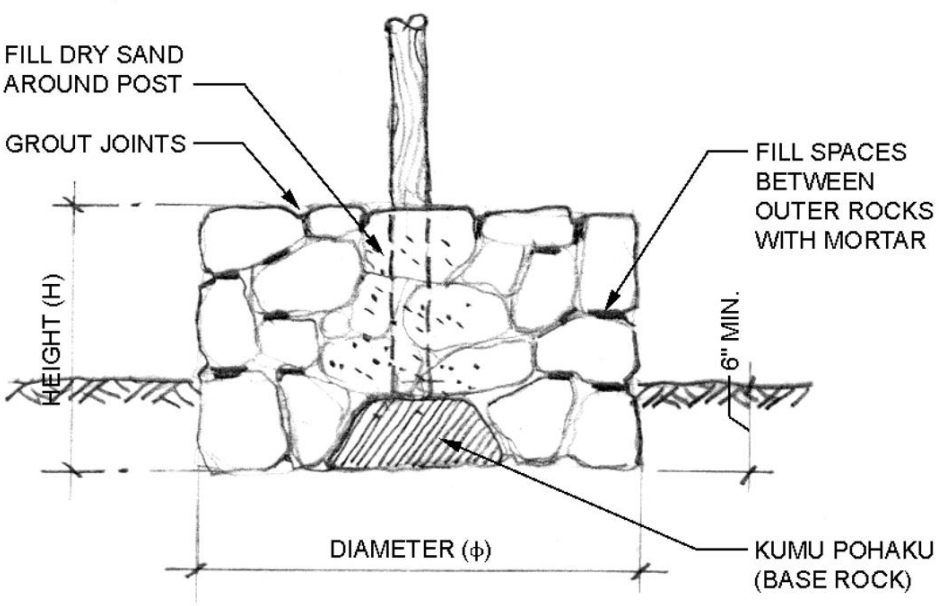
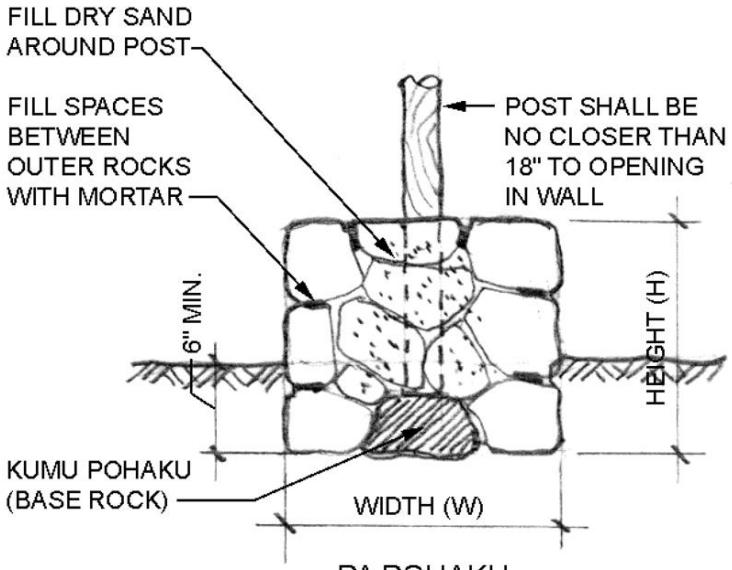


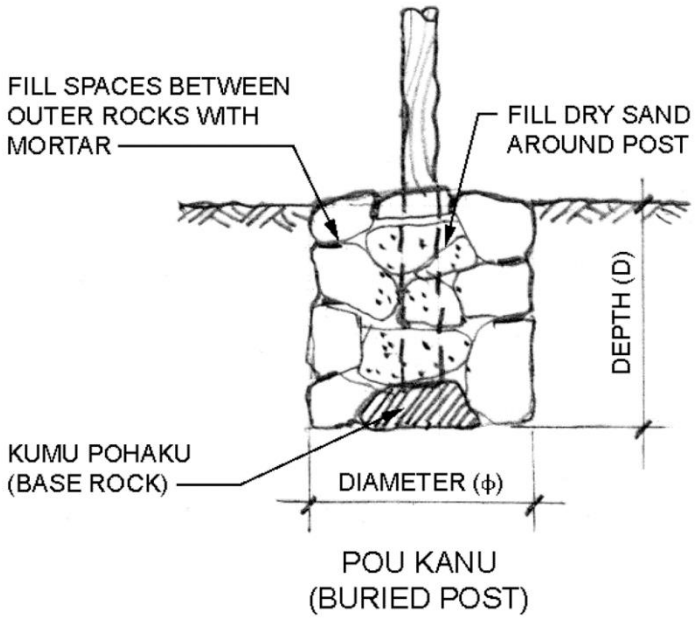
Table X402.1(a) **Size and Spacing Requirements for Structural Components used in Hale Halawai**									
Size W x L x H	***pou kihi***	***pou kukuna*** & ***pou kaha***	***pou hana*** & ***pouomanu***	***o'a***	***kuaiole*** & ***holo***	***kauhuhu***	***lohelau***	**Maximum post spacing** (feet)	**Maximum rafter spacing** (feet)
	Minimum Diameter (inches)								
12' x 20' x 7'	4	3½	4	3½	2½	3	3	5	3
14' x 24' x 7'	4	4	4½	3½	2½	3	3½	5	3
24' x 30' x 7'	5	4½	4½	4	2½	3	3½	5	3
25' x 50' x 7'	5½	5	5½	4	2½	3	3½	5	3
30' x 60' x 7'	6	5½	6	4½	2½	3	4	5	3



KAHUA
(PEDESTAL)



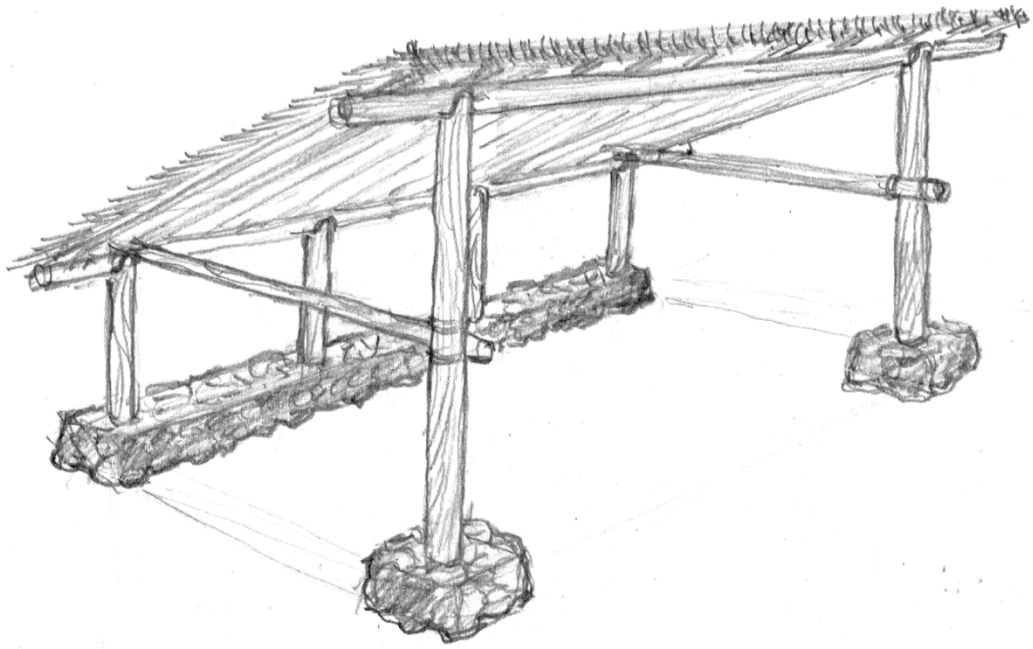
PA POHAKU
(FOUNDATION WALL)



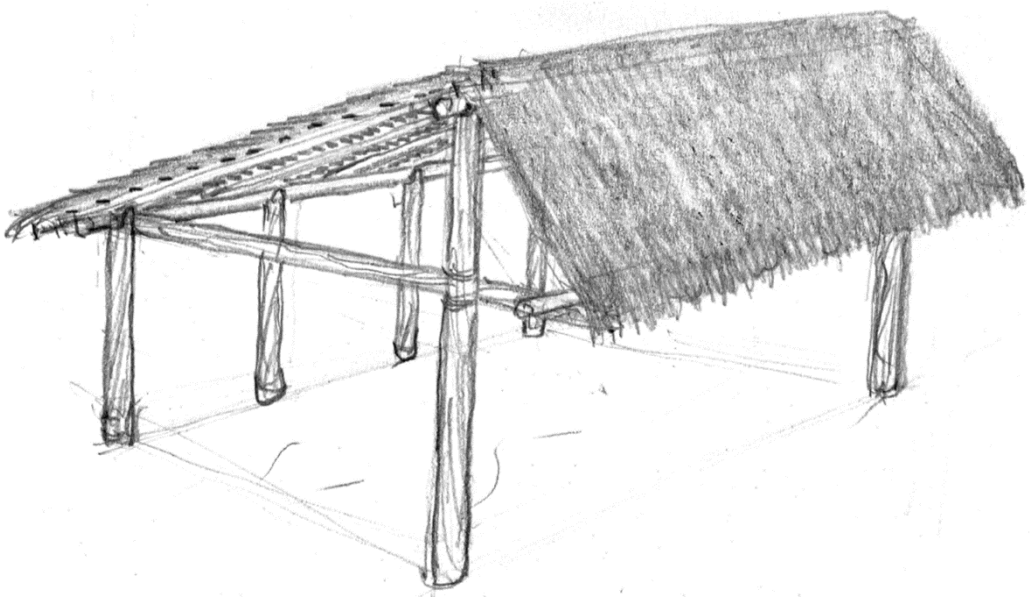
POU KANU
(BURIED POST)

Table X402.1(b) **Foundation Design for Hale Halawai**			
Size (W x L x H)	**Foundation Type**		
	kahua Diameter x Height	**pa pohaku** Width x Height x Length	**pou kanu** Diameter x Depth
12' x 20' x 7'	3'6"φ x 24"H	2'6"W x 2'8"H x 4'0"L	30"φ x 2'8"D
14' x 24' x 7'	3'8"φ x 24"H	2'6"W x 2'8"H x 4'0"L	30"φ x 2'9"D
24' x 30' x 7'	4'0"φ x 30"H	3'0"W x 3'0"H x 4'0"L	36"φ x 3'0"D
25' x 50' x 7'	4'0"φ x 30"H	3'0"W x 3'0"H x 4'0"L	36"φ x 3'0"D
30' x 60' x 7'	4'0"φ x 30"H	3'0"W x 3'3"H x 4'0"L	36"φ x 3'3"D

X402.2 Hale Kuʻai. Hale Kuʻai shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Kuʻai shall meet the size and spacing requirements in Table X402.2(a). Foundations for Hale Kuʻai shall be designed in accordance with Table X402.2(b).

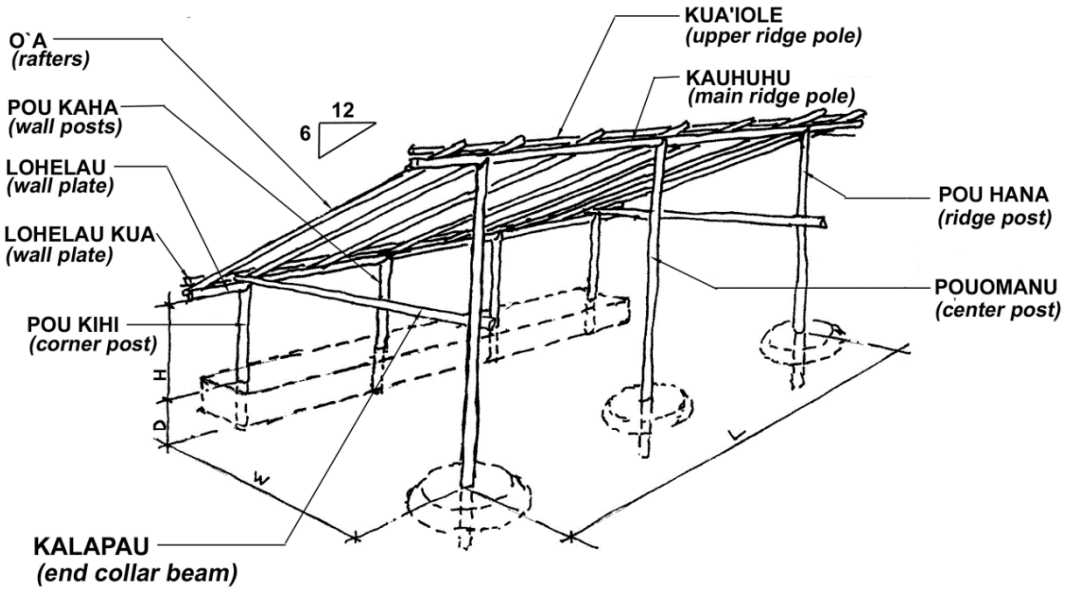


HALE KU'AI
SHED STYLE



HALE KU'AI
GABLE STYLE

FRAMING SCHEMATIC 1



FRAMING SCHEMATIC 2

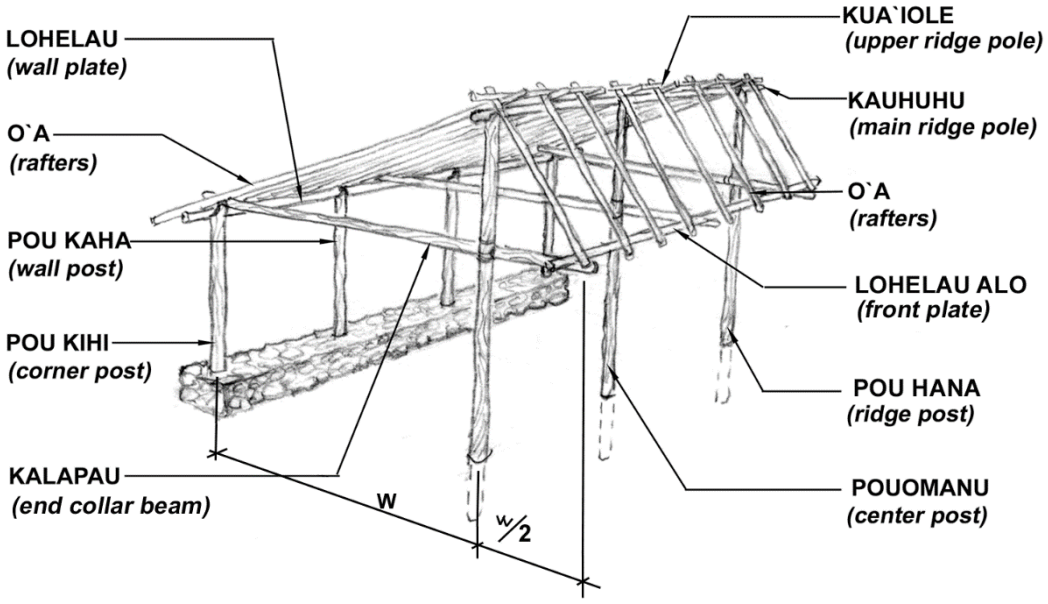
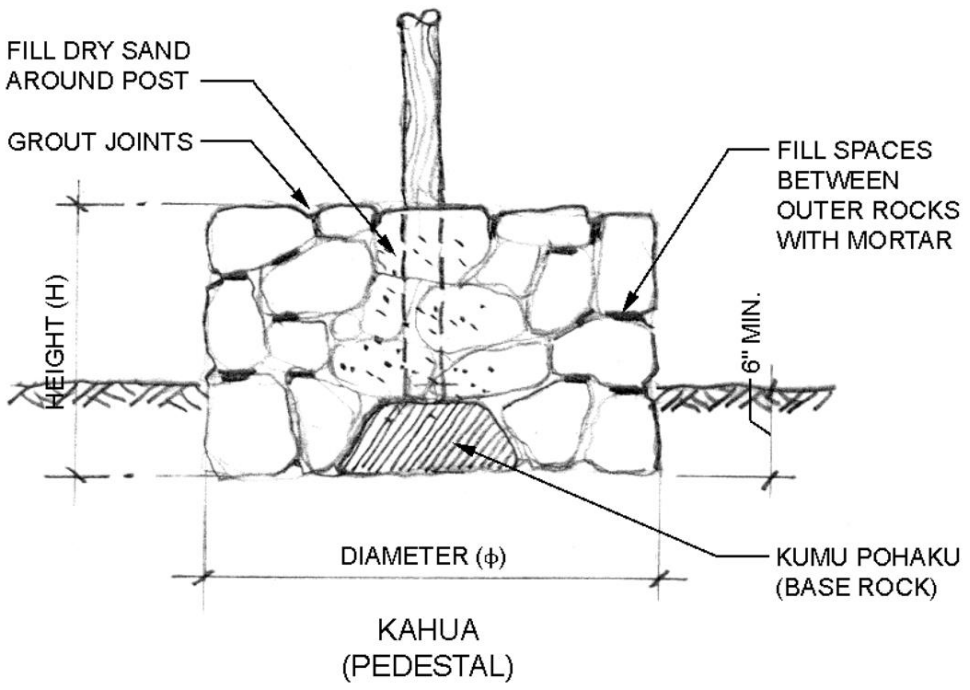
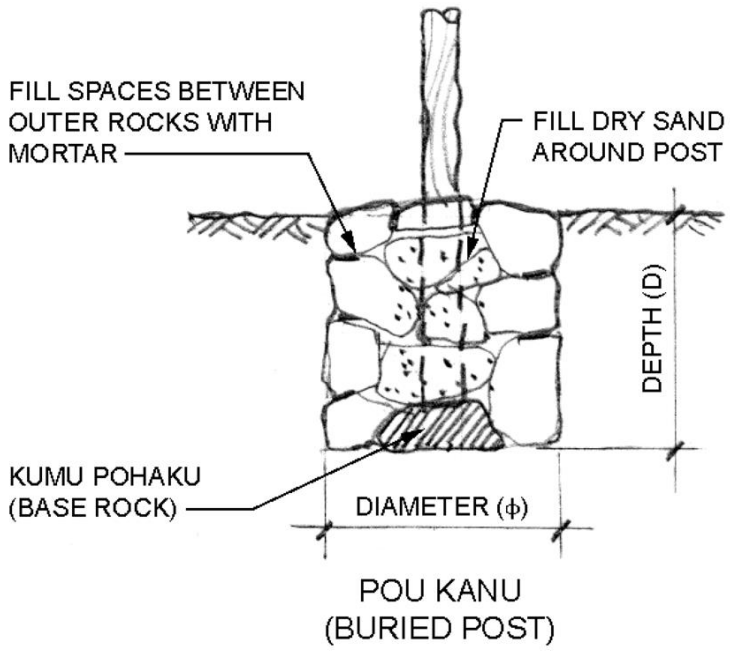


Table X402.2(a)
Size and Spacing Requirements for Structural Components used in Hale Kuʻai

Size (W x L x H)	*pou kihi*[a]	*pou kaha*[a]	*pou hana*[b]	*pouo manu*[b]	*oʻa*	*kuaiole* & *holo*	*kauhuhu*	*lohelau*	Maximum rafter spacing (feet)
	Minimum Diameter (inches)								
5' x 10' x 5'	4	3	3	4	3	2	3	2	4
9' x 12' x 5'	4	3	3	4	3	2	3½	2	4
12' x 16' x 5'	4½	3½	4	4	3½	2	4	2½	4
14' x 20' x 5'	4½	3½	4	4	3½	2½	4½	2½	4

[a] The maximum post spacing for pou kihi and pou kaha is five feet.
[b] The maximum post spacing for pou hana and pouomanu is twelve feet.

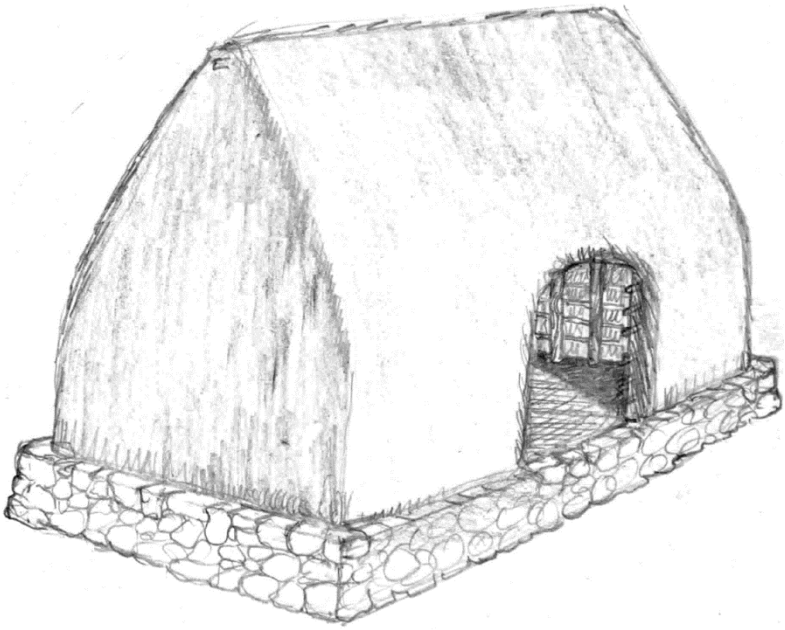




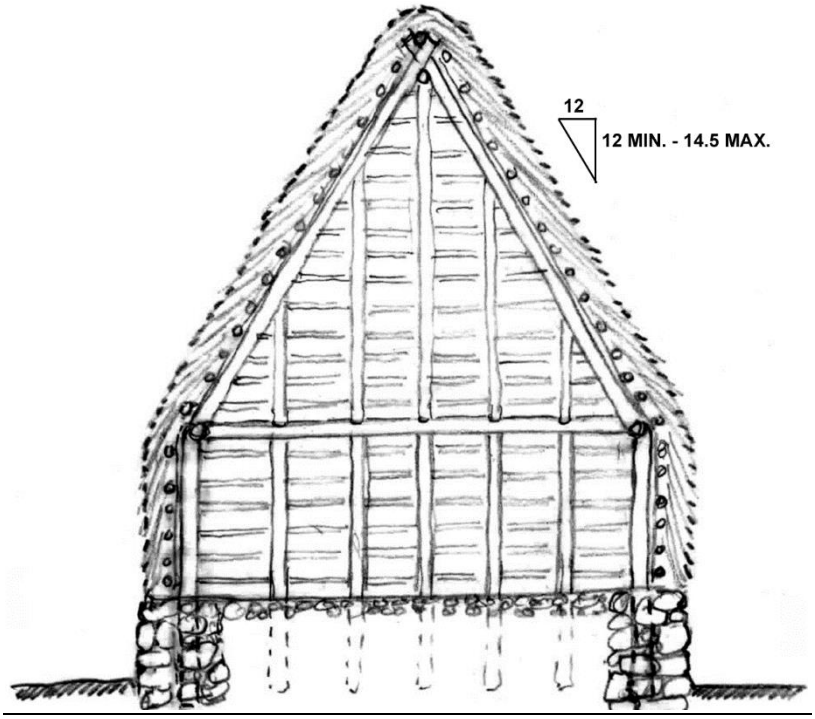
POU KANU
(BURIED POST)

Table X402.2(b) **Foundation Design for Hale Kuʻai**			
Size (W x L x H)	**Foundation Type**		
	kahua Diameter x Height	**pa pohaku** Width x Height x Length	**pou kanu** Diameter x Depth
5' x 10' x 5'	3'0"φ x 24"H	2'6"W x 2'0"H x 4'0"L	30"φ x 2'6"D
9' x 12' x 5'	3'4"φ x 24"H	2'6"W x 2'0"H x 4'0"L	30"φ x 2'6"D
12' x 16' x 5'	3'6"φ x 24"H	2'6"W x 2'8"H x 4'0"L	30"φ x 2'8"D
14' x 20' x 5'	3'8"φ x 24'H	2'6"W x 2'8"H x 4'0"L	30"φ x 2'9"D

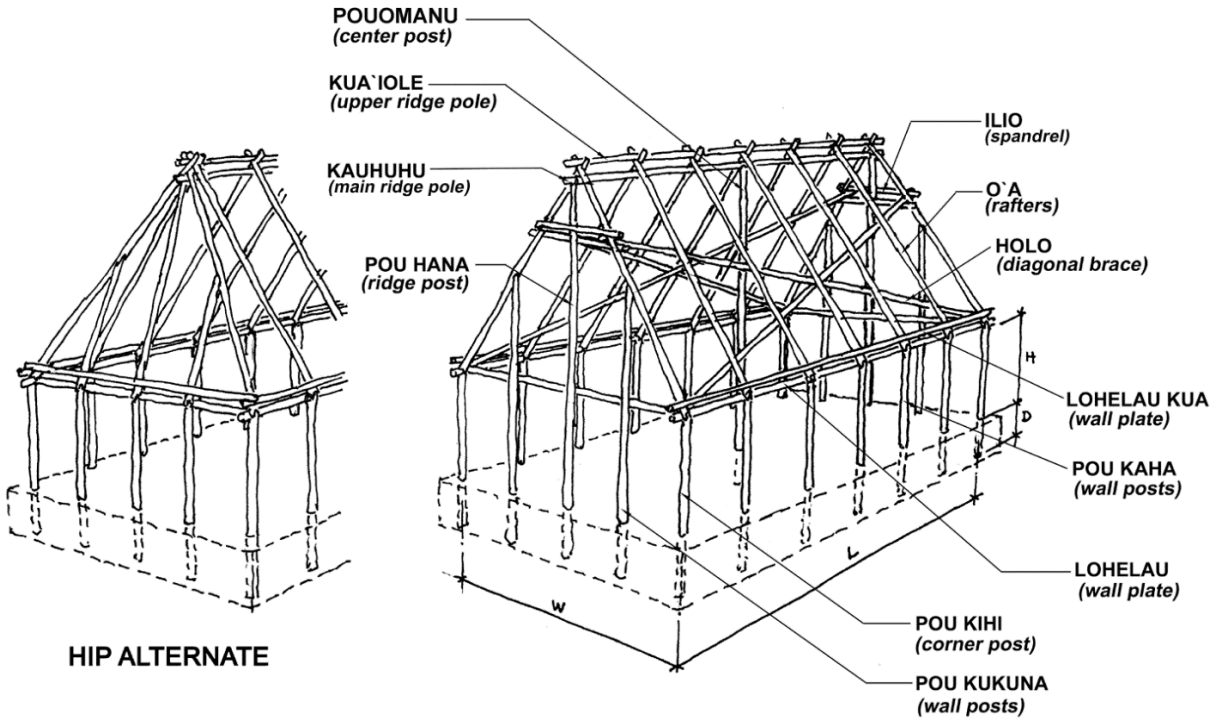
402.3 Hale Noa. Hale Noa shall have at least two openings. One opening shall be at least 3 feet wide and 5 feet high, and the other opening shall be at least 2 feet wide and 3 feet high. Hale Noa shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Noa shall meet the size and spacing requirements in Table X402.3(a). Foundations for Hale Noa shall be designed in accordance with Table X402.3(b).



HALE NOA



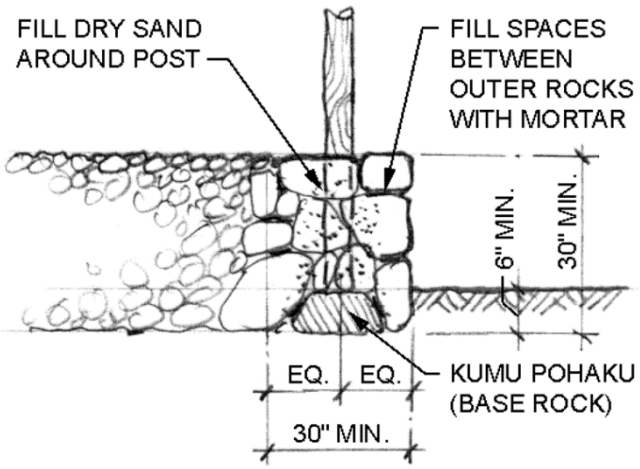
SECTION VIEW



FRAMING SCHEMATIC

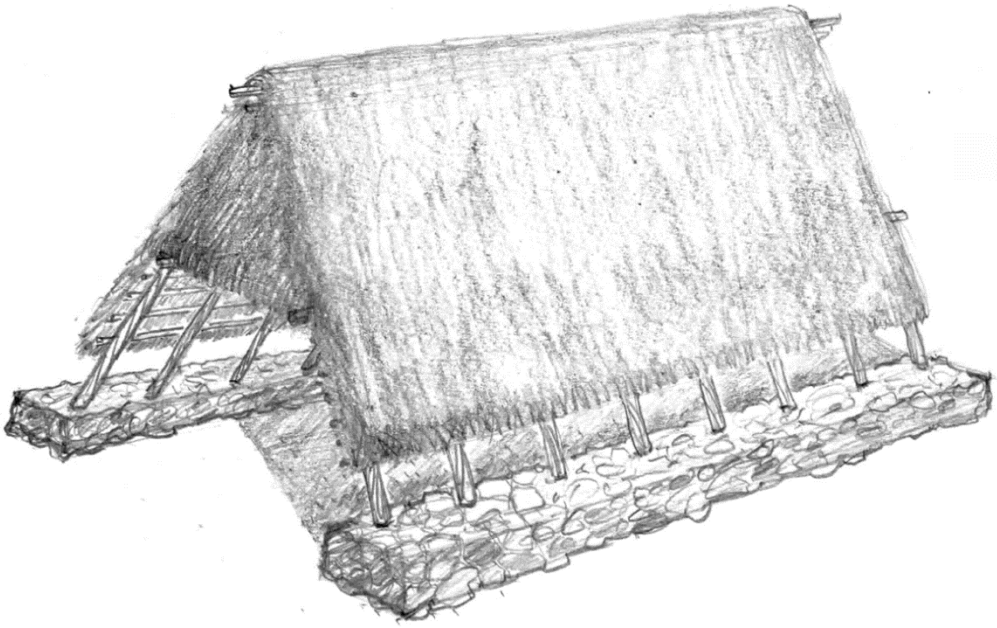
Table X402.3(a)
Size and Spacing Requirements for Structural Components used in Hale Noa

Size W x L x H	*pou kihi*	*pou kukuna & pou kaha*	*pou hana*	*pouomanu*	*o'a*	*kuaiole & holo*	*kauhuhu*	*lohelau*	Maximum post spacing (feet)	Maximum rafter spacing (feet)
	Minimum Diameter (inches)									
9' x 12' x 7'	3½	3	4	3	3	2½	3½	2½	6	4
12' x 20' x 7'	4	4½	4	3	3½	2½	3½	2½	6	4
4' x 24' x 7'	5½	4½	4	3	3½	2½	3½	3	6	4

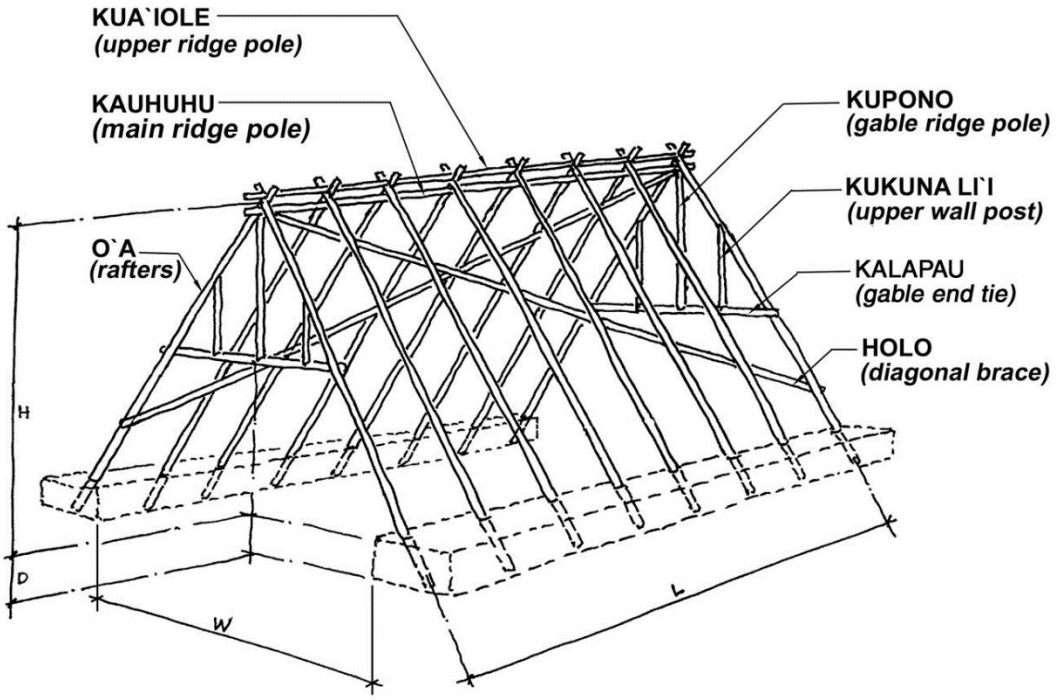


PAEPAE
(HOUSE PLATFORM)

402.4 Hale Wa‘a. Hale Wa‘a shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Wa‘a shall meet the size and spacing requirements in Table X402.4.

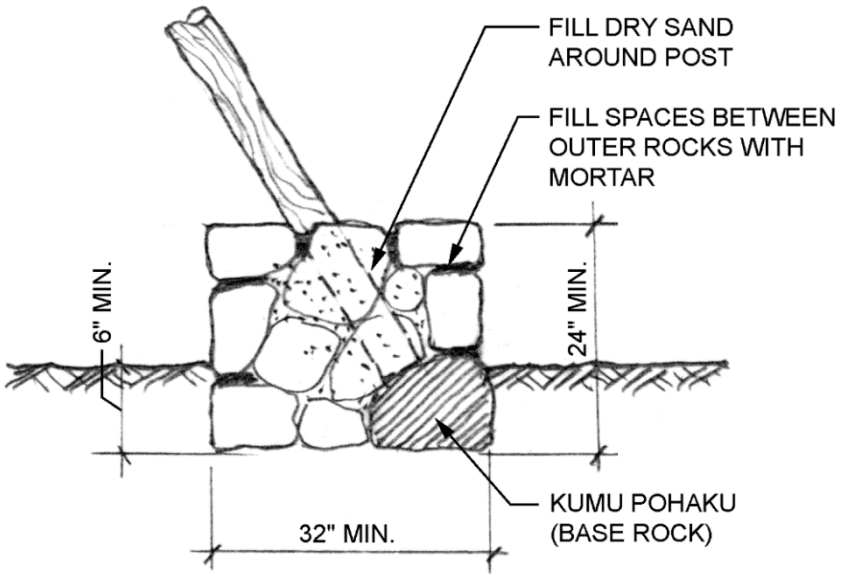


HALE WA‘A



FRAMING SCHEMATIC

Table X402.4 **Size and Spacing Requirements for Structural Components used in Hale *Wa'a***					
Size (W x L)	***o'a***	***kuaiole*** **&** ***holo***	***kauhuhu***	**Spacing between Rafters**	**Minimum Ridge Height** (H)
20' x 60'	4"	3"	4"	4' to 5'	22½'
25' x 60'	5"	3"	4"	4' to 5'	27½'
30' x 60'	5½"	3"	4"	4' to 5'	27½'



PA POHAKU
(FOUNDATION WALL)

Section 12-2.3 Amendments to the International Residential Code for One- and Two-Family Dwellings.

The International Residential Code, 2018 Edition, is amended as follows:

(1) Amending Section **R101.1. Title.** Section R101.1 is amended to read:

R101.1 Title. These provisions shall be part of the Building Code of the County of Kauaʻi, and will be referred to herein as "this code."

(2) Amending Section **R101.2 Scope.** Section R101.2 is amended to read:

R101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with a residential fire sprinkler system complying with the Uniform Plumbing Code as adopted:

1. Live/work units located in *townhouses* and complying with the requirements of Section 419 of the *International Building Code.*
2. Owner-occupied lodging houses with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a dwelling unit.
4. A care facility with five or fewer persons receiving medical care within a dwelling unit.
5. A care facility for five or fewer persons receiving care that are within a single-family dwelling.

(3) Adding Section **R101.4 Appendices.** Section R101.4 is added to read:

R101.4 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

Exceptions:

1. Appendix U, Hawaiʻi Hurricane Sheltering Provisions for New Construction, shall be adopted.
2. Appendix W, Hawaiʻi Wind Design Provisions for New Construction, shall be adopted.

(4) Amending Section **R102.1 General.** Section R102.1 is amended to read:

R102.1 General. Applicability shall be in accordance with International Building Code SECTION 102 APPLICABILITY as amended by this Code.

(5) Deleting Sections **R102.2** through **R102.7.** These Sections are deleted in their entirety.

(6) Amending **SECTION R103 DEPARTMENT OF BUILDING SAFETY.** Section R103 is deleted in its entirety and amended to read:

SECTION R103
ORGANIZATION AND ENFORCEMENT

Applicability shall be in accordance with International Building Code SECTION 103 ORGANIZATION AND ENFORCEMENT as amended by this Code.

(7) Amending **SECTION R104 DUTIES AND POWERS OF THE BUILDING OFFICIAL.** Section R104 is deleted in its entirety and amended to read:

SECTION R104
DUTIES AND POWERS OF THE BUILDING OFFICIAL

Applicability shall be in accordance with International Building Code SECTION 104 DUTIES AND POWERS OF THE BUILDING OFFICIAL as amended by this Code.

(8) Amending **SECTION R105 PERMITS.** Applicability shall be in accordance with International Building Code SECTION 105 PERMITS as amended by this Code.

(9) Amending **SECTION R106 CONSTRUCTION DOCUMENTS.** Applicability shall be in accordance with International Building Code SECTION 107 SUBMITTAL DOCUMENTS as amended by this Code.

(10) Deleting **SECTION R107 TEMPORARY STRUCTURES AND USES.** Section R107 is deleted in its entirety.

(11) Amending **SECTION R108 FEES.** Applicability shall be in accordance with International Building Code SECTION 109 FEES as amended by this Code.

(12) Amending **SECTION R109 INSPECTIONS.** Applicability shall be in accordance with International Building Code SECTION 110 INSPECTIONS as amended by this Code.

(13) Amending **SECTION R110 CERTIFICATE OF OCCUPANCY.** Applicability shall be in accordance with International Building Code SECTION 111 CERTIFICATE OF OCCUPANCY as amended by this Code.

(14) Deleting **SECTION R111 SERVICE UTILITIES.** Section R111 is deleted in its entirety.

(15) Amending **SECTION R112 BOARD OF APPEALS.** Applicability shall be in accordance with International Building Code SECTION 113 BOARD OF APPEALS as amended by this Code.

(16) Amending **SECTION R113 VIOLATIONS.** Applicability shall be in accordance with International Building Code SECTION 114 VIOLATIONS as amended by this Code.

(17) Amending **SECTION R114 STOP WORK ORDER.** Applicability shall be in accordance with International Building Code SECTION 115 STOP WORK ORDER as amended by this Code.

(18) Amending **SECTION R202 DEFINITIONS**. Section 202 is amended to read:

The definition of "**ASSISTANTS**" is added to read:

> **ASSISTANTS**. When the term "assistants" is used in this code, it shall be construed to mean the authorized representatives of the *building official*.

The definition of "**AUTHORIZED REPRESENTATIVES**" is added to read:

> **AUTHORIZED REPRESENTATIVES.** When the term "Authorized Representatives" is used in this code, it shall be construed to mean all building plans examiners, building inspectors and their supervisors designated as subordinate officers to the *building official* in enforcement of this code.

The definition of "**BUILDING, EXISTING**" is amended to read:

> **[RB] BUILDING, EXISTING** is a building for which legal building permits have been issued, or one which complied with the Building Code in effect at the time the building was erected.

The definition of "**BUILDING OFFICIAL**" is amended to read:

> **BUILDING OFFICIAL** means the County Engineer or his authorized representative.

The definition of "**CARPORT**" is added to read:

> **CARPORT** is a private garage, which is at least 100 percent open on one side and with 50 percent net openings on another side or which is provided with an equivalent of such openings on two or more sides. A private garage which is 100 percent on one side and 25 percent open on another side with the latter opening so located to provide adequate cross ventilation may be considered a carport when approved by the *building official.*

The definition of "**FAMILY**" is added to read:

> **FAMILY.** Family shall be defined in the Comprehensive Zoning Ordinance of the County except than an adult residential care home, a special treatment facility, or other similar facility shall be limited to five persons in order to be considered under this code.

The definition of "**HISTORIC BUILDING**" is amended to read:

> **[RB] HISTORIC BUILDING.** A building or structure officially listed on the State of Hawai'i or National Register of Historical Places.

The definition of "**IBC**" is added to read:

> **IBC** means the International Building Code, 2018 edition as published by the International Code Council and adopted by the County of Kaua'i.

The definition of "**ICC**" is added to read:

> **ICC** means the International Code Council.

The definition of "**IEBC**" is added to read:

> **IEBC** means the International Existing Building Code, 2018 edition as published by the International Code Council and adopted by the County of Kaua'i.

The definition of **"IECC"** is added to read:

IECC means the International Energy Conservation Code, 2018 edition as published by the International Code Council and adopted by the County of Kaua'i.

The definition of "**IRC**" is added to read:

IRC means the International Residential Code, 2018 edition as published by the International Code Council and adopted by the County of Kaua'i.

The definition of "**KITCHEN**" is amended to read:

KITCHEN shall be as defined in the Comprehensive Zoning Ordinance.

The definition of **"PERSON"** is amended to read:

[RB] PERSON. Any individual, firm, partnership, association, corporation or utility company; shall include each and every owner of any whole or fractional interest in the property concerned, whether in fee, any lesser freehold or tenancy at will.

The definition of **"WINDBORNE DEBRIS REGION"** is amended to read:

[RB] WINDBORNE DEBRIS REGION. Areas in Hawai'i where the basic design wind speed is 130 mph (63 m/s) or greater. For Risk Category II buildings and structures, the windborne debris region shall be based on Figure 26.5-2B of ASCE 7. For Risk Category III buildings and structures, the windborne debris region shall be based on Figure 26.5-2C of ASCE 7. For Risk Category IV buildings, the windborne debris region shall be based on Figure 26.5-2D of ASCE 7.

(19) Amending Section **R301.1.1 Alternative Provisions.** Section R301.1.1 is amended to read:

R301.1.1 Alternative Provisions. As an alternative to the requirements in Section R301.1 the following standards are permitted subject to the limitations of this code and the limitations therein. Where engineered design is used in lieu of or in conjunction with these standards, the design shall comply with the *International Building Code* as adopted.

1. AWC Wood Frame Construction Manual (WFCM) 2018.

2. AISI Standard for Cold-Formed Steel Framing-Prescriptive Method for One- and Two-Family Dwellings (AISI S230-2015).

3. ICC Standard for Residential Construction in High-Wind Regions (ICC 600-14).

(20) Adding **SECTION R301.1.2.1 Complete load path and uplift ties.** This Section is added to read:

R301.1.2.1 Complete load path and uplift ties. Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be designed and installed to provide continuous ties from the roof to the foundation system. Sheet metal clamps, ties or clips, shall be formed of galvanized steel or other approved corrosion-resistant material not less than 0.040 inch (1.01 mm) nominal thickness. Uplift resistance shall be in accordance with Table R802.11.

(21) Amending Section **R301.1.3 Engineered design.** Section R301.1.3 is amended to read:

R301.1.3 Engineered design. When a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301, or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice using the Alternative Provisions listed in Section R301.1.1. The extent of such design need only demonstrate compliance of nonconventional elements with other applicable provisions and shall be compatible with the performance of the conventional framed system. Engineered design in accordance with the *International Building Code* as adopted is permitted for all buildings and structures, and parts thereof, included in the scope of this code. Engineered design in accordance with the *International Building Code* as adopted shall be required when a building exceeds three stories or 3000 square feet of gross floor area.

(22) Amending Section **R301.2.1 Wind design criteria.** Section R301.2.1 is amended to read:

R301.2.1 Wind design criteria. Buildings and portions thereof may be constructed in accordance with the wind provisions of this code provided that the ultimate design wind speed V_{ULT}, determined from Figure R301.2(5) is less than 130 mph. The structural provisions of this code for wind loads are not permitted where wind design is required, when V_{ULT}, determined from Figures R301.2(5) is equal to or greater than 130 mph. Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where

not otherwise specified, the wind loads listed in Table R301.2 (2) adjusted for height and exposure using Table R301.2 (3) shall be used to determine design load performance requirements for wall coverings, curtain walls, roof coverings, exterior windows, skylights, garage doors and exterior doors. Asphalt shingles shall be designed for wind speeds in accordance with Section R905.2.4. A continuous load path shall be provided to transmit the applicable uplift forces in Section R802.11.1 from the roof assembly to the foundation. The ultimate design wind speed, V_{ULT}, in the *International Residential Code* as adopted is equal to the basic design wind speed, *V*, in the *International Building Code* as adopted.

(23) Amending Section **R301.2.1.1 Wind limitations and wind design required.** Section R301.2.1.1 is amended to read:

R301.2.1.1 Wind limitations and wind design required. The wind provisions of this code shall not apply to the design of buildings where wind design is required in accordance with Section R301.2.1.

Exceptions:

1. For concrete construction, the wind provisions of this code shall apply in accordance with the limitations of Sections R404 and R608.
2. For structural insulated panels, the wind provisions of this code shall apply in accordance with the limitations of Section R610.
3. For cold-formed steel light-frame construction, the wind provisions of this code shall apply in accordance with the limitations of Sections R505, R603 and R804.

In regions where wind design is required in accordance with Section R301.2.1, the design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AWC Wood Frame Construction Manual (WFCM).
2. ICC Standard for Residential Construction in High-Wind Regions (ICC 600).
3. AISI Standard for Cold-Formed Steel Framing-Prescriptive Method for One- and Two-Family Dwellings (AISI S230).
4. *International Building Code* as adopted.

The elements of design not addressed by the methods in Items 1 through 4 shall be in accordance with the provisions of this code.

Where wind design is required and design is in accordance with the methods in Items 1 through 3 and where V_{ULT} is greater than or equal

to 130 mph, the building must be provided with opening protection for windborne debris. Options for opening protection or alternative to opening protection shall be in accordance with the *International Building Code* as adopted.

(24) Amending Figure **R301.2(5) Ultimate Wind Speed Maps.** Figure R301.2.(5) is amended as follows:

Figures **R301.2(5)(A) ULTIMATE DESIGN WIND SPEEDS** and **R301.2(5)(B) REGIONS WHERE WIND DESIGN IS REQUIRED** are deleted in their entirety and replaced with Figure R301.2(5) as follows:

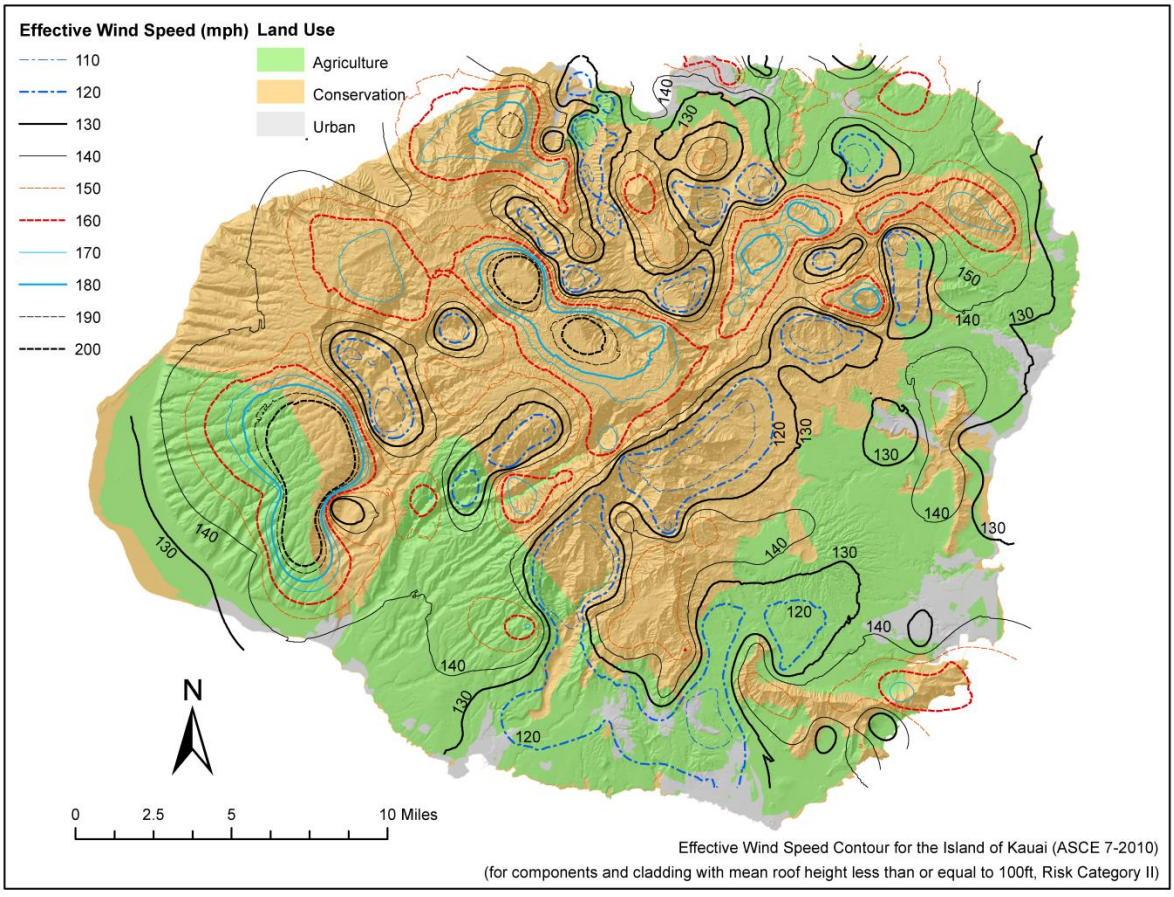
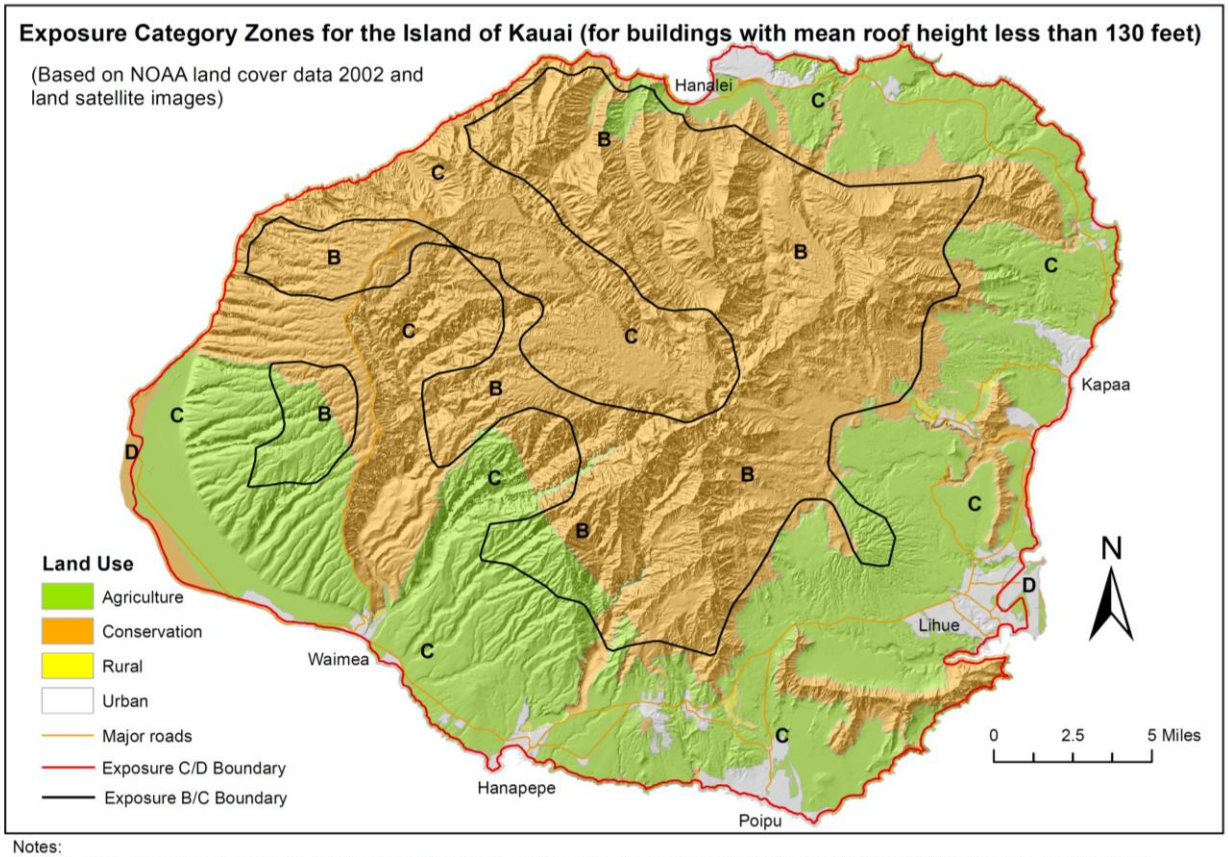


Figure R301.2(5) County of Kaua'i Ultimate Wind Speed, *V*$_{ULT}$, for Components and Cladding for Risk Category II Buildings less than 100 feet tall

(25) Amending Section **R301.2.1.4 Exposure category.** Section R301.2.1.4 is amended to read:

R301.2.1.4 Exposure category. The exposure category shall be determined from Figure R301.2.1.4 (a) or using the provisions of ASCE 7-10.



Notes:
1. Intermediate exposures, between categories B and C and between C and D, are permitted when substantiated per ASCE 7 recognized methodology.
2. Sites located within the C (coastal) zone shall be permitted to be evaluated for exposure category B for the wind directions where an adjacent B zone exists in the applicable upwind sector.
3. Sites located within 600 feet from the coastline shall be exposure category D for onshore wind directions.
4. For buildings whose height is equal to or greater than 130 ft, exposure category shall be determined per Section 1609.4.1.
5. For buildings whose mean roof height is less than or equal to 30 ft, exposure category shall be permitted to be evaluated per Section 1609.4.

Figure R301.2.1.4(a) Exposure Category Zones for Kaua'i County

(26) Amending Section **R301.2.1.5 Topographic wind effects.** Section R301.2.1.5 is amended to read:

R301.2.1.5 Topographic wind effects. Topographic wind speed effects shall be considered in the design of the building. Buildings designed using the ultimate wind speed as determined from Figure R301.2 (5) and wind exposure categories determined in accordance with Section R301.2.1.4 shall be deemed to comply with this section.

(27) Deleting Section **R301.2.1.5.1 Simplified topographic wind speed-up method.** Section R301.2.1.5.1 is deleted in its entirety.

(28) Amending Section **R301.2.2.1 Determination of seismic design category.** Section R301.2.2.1 is amended to read:

R301.2.2.1 Determination of seismic design category. Buildings shall be assigned a seismic design category in accordance with Table R301.2 (4) or Figure R301.2(3).

Table R301.2 (4) Seismic Design Category by Location-Site Class D	
Location	**Seismic Design Category**
Kauaʻi	B
Oʻahu, Molokaʻi, and Lānaʻi	D_0
Maui	D_1
Hawaiʻi: North and South Kohala, Hamakua, & North Hilo Districts	D_2
All other Hawaiʻi County Districts	E

(29) Deleting Section **R301.2.2.1.1 Alternate determination of seismic design category.** Section R301.2.2.1.1 is deleted in its entirety.

(30) Amending Section **R301.2.2.6 Irregular buildings.** Section R301.2.2.6 is amended to read:

R301.2.2.6 Irregular buildings. The seismic provisions of this code shall not be used for structures, or portions thereof, located in Seismic Design Categories C, D_0, D_1 and D_2 and considered to be irregular in accordance with this section. A building or portion of a building shall be considered to be irregular where one or more of the conditions defined in Items 1 through 7 occur. Irregular structures, or irregular portions of structures, shall be designed in accordance with the *International Building Code* as adopted to the extent the irregular features affect the performance of the remaining structural system. Where the forces associated with the irregularity are resisted by a structural system designed in accordance with the *International Building Code* as adopted, the remainder of the building shall be permitted to be designed using the provisions of this code.

1. Shear wall or braced wall offsets out of plane. Conditions where exterior shear wall lines or braced wall panels are not in one plane vertically from the foundation to the uppermost story in which they are required [see Figure R301.2.2.6 (1)].

Exception: For wood light-frame construction, floors with cantilevers or setbacks not exceeding four times the nominal dept of the wood floor joists [see Figure R301.2.2.6 (2)] are permitted to support braced wall panels that are out of plane with braced wall panels below provided that all of the following are satisfied:

1. Floor joists are nominal 2 inches by 10 inches (51 mm by 254 mm) or larger and spaced not more than 16 inches (406 mm) on center.
2. The ratio of the back span to the cantilever is not less than 2 to 1.
3. Floor joists at ends of braced wall panels are doubled.
4. For wood-framed construction, a continuous rim joist is connected to ends of cantilever joists. Where spliced, the rim joists shall be spliced using a galvanized metal tie not less than 0.058 inch (1.5 mm) (16 gage) and 1-1/2 inches (38 mm) wide fastened with six 16d nails on each side of the splice; or a block of the same size as the rim joist and of sufficient length to fit securely between the joist space at which the splice occurs, fastened with eight 16d nails on each side of the splice.
5. Gravity loads carried at the end of cantilevered joists are limited to uniform wall and roof loads and the reactions from headers having a span of 8 feet (2438 mm) or less.

2. Lateral support of roofs and floors. Conditions where a section of floor or roof is not laterally supported by shear walls or braced wall lines on all edges [see Figure R301.2.2.6 (3)].

Exception: Portions of floors that do not support shear walls, braced wall panels above, or roofs shall be permitted to extend not more than 6 feet (1829 mm) beyond a shear wall or braced wall line [see Figure R301.2.2.6 (4)].

3. Shear wall or braced wall offsets in plane. Conditions where the end of a braced wall panel occurs over an opening in the wall below and extends more than 1 foot (305 mm) horizontally past the edge of the opening. This provision is applicable to shear walls and braced wall panels offset in plane and to braced wall panels offset out of plane in accordance with the exception to Item 1 [see Figure R301.2.2.6 (5)].

Exception: For wood light-frame wall construction, one end of a braced wall panel shall be permitted to extend more than 1 foot (305 mm) over an opening not more than 8 feet (2438 mm) in width in the wall below provided that the opening includes a header in accordance with all of the following:

1. The building width, loading condition and framing member species limitations of Table R602.7 (1) shall apply.
2. The header is composed of:
   - 2.1. Not less than one 2 x 12 or two 2 x 10 for an opening not more than 4 feet (1219 mm) wide.
   - 2.2. Not less than two 2 x 12 or three 2 x 10 for an opening not more than 6 feet (1829 mm) in width.
   - 2.3. Not less than three 2 x 12 or four 2 x 10 for an opening not more than 8 feet (2438) in width.
3. The entire length of the braced wall panel does not occur over an opening in the wall below.

4. Floor and roof opening. Conditions where an opening in a floor or roof exceeds the lesser of 12 feet (3658 mm) or 50 percent of the least floor or roof dimension [see Figure R301.2.2.6 (6)].

5. Floor level offset. Conditions where portions of a floor level are vertically offset [see Figure R301.2.2.6 (7)].

Exceptions:

1. Framing supported directly by continuous foundations at the perimeter of the building.
2. For wood light-frame construction, floors shall be permitted to be vertically offset where the floor framing is lapped or tied together as required by Section R502.6.1.

6. Perpendicular shear wall and wall bracing. Conditions where shear walls and braced wall lines do not occur in two perpendicular directions [see Figure R301.2.2.6 (8)].

7. Wall bracing in stories containing masonry or concrete construction. Conditions where stories above grade plane are partially or completely braced by wood wall framing in accordance with Section R602 or cold-formed steel wall framing in accordance with Section R603 include masonry or concrete construction.

Where this irregularity applies, the entire story shall be designed in accordance with accepted engineering practice.

Exceptions: Fireplaces, chimneys and masonry veneer in accordance with this code.

Figure R301.2.2.6(1) BRACED WALL PANELS OUT OF PLANE

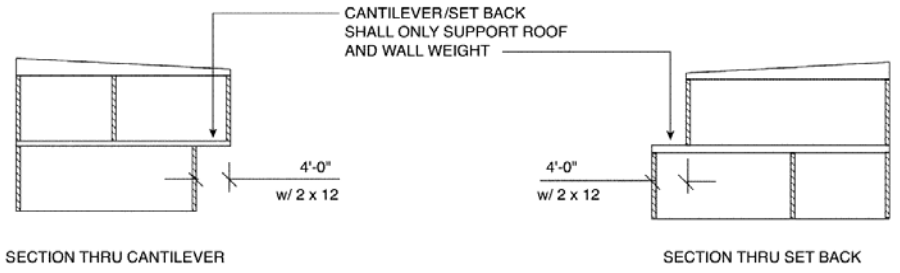


Figure R301.2.2.6(2) BRACED WALL PANELS SUPPORTED BY CANTILEVER OR SETBACK

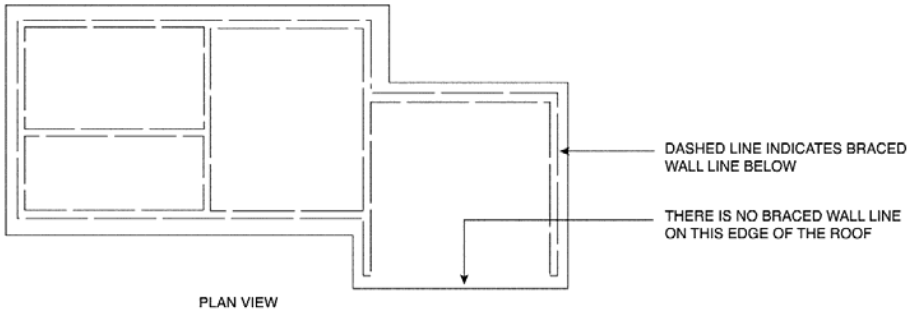


Figure R301.2.2.6(3) FLOOR OR ROOF NOT SUPPORTED ON ALL EDGES

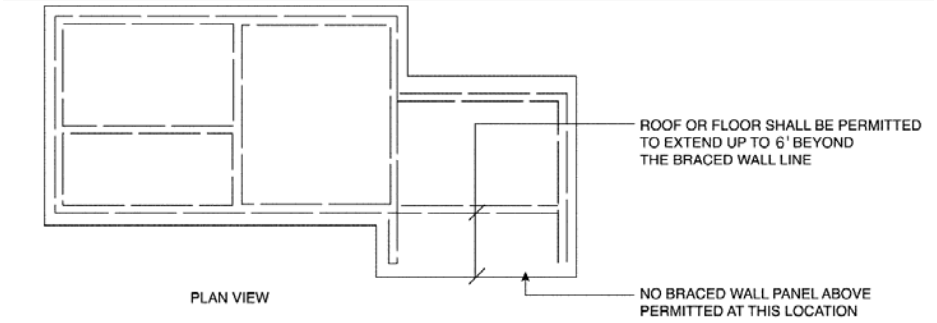


Figure R301.2.2.6(4) ROOF OR FLOOR EXTENSION BEYOND BRACED WALL LINE

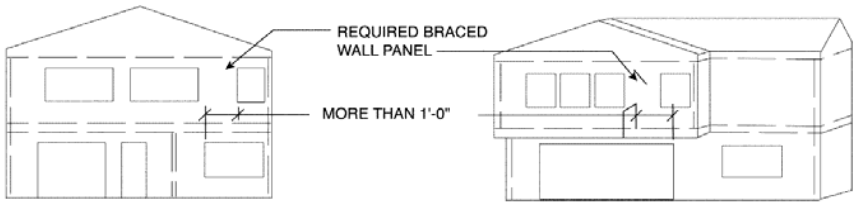


Figure R301.2.2.6(5) BRACED WALL PANEL EXTENSION OVER OPENING

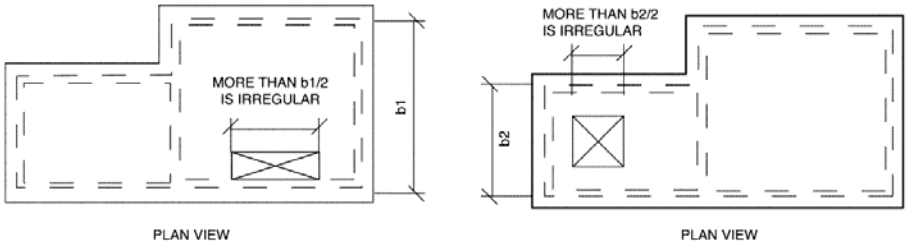


Figure R301.2.2.6(6) OPENING LIMITATIONS FOR FLOOR AND ROOF DIAPHRAGMS

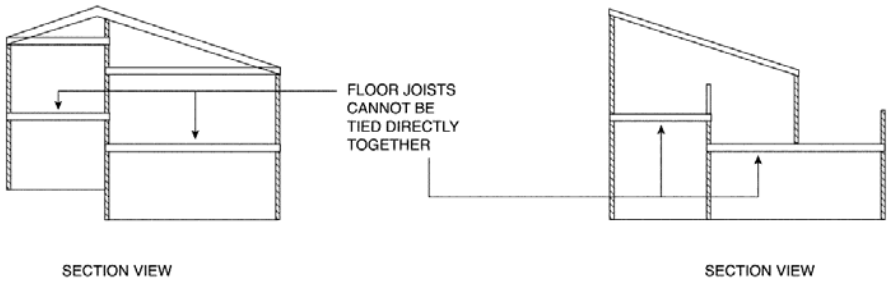


Figure R301.2.2.6(7) PORTIONS OF FLOOR LEVEL OFFSET VERTICALLY

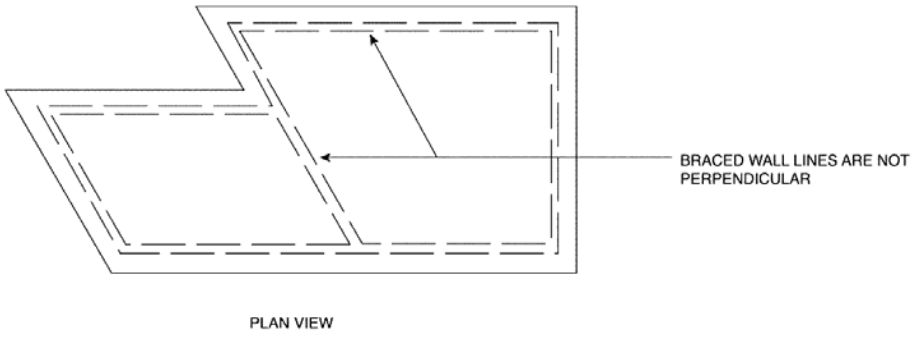


Figure R301.2.2.6(8) BRACED WALL LINES NOT PERPENDICULAR

(31) Amending Section **R301.2.4 Floodplain construction.** Section R301.2.4 is amended to read:

R301.2.4 Floodplain construction. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in accordance with Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended, shall be designed and constructed in accordance with Section R322. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

(32) Amending Section **R309.3 Flood hazard areas.** Section R309.3 is amended to read:

R309.3 Flood hazard areas. The *building official* shall not grant modifications toany provision required in *flood hazard areas* as established by Section 1612.3 of the *International Building Code* as amended by this Code unless a variance is issued in accordance with Chapter 15, Article 1, Floodplain Management, Kauaʻi County Code 1987, as amended.

(33) Amending Section **R310.2.1 Minimum opening area.** Section R310.2.1 is amended to read:

R310.2.1 Minimum opening area. Emergency and escape rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m^2). The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue openings from the inside. The net clear height of the opening shall be not less than 24 inches (610 mm) and the net clear width shall be not less than 20 inches (508 mm).

Exceptions:

1. *Grade floor openings* or *below-grade openings* shall have a net clear opening area of not less than 5 square feet (0.465 m^2).

2. Glass jalousie bladed windows may be used for emergency escape or rescue.

(34) Amending Section **R313.2 One- and two-family dwellings automatic fire sprinkler systems.** Section R313.2 is amended to read:

R313.2 One- and two-family dwellings automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in one- and two-family *dwellings.*

Exceptions:

1. An automatic residential fire sprinkler system shall not be required for *additions* or *alterations* to existing buildings that are not already provided with an automatic residential sprinkler system.
2. In accordance with HRS 46-19.8 Fire sprinklers; residences, until June 30, 2027 no county shall require the installation or retrofitting of automatic fire sprinklers or an automatic fire sprinkler system in:
   (1) Any new or existing detached one- or two-family dwelling unit in a structure used only for residential purposes; and
   (2) Nonresidential agricultural and aquacultural buildings and structures located outside an urban area;

provided that this section shall not apply to new homes that require a variance from access road or firefighting water supply requirements.

(35) Amending Section **R318.1 Subterranean termite control methods.** Section R318.1 is amended to read:

R318.1 Subterranean termite control methods. Methods of protection shall be one of items 1, 2 or 3 and one of items 4, 5 or 6.

1. Chemical termiticide, as provided in Section R318.2.
2. Termite baiting system installed and maintained according to the label.
3. Physical barriers, as provided in Section R318.3 and used in locations as specified in Section R317.1.
4. Pressure-preservative-treated structural wood in accordance with Section R317.1.
5. Cold-formed steel framing in accordance with Sections R505.2.1 and R603.2.1.
6. Naturally durable termite-resistant wood as approved by the *building official.*

(36) Amending Section **R318.4 Foam plastic protection.** Section R318.4 is amended to read:

R318.4 Foam plastic protection. Extruded and expanded polystyrene, polyisocyanurate and other foam plastics shall not be installed on the exterior face or under interior or exterior foundation walls or slab foundations located below grade. The clearance between foam plastics installed above grade and exposed earth shall not be less than 6 inches (152 mm).

Exception: On the interior side of basement walls.

(37) Adding Section **R318.5 Water splash.** Section R318.5 is added to read:

R318.5 Water splash. Where wood-frame walls and partitions are covered on the interior with plaster, tile or similar materials and are subject to water splash, the framing shall be protected with approved waterproof paper.

(38) Adding Section **R318.6 Pipe and other penetrations.** Section R318.6 is added to read:

R318.6 Pipe and other penetrations. Insulations around plumbing pipes shall not pass through ground floor slabs. Openings around pipes or similar penetrations in a concrete or masonry slab, which is in direct contact with earth, shall be filled with non-shrink grout, or other approved physical barrier.

(39) Amending Section **R319.1 Address identification.** Section R319.1 is amended to read:

R319.1 Address identification. Numbers shall be provided for all new buildings as specified in Chapter 15, Article 3, Kauaʻi County Code 1987, Numbering of Houses in portions of the County of Kauaʻi.

(40) Amending Section **R322.1 General.** Section R322.1 is amended to read:

R322.1 General. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in accordance with Chapter 15, Article 1 Floodplain Management, Kauaʻi County Code, 1987, as amended, shall be designed and constructed in accordance with Section R322. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

(41) Amending Section **R322.1.4 Establishing the design flood elevation.** Section R322.1.4 is amended to read:

R322.1.4 Establishing the flood hazard areas and flood hazard data. Flood hazard areas and flood hazard data shall be established in accordance with Chapter 15, Article 1 Floodplain Management and Chapter 16, Traffic Code, Kauaʻi County Code 1987, as amended. Floodways shall be designed and constructed in accordance with ASCE 24.

(42) Amending **SECTION R323 STORM SHELTERS. R323.1 General.** This Section is amended to read:

SECTION R323 STORM SHELTERS

R323.1 General. Storm shelters shall be per the *International Building Code* as adopted by this Code.

(43) Adding **SECTION R328 COMPLETE LOAD AND UPLIFT TIES.** This Section is added to read:

SECTION R328
COMPLETE LOAD AND UPLIFT TIES

R328.1 Purpose. The purpose of this Section is intended to promote public safety and welfare by reducing the risk of wind-induced damages to conventional light-frame construction.

R328.2 Scope. This section applies to regular shape buildings, which have a roof structural member spanning 32 feet (9.75 m) or less, are not more than three stories in height and are of conventional light-frame construction.

Exception: Detached carports, garages, workshops, storages and similar accessory buildings to Group R, Division 3 Occupancies not exceeding 600 square feet (55.7 m^2) need only comply with the roof-member-to-wall-tie requirements of this Section.

R328.3 Definitions. For the purposes of this Section, certain terms are defined as follows:

CORROSION RESISTANT or NONCORROSIVE is material having a corrosion resistance equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot (4g/m^2) of surface area.

R328.4 General. Other methods may be used, provided a satisfactory design is submitted showing compliance with the provisions of this Section and other applicable portions of this Code.

In addition to the other provisions of this Section, foundations for buildings in areas subject to wave action or tidal surge shall be designed in accordance with approved national standards.

When an element is required to be corrosion resistant or non-corrosive, all of its parts, such as screws, nails, wire, dowels, bolts, nuts, washers, shims, anchors, ties, and attachments, shall also be corrosion resistant or non-corrosive.

Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be designed and installed to provide continuous ties from the roof to the foundation system. Sheet metal clamps, ties or clips shall be formed of galvanized steel and other approved corrosion resistant or non-corrosive material installed accordingly to manufacturer's specifications.

Uplift ties straps shall be spaced not more than 48 inches (1219 mm) on center to create the complete load path. Uplift tie straps shall meet the requirements of Table R802.11.

R328.5 Walls to foundation tie. Exterior walls shall be tied to a continuous foundation or an elevated foundation system as described in Section R328.6.

R328.5.1 Sill and foundation tie. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than ½-inch diameter (13 mm) anchor bolts with 7-inch minimum (178 mm) embedment into the foundation. The maximum spacing of anchor bolts shall be 4 feet (1219 mm) on center.

R328.5.2 Floor-to-foundation tie. The lowest level exterior wall studs shall be connected to the foundation sill plate or an approved elevated foundation system with bent tie straps spaced not more than 48 inches (1219 mm) on center.

R328.5.3 Wall framing detail. The spacing of 2-inch by 4-inch studs (51 mm x 102 mm) in exterior walls shall not exceed 16 inches (406 mm) on center. Mechanical fasteners complying with this Section shall be installed as required to connect studs to the sole plates, foundation sill plate and top plate of the wall.

Interior braced wall lines shall be installed approximately perpendicular to the exterior wall when the length of the structure exceeds the width. The maximum distance between these partitions shall not exceed the width of the structure. Interior braced wall lines shall be securely fastened to the exterior

wall at the point of intersection with fasteners. The interior braced wall lines shall be covered on both sides by materials as described in Section R602.

R328.5.4 Wall sheathing. All exterior walls and required interior braced wall lines shall be sheathed at each face. The total width of sheathed wall elements shall not be less than 50 percent of the exterior wall length or 60 percent of the width of the building for required interior braced wall lines. The exterior wall sheathing or covering shall extend from the foundation sill plate or girder to the top plates at the roof level and shall be adequately attached thereto.

A sheathing wall element not less than 4 feet (1219 mm) in width shall be installed at each corner or as near thereto as possible (not to exceed 12.5 feet). There shall not be less than one 4-foot (1219 mm) sheathed wall element for every 20 feet (6096 mm) or fraction thereof of wall length.

R328.5.5 Floor-to-floor tie. Upper-level exterior wall studs shall be aligned and connected to the wall studs below and the roof ties above with a tie strap.

R328.5.6 Roof-members-to-wall tie. Tie straps shall be provided from the side of the roof-framing member to the exterior studs, posts or other supporting members below the roof. The wall studs to which the roof-framing members are ties shall be aligned with the roof-framing member.

All intermediate rafters shall have tie straps and tied to the exterior plate with an approved galvanized steel connector and each connector shall be installed accordingly to manufacturer's specifications.

The eave overhang shall not exceed 3 feet (914 mm) unless an analysis is provided showing that the required resistance is provided to prevent uplift.

Where openings exceed 6 feet (1829 mm) in width, the required tie straps shall be doubled at each edge of the opening and connected to a double full-height wall stud. When openings exceed 12 feet in width, ties designed to prevent uplift shall be provided.

Exception: The opening width may be increased to 16 feet (4877 mm) for garages, carports and accessory buildings to Group R, Division 3 occupancies when constructed in accordance with the following:

1. Approved column bases shall be a minimum 3/16-inch (4.8 mm) steel plate embedded not less than 8 inches (203 mm) into the concrete footing and connected to a minimum 4-inch by 4-inch (102 mm by 102 mm) wood post with two 5/8-inch-diameter (15.9 mm) through bolts.

2. Beams over openings shall be connected to minimum 4-inch by 4-inch (102 mm by 102 mm) wood posts below with an approved 3/16-inch (4.8 mm) steel post cap with two 5/8-inch-diamter (15.9 mm) through bolts and to the beams.

R328.5.7 Ridge ties. Opposing rafters shall be aligned at the ridge and be connected at the rafters with a tie strap.

R328.5.8 Roof sheathing. Anchor ties shall be spaced to support not more than 1 5/8 square feet (860 mm^2) of wall area but not more than 12 inches (305 mm) on center vertically.

R328.5.9 Roof sheathing. Solid roof sheathing shall be applied and shall consist of a minimum 1-inch-thick (25 mm) nominal lumber applied diagonally or a minimum 15/32-inch-thick (11.9 mm) wood structural panel or particleboard or other approved sheathing applied with the long dimension perpendicular to supporting rafters. Sheathing shall be nailed to roof framing in an approved manner. The end joints of wood structural panels or particleboard shall be staggered and shall occur over blocking, rafters or other supports.

R328.5.10 Gable-end walls. The roof overhang at gabled ends shall not exceed 2 feet (610 mm) unless an analysis is showing that the required resistant to prevent uplift is provided.

Gable-end wall studs shall be continuous between points of lateral support, which are perpendicular to the plane of the wall.

Gable-end wall studs shall be attached with approved mechanical fasteners at the top and bottom.

R328.5.11 Roofing covering. Roof covering shall be approved and shall be installed and fastened in accordance with this code and the manufacturer's instructions. Asphalt shingles with self-seal strips shall be fastened with a minimum of six fasteners per shingle.

R328.6 Elevated Foundation.

R328.6.1 General. When approved, elevated foundations supporting not more than one story and meeting the provisions of this Section may be used. The Building Official may require a foundation investigation.

R328.6.2 Material. All exposed wood-framing members shall be treated wood. All metal connectors and fasteners used in exposed locations shall be corrosion-resistant or noncorrosive steel.

R328.6.3 Wood piles. The spacing of wood piles shall not exceed 8 feet (2438 mm) on center. Square piles shall not be less than 10 inches (254 mm) and tapered piles shall have a tip of not less than 8 inches (203 mm). Ten-inch-square (64 516 mm^2) piles shall have a minimum embedment length of 10 feet (3048 mm) and shall project not more than 8 feet (2438 mm) above undisturbed ground surface. Eight-inch (203 mm) taper piles shall have a minimum embedment length of 14 feet (4267 mm) and shall project not more than 7 feet (2134 mm) above undisturbed ground surface.

R328.6.4 Girders. Floor girders shall be solid sawn timber, built-up-2-inch-thick (51 mm) lumber or trusses. Splices shall occur over wood piles. The floor girders shall span in the direction parallel to the potential floodwater and wave action.

R328.6.5 Connections. Wood piles may be notched to provide a shelf for supporting the floor girders. The total notching shall not exceed 50 percent of the pile cross section. Approved bolted connection with ¼-inch (6.4 mm) corrosion-resistant or noncorrosive steel plates and ¾-inch-diameter (19 mm) bolts shall be provided. Each end of the girder shall be connected to the piles using a minimum of two ¾-inch-diameter (19 mm) bolts.

(44) Adding Section **R401.5 Post or pier foundations.** Section R401.5 is added to read:

R401.5 Post or pier foundations. Raised floor systems supported by post or pier foundations shall be designed in accordance with accepted engineering practice and the *International Building Code* as adopted.

(45) Amending Section **R402.2.1 Materials for concrete.** Section R402.2.1 is amended to read:

R402.2.1 Materials for concrete. Materials for concrete shall comply with the requirements of Section 608.5.1. The maximum water to cement ratio for concrete slabs-on-grade shall be 0.50.

(46) Adding Section **R403.1.6.2 Concrete strap type anchors.** Section R403.1.6.2 is added to read:

R403.1.6.2 Concrete strap type anchors. Concrete strap type anchors made of cold-formed steel shall not be used along the perimeter edges of a slab on

grade where the steel does not have at least 1-1/2 inches side cover or other adequate protection.

(47) Adding Section **R403.1.6.3 Anchor bolts at the perimeter edge of a slab-on-grade.** Section R403.1.6.3 is added to read:

R403.1.6.3 Anchor bolts at the perimeter edge of a slab-on-grade. Anchor bolts shall be hot dipped galvanized in accordance with ASTM F2329 and have a minimum concrete side cover of 1-1/2 inches unless provisions have been made to protect the anchor bolts from corrosion.

(48) Deleting Section **R406.1 Concrete and masonry foundation dampproofing.** Section R406.1 is deleted in its entirety.

(49) Amending Section **R406.2 Concrete and masonry foundation waterproofing.** Section R406.2 is amended to read:

R406.2 Concrete and masonry foundation waterproofing. Exterior foundation walls that retain earth and enclose interior spaces and floors below grade shall be waterproofed from the higher of (a) the top of the footing or (b) 6 inches (152 mm) below the top of the basement floor, to the finished grade. Walls shall be waterproofed in accordance with one of the following:

1. Two-ply hot-mopped felts.
2. Fifty-five-pound (25 kg) roll roofing.
3. Forty-mil (1 mm) polymer-modified asphalt.
4. Sixty-mil (1.5 mm) flexible polymer cement.
5. One-eighth inch (3 mm) cement-based, fiber-reinforced, waterproof coating.
6. Sixty-mil (1.5 mm) solvent-free liquid-applied synthetic rubber.

All joints in membrane waterproofing shall be lapped and sealed with an adhesive compatible with the membrane.

Exception: Organic-solvent based products such as hydrocarbons, chlorinated hydrocarbons, ketones and esters shall not be used for ICF walls with expanded polystyrene form material. Use of plastic roofing cements, acrylic coatings, latex coatings, mortars and pargings to seal ICF walls is permitted. Cold-setting asphalt or hot asphalt shall conform to Type C of ASTM D449. Hot asphalt shall be applied at a temperature of less than 200° F (93° C).

(50) Amending Section **R406.3 Dampproofing for wood foundations.** Section R406.3 is amended to read:

R406.3 Dampproofing for wood foundations. Wood foundations enclosing habitable or usable spaces located below grade shall be waterproofed in accordance with Section R406.2.

(51) Amending Section **R406.3.2 Below-grade moisture barrier.** Section R406.3.2 is amended to read:

R406.3.2 Below-grade waterproofing. One of the waterproofing systems listed in Section R406.2 shall be applied over the below-grade portion of the exterior foundation walls prior to backfilling. The top edge of the waterproofing shall be bonded to the sheathing to form a seal. Film areas at grade level shall be protected from mechanical damage and exposure by a pressure preservative treated lumber or plywood strip attached to the wall several inches above finish grade level and extending approximately 9 inches (229 mm) below grade. The joint between the strip and the wall shall be caulked full length prior to fastening the strip to the wall. Other coverings appropriate to the architectural treatment may also be used. The waterproofing shall extend down to the bottom of the wood footing plate but shall not overlap or extend into the gravel or crushed stone footing.

(52) Deleting Section **R406.4 Precast concrete foundation system dampproofing.** Section R406.4 is deleted in its entirety.

(53) Adding Section **R406.5 Cold formed steel protection of sill track.** Section R406.5 is added to read:

R406.5 Cold formed steel protection of sill track. Cold formed steel framing sills that directly bear on concrete or masonry that is in direct contact with earth shall be shielded along the exterior flange and bottom of the sill track with a self-adhered rubberized asphalt flashing material with a minimum thickness of 25 mil (0.64 mm) or other moisture barrier conforming to ASTM D412, D570, and E96/E96M.

(54) Amending Section **R602.10.9 Braced wall panel support.** Section R602.10.9 is amended to read:

R602.10.9 Braced wall panel support. Braced wall panel support shall be provided as follows:

1. Cantilevered floor joists complying with Section R502.3.3 shall be permitted to support braced wall panels.

2. Raised floor system post or pier foundations supporting braced wall panels shall be designed in accordance with accepted engineering practice and the *International Residential Code* as adopted.
3. Masonry stem walls with a length of 48 inches (1219 mm) or less supporting braced wall panels shall be reinforced in accordance with Figure R602.10.9. Masonry stem walls with a length greater than 48 inches (1219 mm) supporting braced wall panels shall be constructed in accordance with Section R403.1. Methods ABW and PFH shall not be permitted to attach to masonry stem walls.
4. Concrete stem walls with a length of 48 inches (1219 mm) or less, greater than 12 inches (305 mm) tall and less than 6 inches (152 mm) thick shall have reinforcement sized and located in accordance with Figure R602.10.9.

(55) Adding **SECTION R611 SINGLE WALL CONSTRUCTION.** SECTION R611 is added to read:

SECTION R611 SINGLE WALL CONSTRUCTION

R611.1 General. This section is intended for conventional light-framed construction. Other methods may be used provided a satisfactory design is submitted showing compliance with other provisions of this code.

Conventional construction may be used for repairs and addition to existing to conventionally constructed structures, provided that those repairs and additions requiring the seal of a duly licensed professional registered structural engineer or architect as required by Chapter 464 of the Hawai‘i Revised Statutes as amended shall be designed to comply with other provisions of this code.

R611.2 Walls without studs. For Type V-B buildings, single wall construction without studs may be used in accordance with the section for repairs or additions to existing buildings of single wall construction.

One-story and the uppermost story of wood frame type V-B buildings or structures may be of single wall construction with boards of thickness specified in this section, without studs, when requirements of this section are met. Floor to ceiling height shall not exceed 8 feet.

Any provisions of this code to the contrary notwithstanding, studding of not less than 2 inches by 3 inches may be used on one-story buildings of double wall construction. Studding shall not be space more than 16 inches on center.

When posts support wood frame dwellings, 2-inch by 4-inch foundation bracing shall be provided.

For one-story, conventional residential buildings or structures the local practice of using foundation blocks with termite shields will be acceptable in interior areas except in flood hazard districts and developments. Design shall comply with the requirements of the Floodplain Management Ordinance, County of Kaua'i.

R611.3 Boards for single wall construction.

R611.3.1 One and one-eighth inch boards. Single wall construction with boards of 1-1/8 inch net thickness are not required to have girts.

R611.3.2 One-inch boards. Where single wall construction is with boards of 1-inch net thickness, no girt is required provided approved stiffeners for any section of such wall is spaced not more than 10 feet along the wall.

R611.3.3 Three-fourths-inch boards. Single wall construction with boards of ¾-inch thickness shall have girts and cross partitions at least every 30 feet.

R611.3.4 Eleven-sixteenths-inch boards. Single wall construction with boards of 11/16-inch net thickness shall be limited to the following conditions: (A) the span between load bearing walls shall not exceed 24 feet; (B) the dead load on such walls shall not exceed 150 pounds per lineal foot; (C) girts shall be provided; (D) there shall be approved stiffeners at least every 10 feet along such wall; and (E) any openings in such walls for windows and doors shall have full-height jambs or studs where the girt is not continuous.

R611.4 Approved stiffeners. Approved stiffeners shall be studs of at least 2 inches by 4 inches, full-height window or doorjambs, posts, walls or partitions at right angle to the section of wall under construction.

R611.5 Girts. Girts for single wall construction shall be not less than 2-inch by 6-inch belt course or other approved strengthening about mid height between the floor and the ceiling on all exterior walls.

(56) Amending **CHAPTER 11 ENERGY EFFICIENCY. CHAPTER 11 ENERGY EFFICIENCY** is deleted in its entirety and amended to read:

CHAPTER 11 ENERGY EFFICIENCY

N1101.1 General. The energy efficiency requirements for the design and construction of buildings related by this code shall comply with CHAPTER 13

ENERGY EFFICIENCY of the *International Building Code* and Article 6, Chapter 12, Building Code, Kaua'i County Code 1987 as amended.

(57) Amending Section **M1201.1 Scope.** Section M1201.1 is amended to read:

M1201.1 Scope. The provisions of Chapters 12 through 22 shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and used to control environmental conditions within buildings. These chapters shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed in this code. Where an application is made for construction as described in these chapters, the owner, or the licensed design professional in responsible charge acting as the owner's agent, shall employ one or more special inspectors to provide inspections during construction on the work in these chapters. These inspections are in addition to the inspections specified in Section 110 of the *International Building Code* as adopted.

(58) Amending Section **M1301.1 Scope.** Section M1301.1 is amended to read:

M1301.1 Scope. The provisions of this chapter shall govern the installation of mechanical systems not specifically covered in other chapters applicable to mechanical systems. Installations of mechanical appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of nationally published mechanical codes or standards.

(59) Amending Section **M1307.4.2 Mechanical ventilation.** Section M1307.4.2 is amended to read:

M1307.4.2 Mechanical ventilation. Indoor locations intended for hydrogen-generating or refueling operations shall be ventilated in accordance with nationally published mechanical codes or standards.

(60) Adding Sections **M2301.2.1.1** to **M2301.2.1.5.** These Sections are added to read:

M2301.2.1.1 Solar systems for one- and two-family dwellings. Access to residential systems for one- and two-family dwellings shall be provided in accordance with Sections M2301.1.2 through M2301.7.2.

M2301.2.1.2 Residential buildings with hip roof layouts. Panels/modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels/modules are located. The

access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top, or eave is required on two sides.

M2301.2.1.3 Residential buildings with a single ridge. Panels/modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope Where panels/modules are located.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top or eave is required on two sides.

M2301.2.1.4 Residential buildings with roof hips and valleys. Panels/modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Exception: On roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, a 3-foot-wide clear pathway between the panel and sides, top or eave is required on two sides.

M2301.2.1.5 Residential buildings smoke ventilation. Panels/modules installed on residential buildings shall be located no higher than 3 feet (914 mm) below the ridge in order to allow for fire department smoke ventilation operations.

(61) Amending Section **M2301.5 Backflow protection.** Section M2301.5 is amended to read:

M2301.5 Backflow protection. Connections from the potable water supply to solar systems shall comply with the County of Kauaʻi Plumbing Code.

(62) Deleting **CHAPTER 24 FUEL GAS.** Chapter 24 is deleted in its entirety. Refer to the adopted County of Kauaʻi Plumbing Code.

(63) Deleting **Part VII – Plumbing.** Part VII, which corresponds to Chapters 25 through 33, is deleted in its entirety. Refer to the adopted County of Kauaʻi Plumbing Code.

(64) Deleting **Part VIII – Electrical.** Part VIII, which corresponds to Chapters 35 through 43, is deleted in its entirety. Refer to the adopted County of Kaua'i Electrical Code.

(65) Adopting **APPENDIX N VENTING METHODS.** APPENDIX N is adopted in its entirety with amendments for use with the County of Kaua'i Plumbing Code.

(66) Amending **APPENDIX N VENTING METHODS User note.** User note is amended to read:

User note:

About this appendix: Venting for plumbing systems is often best understood using diagrams such as isometrics. Appendix N illustrates a variety of venting methods indicated in the County of Kaua'i Plumbing Code.

Section 12-2.4 Tiny Houses.

For the purpose of this Ordinance as it applies to the construction of a Tiny House, the International Residential Code for One- and Two-Family Dwellings, Appendix Q, 2018 Edition, as copyrighted and published in 2017 by the International Code Council, Incorporated, 4051 Flossmoor Road, Country Club Hills, Illinois 60478, is by reference incorporated and made a part hereof, subject to the following amendment:

(1) **SECTION AQ102**

DEFINITIONS

TINY HOUSE. A dwelling that is 500 square feet (46 m^2) or less in floor area excluding lofts. The maximum total floor area of 500 square feet shall mean the sum of the horizontal areas of each floor of a building, measured from the interior faces of the exterior walls. The total floor area shall include enclosed attached accessory structures such as garages or storage areas. Unenclosed attached structures such as carports, breezeways, lanais, or porches shall be excluded.

Section 12-2.5 Amendments to the International Existing Building Code.

The International Existing Building Code, 2018 Edition, is amended as follows:

(1) Amending Section **[A] 101.1 Title.** Section 101.1 is amended to read:

[A] 101.1 Title. These regulations shall be known as the Existing Building Code of the Building Code of the County of Kauaʻi, hereinafter referred to as "this code."

(2) Amending Section **[A] 102.4 Referenced codes and standards.** Section [A] 102.4 is deleted in its entirety and amended to read:

[A] 102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

> **Exception:** Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the condition of the listing shall govern.

[A[102.4.1 Conflicts. Where conflicts occur between provisions of this code and reference codes and standards, the provisions of this code shall apply.

[A] 102.4.2 Conflicting provisions. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

[A] 102.4.3 Conflicts with laws. If this code conflicts with another applicable law of the jurisdiction, then said applicable law shall prevail over this code.

[A] 102.4.4 Building code. Whenever the term International Building Code is used in this code, it shall mean the County of Kauaʻi Building Code.

[A] 102.4.5 Gas. Whenever the term International Fuel Gas Code is used in this code, it shall mean the County of Kauaʻi Plumbing Code.

[A] 102.4.6 Plumbing. Whenever the term International Plumbing Code is used in this code, it shall mean the County of Kauaʻi Plumbing Code.

[A] 102.4.7 Fire prevention. Whenever the term International Fire Code is used in this code, it shall mean the County of Kauaʻi Fire Code.

[A] 102.4.8 Energy. Whenever the term International Energy Conservation Code is used in this code, it shall mean the County of Kauaʻi Building Code.

[A] 102.4.9 Residential code. Whenever the term International Residential Code is used in this code, it shall mean the County of Kauaʻi Building Code.

[A] 102.4.10 Electrical code. The provisions of the County of Kauaʻi Electrical Code shall apply.

[A] 102.4.11 Other codes. Other referenced codes not listed in Section 102.4 are considered referenced guidelines and not mandatory.

(3) Deleting **PART 2 – ADMINISTRATION AND ENFORCEMENT.** This part is deleted in its entirety and replaced with the administrative and enforcement provisions in the *International Building Code* as amended by this Code.

(4) Adding Section **303.3.3 Pre-engineered bracing of post and pier foundations.** Section 303.3.3 is added to read:

303.3.3 Pre-engineered bracing of post and pier foundations. For conventional light-framed single-family residences two stories or less above grade, seismic bracing retrofits of elevated wood post and pier foundation systems shall be permitted to be pre-engineered designs for braces or shear walls constructed in accordance with FEMA Hazard Mitigation Grant Program DR-1664-HI drawings, Structural Seismic Retrofits for Hawaiʻi Single Family Residences with Post and Pier Foundations May 2009.

(5) Amending Section **506.4.2 Snow and wind loads.** Section 506.4.2 is amended to read:

506.4.2 Snow and wind loads. Where a change of occupancy results in a structure being assigned to a higher risk category, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the structure shall satisfy the requirements of Sections 1608 and 1609 of the International Building Code for the new risk category.

Exceptions:

1. Where the area of the new occupancy is less than ten percent (10%) of the building area, compliance with this section is not required. The cumulative effect of occupancy changes over time shall be considered.
2. Where the change is from a Group S or Group U occupancy, use of seventy-five percent (75%) of snow and wind forces shall be permitted.

(6) Amending Section **506.4.3 Seismic loads (seismic force-resisting system).** Section 506.4.3 is amended to read:

506.4.3 Seismic loads (seismic force-resisting system). Where a change of occupancy results in a building being assigned to a higher risk category, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the building shall satisfy the requirements of Section 1613 of the *International Building Code* for the new risk category using full seismic forces.

Exceptions:

1. Where the area of the new occupancy is less than ten percent (10%) of the building area, and the new occupancy is not assigned to Risk Category IV, compliance with this section is not required. The cumulative effect of occupancy changes over time shall be considered.
2. Where a change of use results in a building being reclassified from Risk Category I or II to Risk category III and the seismic coefficient, S_{DS}, is less than 0.33, compliance with this section is not required.
3. Unreinforced masonry bearing wall buildings assigned to Risk Category III and to Seismic Design Category A or B shall be permitted to use Appendix Chapter A1 of this code.
4. Where the change is from a Group S or Group U occupancy, use of reduced seismic forces shall be permitted.

(7) Amending Section **[BS] 706.2 Addition of replacement of roofing or replacement of equipment.** Section 706.2 is amended to read:

[BS] 706.2 Addition of replacement of roofing or replacement of equipment. Any existing gravity load-carrying structural element for which an alternation causes an increase in design dead, live or snow load, including snow drift effects, of more than 5 percent shall be replaced or altered as needed to carry the gravity loads required by the *International Building Code* for new structures.

Exceptions:

1. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the altered building complies with the conventional light-frame constructions methods of the *International Building Code* or the provisions of the *International Residential Code*.
2. Buildings in which the increased dead load is due entirely to the addition of a second layer of roof covering or addition of

insulation, weighing 3 pounds per square foot (0.1437 kN/m3) or less over an existing single layer of roof covering.

(8) Amending Section **[BS] 706.3.2 Roof diaphragms resisting wind loads in high-wind regions.** Section 706.3.2 is amended to read:

706.3.2 Roof diaphragms resisting wind loads in high-wind regions. Where roofing materials are removed from more than 50 percent of the roof diaphragm of section of a building located where the basic wind speed, V, determined in accordance with Figure 1609.3 (1) of the *International Building Code*, is greater than 115 mph (51 m/s) or in a special wind region, as defined in Section 1609 of the *International Building Code*, roof diaphragms, connections of the roof diaphragm to the roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting seventy-five percent (75%) of those wind loads, they shall be replaced or strengthened in accordance with at least seventy-five percent (75%) of the loads specified in the *International Building Code.*

(9) Amending Section **[BS] 1006.2 Snow and wind loads.** Section 1006.2 is amended to read:

[BS] 1006.2 Snow and wind loads. Where a change of occupancy results in a structure being assigned to a higher risk category, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the structure shall satisfy the requirements of Sections 1608 and 1609 of the *International Building Code* for the new risk category.

Exceptions:

1. Where the area of the new occupancy is less than ten percent (10%) of the building area, the cumulative effect of occupancy changes over time shall be considered.
2. Where the change is from a Group S or Group U occupancy, use of seventy-five percent (75%) of snow and wind forces shall be permitted.

(10) Amending Section **[BS] 1006.3 Seismic loads.** Section 1006.3 is amended to read:

[BS] 1006.3 Seismic loads. Where a change of occupancy results in a building being assigned to a higher risk category, or where the change is from a Group S or Group U occupancy to any occupancy other than Group S or Group U, the

building shall satisfy the requirements of Section 1613 of the *International Building Code* for the new risk category using full seismic forces.

Exceptions:

1. Where a change of use results in a building being reclassified from Risk Category I or II to Risk Category III and the seismic coefficient, SDS, is less than 0.33, compliance with this section is not required.
2. Where the area of the new occupancy is less than 10 percent of the building area and the new occupancy is not assigned to Risk Category IV. The cumulative effect of occupancy changes over time shall be considered.
3. Unreinforced masonry bearing wall buildings assigned to Risk Category III and to Seismic Design Category A or B shall be permitted to use Appendix Chapter A1 of this code.
4. Where the change is from a Group S or Group U occupancy, use of reduced seismic forces shall be permitted.

ARTICLE 3. RELOCATION OF BUILDINGS

Sec. 12-3.1 Applicability.

(1) The provisions of Sections 101.2 and 105.1 of the *International Building Code*, as amended to the contrary notwithstanding, no person shall move or cause to be moved any buildings or structure into or within the County without complying with the provisions of this Article; provided, however, any movement of a building or structure which is confined within the boundaries of a single lot shall not be subject to this Article, but shall be subject to Sections 101.2 and 105.1 and other applicable provisions of the County of Kauaʻi Building Code, County of Kauaʻi Electrical Code; and County of Kauaʻi Plumbing Code.

Sec. 12-3.2 Application for A Relocation Permit.

(1) Any person intending to move any building or structure shall apply to the Building Official for a relocation permit in writing upon a form furnished by the Building Official and shall set forth such information as the Building Official may reasonably require in order to carry out the purpose of this Article.

Sec. 12-3.3 Performance Security.

(1) To secure faithful performance of any relocation permit obligations, the applicant or by any person on behalf of the applicant or his/her authorized agent shall comply to all requirements in Chapter 16, Traffic Code, Kauaʻi

County Code 1987, as amended and other requirements mentioned in Section 291-34 and Section 291-35, Hawai'i Revised Statutes as amended.

(2) A certificate of an insurance carrier shall be filed with the Police Department, certifying that there is a Comprehensive Automobile Liability Insurance Policy covering any relocation permit obligations as required by Chapter 16, Traffic Code, Kaua'i County Code 1987, as amended.

(3) Upon the performance of a relocation permit obligation, the applicant or by any person on behalf of the applicant or his/her authorized agent, shall be responsible for all repairs or pay for any property owned by the County or by others which has been damaged in the process of moving such building or structure.

Sec. 12-3.4 Issuance of Permit.

(1) If the work described in the application for permit and in the plans and specifications submitted therewith conform to the requirements of said code and other pertinent laws and ordinances, and the permit or permits as required under the provisions of Chapter 16 Kaua'i Traffic Code has or have been issued by the State Director of Transportation and/or the County Engineer, the Building Official shall issue a relocation permit. The plans and specifications after approval by the Building Official shall not be changed, modified, or altered without authorization from the Building Official and all work shall be done in accordance with the approved plans and specifications.

Sec. 12-3.5 Police Escorts.

(1) The applicant shall apply to the Police Department of the County for escort services of a police officer. The applicant shall bear the costs of such services.

(2) In addition to any other requirement which may be provided by law for the submission of reports in the event of any damage to property resulting from the moving of any building or structure, the police officer assigned to provide escort service shall submit a report to the Building Official of any such damage.

Sec. 12-3.6 Duration and Extension of Time.

(1) All work for which a relocation permit is issued under the provisions of this Article shall be started within 180 days of the date of issuance of the permit, unless extended for good cause by the Building Official. Any request for extension shall be made not less than 15 days prior to the date of expiration of the permit.

Sec. 12-3.7 Denial of Permit.

(1) No permit shall be issued to move any building or structure which does not (1) comply with other pertinent codes and ordinances; or (2) which has deteriorated or been damaged to an extent greater than fifty percent (50%) of the cost of replacement (new) of such building or structure; or (3) which has not been termite treated when so directed by the Building Official.

Sec. 12-3.8 Entry upon Premises.

(1) The Building Official, the surety and duly authorized representatives of either shall have access to the premises described in the relocation permit for the purpose of inspecting the progress of the work.

Sec. 12-3.9 Fees for Permits.

(1) The fees for the issuance of relocation permits shall be computed in accordance with Table No. 1-A under Section 109.2.1 of the International Building Code; provided, however, if a permit is issued after the commencement of the relocation of a building or structure for which a permit is required, an investigation and a fee may be required accordingly as per Section 109.4.

Sec. 12-3.10 Violations and Penalties.

(1) For violations and penalties see Section 114 VIOLATIONS AND PENALTIES, Chapter 1 Administration, International Building Code as amended.

ARTICLE 4. FACTORY-BUILT HOUSING, STRUCTURES, AND TRAILER HOMES

Sec. 12-4.1 Applicability.

(1) These provisions are applicable to the design, construction, installation and transportation of factory-built housing, structure or trailer home within the County of Kauaʻi. Unless otherwise specified in this Article, these provisions shall be applicable only to factory-built housing, structure and trailer home which is sold or offered for sale.

(2) All provisions of the Building, Electrical, and Plumbing Codes shall be applicable unless indicated otherwise in this Article.

Sec. 12-4.2 Definitions.

(1) The following terms are for specialized use within this Article:

"**CERTIFICATE OF APPROVAL**" means a tag, stamp, label, or other device issued or approved by the Building Official to indicate compliance with the statutes and these rules.

"**FACTORY-BUILT HOUSING**" means any structure or portion thereof which is designed for use as a building or dwelling; prefabricated or assembled at a place other than the building site; and capable of complying with the standards and requirements contained in Section 12-4.5.

"**FACTORY-BUILT STRUCTURE**" means any structure or portion thereof which is: designed for use as a building other than a dwelling; prefabricated or assembled at a place other than the building site.

"**INSTALLATION**" means the assembly of factory-built housing on site and the process of affixing factory built housing to land, a foundation, or an existing building.

"**MANUFACTURE**" means the process of making, fabricating, constructing, forming, or assembling a product from raw, unfinished, or semi-finished materials to produce factory-built housing.

"**RECREATIONAL TRAILER**" means a portable structure, used or designed for human habitation or occupancy and built on a chassis with wheels, which is capable of being licensed as a motor vehicle, a vehicle or a trailer pursuant to Hawai'i Revised Statutes Chapter 249 and transported on a highway, but which is unable, due to its size, design, construction, or other attributes, or portions thereof, to comply with the minimum standards and requirements applicable to dwellings or buildings, or portions thereof, contained in Section 12-4.5.

"**SITE**" means the parcel of land on which factory-built housing is installed.

"**TRAILER HOMES**" means factory-built housing which is capable of being licensed as a vehicle or trailer pursuant to Hawai'i Revised Statutes Chapter 249 and transported upon a highway.

Sec. 12-4.3 Building Permit.

No person shall install or relocate any factory-built housing, structure, or trailer home on any land within the County, or cause the foregoing to be done, without

first obtaining a separate building permit from the Building Official for each such factory-built housing, structure, or trailer home.

Sec. 12-4.4 Building Permit Fee.

A fee for each building permit shall be paid to the Building Official as provided in this code. The fee will be based on valuation of the factory-built house, structure, or trailer home in place and the value of all additions or alterations to be made, including the value of carports, fences, retaining walls, et cetera.

Sec. 12-4.5 Building Permit Requirements.

All factory-built housing, structures, and trailer homes for which a building permit is sought shall be subject to the following requirements:

(1) All provisions of Chapter 8 (Comprehensive Zoning Ordinance), Chapter 9 (Subdivision Ordinance), Chapter 12 (Building Code), Chapter 13 (Electrical Code), Chapter 14 (Plumbing Code), Chapter 15 (Building and Construction Regulations) and Chapter 15A (Fire Code) shall apply to the construction, installation and use of factory-built housing, structure, and trailer homes unless specifically excluded or amended by this Article.

(2) All factory-built housing, structure and trailer home shall be permanently affixed to the ground and shall have their wheels and axles, if any, removed.

(3) All factory-built housing, structure and trailer home shall conform to: the applicable standards and requirements of the Department of Health, State of Hawai‘i, including Chapter 11 (Sanitation), Title 11, Administrative Rules of the Department of Health, as updated and amended; Chapter 62, Title 11, Administrative Rules of the Department of Health, as updated and amended, relating to individual wastewater systems and wastewater treatment works; the standards and specifications contained in the International Mechanical Code as updated and amended, published by the International Code Council, Incorporated; and the requirements of Chapter 464 of the Hawai‘i Revised Statutes.

(4) All factory-built housing, structures, and trailer homes must have a certificate of approval as provided in this Article.

(5) Plans and specifications submitted for permitting shall follow the requirements as specified in Section 107 SUBMITTAL DOCUMENTS of the International Building Code as amended.

Sec. 12-4.6 Certificate of Approval.

(1) No factory-built housing, structure and trailer home shall be used, or shall be sold or offered for sale for the purpose of installation or use, within this County as a dwelling, building or structure, unless it has received and bears a certificate of approval issued or approved by the Building Official.

(2) A certificate of approval shall be issued pursuant to Section 12-4.9 and shall be granted to all factory-built housing, structure and trailer home that meet the applicable requirements contained in Section 12-4.5.

(3) No factory-built housing, structure, or trailer home that has received a certificate of approval pursuant to Section 12-4.10 shall be modified in any way prior to or during installation or relocation unless approval of such modification is first made by the Building Official.

1. Modifications made during the term of a pending building permit, prior to the final completion of all required construction, shall be subject to the requirements of Sections 105, 106, 107 and 109 of the International Building Code, as amended by this Chapter, including the payment of additional fees. Except as otherwise provided in this Chapter, such modifications shall not of themselves require the issuance of a new certificate of approval, pursuant to Section 12-4.10; provided, however, that the Building Official may charge for all costs resulting from the inspection and approval of such modifications.

2. Modifications made after the expiration of a building permit, or after final completion of all required construction, shall require the issuance of a new building permit subject to the requirements of Sections 105, 106, 107 and 109 of the International Building Code, as amended by this Chapter. Except as otherwise provided in this Chapter, such modifications shall not of themselves require the issuance of a new certificate of approval pursuant to Section 12-4.10; provided, however, that the Building Official may charge for all costs resulting from the inspection and approval of such modifications.

Sec. 12-4.7 Certificate Fees.

(1) A certificate of approval fee is required and will be part of the building permit fee pursuant to Section 12-4.4. Fees shall be paid to the Building Official as follows:

1. Certificate of approval fee is required for all models of factory-built housing, structure and trailer home constructed in accordance with plans and specifications and complying with the standards and requirements contained in this Article.

2. In addition to the certificate of approval fee, the Building Official shall require, in accordance with Section 12-4.8 (2), that the person applying for the certificate of approval pay all costs incurred by the Building Official in making the inspection and determination required by Section 12-4.8 (1).

Sec. 12-4.8 Inspection.

(1) The Building Official shall issue no certificate of approval, pursuant to Section 12-4.10, unless the factory-built housing, structure or trailer home has first been inspected and determined to be in compliance with the requirements of Section 12-4.6 (2). The Building Official may make such a determination by any of the following means:

1. By making an actual inspection of the individual unit or trailer home;

2. By accepting a similar inspection and determination from another jurisdiction. In such a case, the Building Official must first find that the standards for construction and inspection of factory-built housing, structure and trailer homes prescribed by the statutes, rules and regulations or ordinances of another jurisdiction are at least equal to the standards and requirements prescribed in this Article and that such standards and requirements are actually enforced by such other jurisdiction;

3. By accepting a similar inspection and determination by the International Code Council or any other such professional organization approved by the Building Official. In such a case, the Building Official must first find that the standards for construction and inspection of the factory-built housing and trailer homes followed by the professional organization are at least equal to the standards and requirements prescribed in this Article.

(2) All costs incurred by the Building Official in making the inspection and determination required by Subsection (1) of this Section shall be paid by the person applying for the certificate of approval. Such payment shall be made to the Building Official prior to the issuance of any certificate of approval.

Sec. 12-4.9 Transportation.

(1) No factory-built housing, structure and trailer home which exceeds the weight, width, height or length restrictions contained in Chapter 16 Kauaʻi Traffic Code or Hawaiʻi Revised Statutes 291-34 and 291-35 shall be transported on any street or highway within this County unless permits have been obtained in accordance with Article 3 (Relocation of Buildings), Chapter 16 Kauaʻi Traffic Code and Hawaiʻi Revised Statutes Section 291-36.

(2) No trailer home shall be transported on its wheels on any street or highway within this County unless it is licensed in accordance with Hawaiʻi Revised Statutes Chapter 249 and complies with all applicable provisions of Article 2, Chapter 5 (Motor Vehicle Weight Tax) Taxation and Financial Administration, Chapter 16 Kauaʻi Traffic Code, Hawaiʻi Revised Statutes Chapters 286, 291, 291C and all other applicable County or State laws regulating the operation and licensing of vehicles and trailers.

Sec. 12-4.10 Relocation.

(1) No factory-built housing, structure and trailer home which has been initially located on a lot in accordance with the provisions of this Article shall be relocated to another lot unless permits have been obtained in accordance with Section 12-4.3 and Article 3 (Relocation of Buildings).

(2) No factory-built housing, structure and trailer home shall be relocated pursuant to Subsection (1) of this Section unless found by the Building Official to be in conformance with the standards and requirements of Section 12-4.6 existing at the time of the requested relocation. If the factory-built housing, structure and trailer home no longer conforms to the then existing standards and requirements, then it shall not be relocated unless it is modified to meet such new standards and requirements.

Sec. 12-4.11 Violations and Penalties.

(1) For violations and penalties see Section 114 VIOLATIONS AND PENALTIES, Chapter 1, Administration, International Building Code as amended.

ARTICLE 5. THATCHED MATERIAL ON EXTERIOR OF BUILDING: PROTECTION AGAINST EXPOSURE FIRES

Sec. 12-5.1 Applicability.

(1) Thatched material on the exterior of buildings, including the roof, shall be permitted only for buildings used primarily for assembly, demonstration, exhibit, mercantile or nonresidential purposes. Thatched material may be any grass or leaf cultivated, grown and harvested in the State of Hawai‘i.

(2) Thatched material shall not be permitted on any buildings or structures housing Group R, Division 3 Occupancies or any accessory buildings or structures of Group U Occupancies relating to Group R, Division 3 Occupancies.

(3) The thatched material permitted in this Article shall be used for decorative purposes on the roof or wall of buildings. The entire building, except for the thatched materials, shall comply with all applicable provisions of the Building Code.

(4) When thatched material is used as permitted in this Article, an automatic sprinkler system shall be installed. Automatic sprinkler systems and standpipes shall be provided pursuant to the Fire Code.

Sec. 12-5.2 Violations and Penalties.

(1) For violations and penalties see Section 114 VIOLATIONS AND PENALTIES, Chapter 1, Administration, International Building Code as amended.

ARTICLE 6. ENERGY CONSERVATION CODE

Sec. 12-6.1 Purpose.

This purpose of this Article is the adoption and incorporation by reference the 2018 Edition of the International Energy Conservation Code; providing amendments thereto, regulating the construction, alteration, or equipment of buildings or structures in the County of Kaua‘i. This code will recognize the need for a modern, up-to-date energy conservation code that addresses the design of energy-efficient building envelopes and installation of energy-efficient mechanical, lighting, and power system through requirement emphasizing performance.

Sec. 12-6.2 Title.

This Article shall be known as the Energy Conservation Code of the County of Kauaʻi, and may be cited as the "Energy Code."

Sec. 12-6.3 Adoption of the International Energy Conservation Code.

The International Energy Conservation Code (IECC), 2018 Edition, as copyrighted and published in 2017 by the International Code Council, Incorporated, 4051 West Flossmoor Road, County Club Hills, Illinois 60478-5795, is by reference incorporated herein and made a part thereof as the Energy Code, subject to the following amendments.

Sec. 12-6.4 Local Amendments to the IECC.

(1) Amending Section **C101.1 Title.** Section C101.1 is amended to read:

C101.1 Title. This code shall be known as the Energy Conservation Code of the County of Kauaʻi, and shall be cited as such. It is referred to herein as "this code."

(2) Amending Section **C103.1 General.** Section C103.1 is amended to read:

C103.1 General. Construction documents and other supporting data shall be submitted to indicate compliance with this code. The construction documents shall be prepared, designed, approved, and observed by a duly registered licensed professional as required by Chapter 464 of the Hawaiʻi Revised Statutes. The responsible design professional shall provide on the plans a signed statement certifying that the project is in compliance with this code.

Exceptions:

1. Any building, electrical or plumbing work that is no required to be prepared, designed, approved or observed by a licensed design professional architect or engineer pursuant to Chapter 464 Hawaiʻi Revised Statutes shall be certified by the owner.
2. Specifications and necessary computations need not be submitted when authorized by the Building Official.

(3) Amending Section **C103.3.1 Approval of construction documents.** Section C103.3.1 is amended to read:

C103.3.1 Approval of construction documents. Approval of construction documents shall comply with the provisions of Chapter 1 of the International Building Code, as amended by Chapter 12 of the K.C.C. 1987, as amended.

(4) Deleting Section **C103.3.3 Phased approval.** Section C103.3.3 is deleted in its entirety.

(5) Amending Section **C103.5 Retention of construction documents.** Section C103.5 is amended to read:

C103.5 Retention of construction documents. Retention of construction documents shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(6) Deleting Section **C103.6 Building documentation and closeout submittal requirements.** Section C103.6 is deleted in its entirety.

(7) Amending **SECTION C104 FEES.** SECTION C104 is deleted in its entirety and replaced with the following:

SECTION C104 FEES
C104.1 General. Fees shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(8) Amending **SECTION C105 INSPECTIONS.** SECTION C105 is deleted in its entirety and replaced with the following:

SECTION C105 INSPECTIONS
C105.1 General. Inspections shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(9) Amending **SECTION C108 STOP WORK ORDER.** SECTION C108 is deleted in its entirety and replaced with the following:

SECTION C108 STOP WORK ORDER
C108.1 General Stop Work Orders shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(10) Amending **SECTION C109 BOARD OF APPEALS.** SECTION C109 is deleted in its entirety and replaced with the following:

SECTION C109 BOARD OF APPEALS
C109.1 General. All cases of appeals shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(11) Adding **Exception** to **Section C401.2 Application.** Exception is added to read:

Exception: Where it is determined by the Building Official that the building configuration is similar to that of a residential building, the requirements in Section **R401.2.1 Tropical Zone** shall be permitted to be used.

(12) Adding Section **C401.2.2 Low-energy use buildings.** Section C401.2.2 is added to read:

C401.2.2 Low-energy use buildings. The following low-energy use buildings, or portions thereof separated from the remainder of the building by building thermal envelope assemblies complying with this section, shall be exempt from the building thermal envelope provisions of Section C402.

1. Those with a peak design rate of energy usage less than 3.4 Btu/h-ft^2 (10.7 W/m^2) or 1.0 watt per square foot (10.7 W/m^2) of floor area for space conditioning purposes.
2. Unconditioned space that does not contain habitable space.
3. Greenhouses.

(13) Amending **TABLE C402.1.3 OPAQUE THERMAL ENVELOPE INSULATION COMPONENT MINIMUM REQUIREMENTS, R-VALUE METHOD[a,i].** Table C402.1.3 is amended by adding the following footnote:

CLIMATE ZONE 1, Mass walls, r-5.7 ci (footnote j)
j. Mass walls 6" and greater in thickness are exempt from ci requirement.

(14) Amending Section **C402.2.2 Above-grade walls.** Section C402.2.2 is deleted in its entirety and amended to read:

C402.2.2 Above-grade walls. The minimum thermal resistance (R-value) of materials installed in the wall cavity between framing members and continuously on the walls shall be as specified in Table C402.1.3, based on framing type and construction materials used in the wall assembly.

Exceptions:
Continuous insulation for above grade walls and mass walls are not required when one of the following conditions are met:

1. Walls have a covering with a reflectance of ≥ 0.64; or
2. Walls have overhangs with a projection factor equal to or greater than 0.3. The projections factor is the horizontal distance from the surface of the wall to the farthest most point of the overhang divided by the vertical distance from

the first-floor level to the bottom most point of the overhang.

3. Concrete, CMU and similar mass walls are 6 inches or greater in thickness.

(15) Amending **Table C402.4 BUILDING ENVELOPE FENESTRATION MAXIMUM U-FACTOR AND SHGC REQUIREMENTS.** Table C402.4 is amended by adding the following footnote:

[b.] Jalousie windows are exempt from SHGC requirements.

(16) Adding Section **C402.4.3.5 Area-weighted SHGC.** Section C402.3.5 is added to read:

C402.3.5 Area-weighted SHGC. In commercial buildings, an area-weighted average of fenestration products shall be permitted to satisfy SHGC requirements.

(17) Adding Section **C403.2.3 Door switches**. Section C403.2.3 is added to read:

C403.2.3 Door switches. Opaque and glass doors opening to the outdoors in hotel and motel sleeping units, guest suites and time-share condominiums, shall be provided with controls that disable the mechanical cooling, or reset the cooling setpoint to 90°F or greater within five minutes of the door opening. Mechanical cooling may remain enabled if the outdoor air temperature is below the space temperature.

(18) Adding Section **C405.10 Sub-metering.** Section C405.10 is added to read:

C405.10 Sub-metering. In new buildings with tenants, metering shall be collected for the entire building and individually for each tenant occupying 1,00 ft^2 (total enclosed and unenclosed) (93 m^2) or more. Tenants shall have access to data collected for their space. A tenant is defined as "one who rents or leases from a landlord."

(19) Amending Section **C501.4 Compliance.** Section 501.4 is amended to read:

C501.4 Compliance. Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions and regulations for alterations, repairs, additions and changes of occupancy or relocation, as adopted by the authorities having jurisdiction.

(20) Amending Section **C503.3.1 Roof replacement.** Section C503.3.1 is amended to read:

Roof replacement shall comply with Section C402.1.3, C402.1.4, C402.1.5 or C407 where the existing roof assembly is part of the building thermal envelope and contains insulation entirely above the roof deck. Replacement of uninsulated roofs shall include either initial reflectance ≥ 85% and aged reflectance ≥ 63% or at least one of the following:

1. EnergyStar compliant covering
2. Radiant barrier, or
3. Attic ventilation via solar fan(s), ridge ventilation or gable vents
4. One or more exceptions in Section C402.3.

(21) Amending Section **R101.1 Title.** Section R101.1 is amended to read:

R101.1 Title. This code shall be known as the Energy Conservation Code of the County of Kauaʻi, and shall be cited as such. It is referred to herein as "this code."

(22) Amending Section **R103.1 General.** Section R103.1 is deleted in its entirety and amended to read:

R103.1 General. Construction documents and other supporting data shall be submitted to indicate compliance with this code. The construction documents shall be prepared, designed, approved, and observed by a duly registered licensed professional as required by Chapter 464 of the Hawaiʻi Revised Statutes. The responsible design professional shall provide on the plans a signed statement certifying that the project is in compliance with this code.

Exceptions:

1. Any building, electrical or plumbing work that is not required to be prepared, designed, approved, or observed by a licensed professional architect or engineer pursuant to Chapter 464, Hawaiʻi Revised Statutes shall be certified by the owner.
2. Specifications and necessary computations need not be submitted when authorized by the Building Official.

(23) Amending Section **R103.3.1 Approval of construction documents.** Section R103.3.1 is amended to read:

R103.3.1 Approval of construction documents. Approval of construction documents shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(24) Deleting Sections **R103.3.2 Previous approvals and R103.3.3 Phased approval.** Sections R103.3.2 and R103.3.3 are deleted in their entirety.

(25) Amending **SECTION R104 FEES.** SECTION R104 is deleted in its entirety and replaced with the following:

SECTION R104 FEES
R104.1 General. Fees shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(26) Amending **SECTION R105 INSPECTIONS.** SECTION R105 is deleted in its entirety and replaced with the following:

SECTION R105 INSPECTIONS
R105.1 General. Inspections shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(27) Amending **SECTION R108 STOP WORK ORDER.** SECTION R108 is deleted in its entirety and replaced with the following:

SECTION R108 STOP WORK ORDER
R108.1 General Stop Work Orders shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(28) Amending **SECTION R109 BOARD OF APPEALS.** SECTION R109 is deleted in its entirety and replaced with the following:

SECTION R109 BOARD OF APPEALS
R109.1 General. All cases of appeals shall comply with the provisions of Chapter 1 of the International Building Code, as amended in Chapter 12 of the K.C.C. 1987, as amended.

(29) Amending Section **R401.2 Compliance.** Section R401.2 is amended to read:

R401.2 Compliance. Projects shall comply with one of the following:

1. Sections R401.3 through R404
2. Sections R405 and the provisions of Section R401 through R404 labeled "Mandatory."
3. An energy rating index (ERI) approach in Section R406.
4. The Tropical zone requirements in Section R401.2.1.

(30) Amending Section **R401.2.1 Tropical zone.** Section R401.2.1 is amended to read:

R401.2.1 Tropical zone. Residential buildings in the tropical zone at elevations below 2,400 feet (731.5 m) above sea level shall be deemed to comply with this chapter where the following conditions are met:

1. Not more than one-half of the dwelling unit is air conditioned.
2. The dwelling unit is not heated.
3. Solar, wind or other renewable energy source supplies not less than 90 percent of the energy for service water heating.
4. Glazing in dwelling units shall have a maximum solar heat gain coefficient as specified in Table R402.1.2.
5. Skylights in dwelling units shall have a maximum U-factor as specified in Table R402.1.4.
6. Permanently installed lighting is in accordance with Section R404.
7. The roof/ceiling complies with one of the following options:
   a. Comply with one of the roof surface options in Table C402.3 and install R-13 insulation or greater.
   b. Install R-19 insulation or greater.
8. Roof surfaces have a minimum slope of ¼ inch per foot of run. The finished roof does not have water accumulation areas.
9. Operable fenestration provides ventilation area equal to not less than 14 percent of the floor area in each room. Alternatively, equivalent ventilation is provided by a ventilation fan.
10. Bedrooms with exterior walls facing two different directions have operable fenestration or exterior walls facing two different directions.
11. Interior doors to bedrooms are capable of being secured in the open position.
12. A ceiling fan or ceiling fan rough-in is provided for bedrooms and the largest space that is not used as a bedroom.
13. Walls, floors and ceilings separating air conditioned spaces from non-air conditioned spaces shall be constructed to limit air leakage in accordance with the requirements in Table R402.4.1.1.

(31) Adding Section **R401.3.1 Sampling.** Section R401.3.1 is added to read:

R401.3.1 Sampling. For builders of multiple single family and multi-family units of similar construction type and envelope systems (i.e. production home building), air infiltration/duct testing may be completed by following Chapter 6 ("Standard for Sampled Ratings"), of the current Residential Energy Service Network (RESNET) National Home Energy Rating System Standards.

(32) Amending **Table R402.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT.** Table R402.1.2 is amended by adding the following:

Window SHGC Requirements	
Projection Factor of overhand from base of average window will	**SHGC**
< .30	.25
.30 - .50	.40
≥ .50	N/A

Exception: North-facing windows with pf > .20 are exempt from the SHGC requirement.

Overhangs shall extend 2 feet on each side of window or to nearest wall, whichever is less.

(33) Amending **Table R402.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT.** Table R402.1.2 is amended to read:

Climate Zone 1

Mass Wall R-Value: ¾ or NR[j].

[j]Exception: R-value for mass walls are not required if mass walls meet one of the following requirements:

1. have a reflectance of ≥ 0.64.
2. have overhangs with a projection factor ≥ 0.3.
3. are ≥ 6 inches in thickness.

(34) Amending Section **R402.2 Specific insulation requirements (Prescriptive).** Section R402.2 is amended to read:

R402.2 Specific insulation requirements (Prescriptive). In addition to the requirements of Section R402.1, insulation shall meet the specified requirements of Sections R402.2.1 through R402.2.13.

Exceptions:

1. Above-grade walls and roof/ceilings shall be permitted to comply with Section R407.
2. Insulation requirement for open-beam ceiling shall be optional.

(35) Amending Section **R402.2.5 Mass walls.** Section R402.2.5 is amended to read:

R402.2.5 Mass walls. Mass walls where used as a component of the building thermal envelope shall be one of the following:

1. Above-ground walls of concrete block, (concrete masonry units) CMU, concrete, insulated concrete form, masonry cavity, brick but not brick veneer, adobe, compressed earth block, rammed earth, solid timber or solid logs.
2. Any wall having a heat capacity greater than or equal to 6 Btu/ft^2 · °F (123 kJ/m^2 · K).
3. Concrete, CMU and similar mass walls are 6 inches or greater in thickness.

(36) Amending Section **R402.3.2 Glazed fenestration SHGC.** Section R402.3.2 amends the following exceptions:

Exceptions:

1. Dynamic glazing shall not be required to comply with this section where both the lower and higher labeled SGHC comply with the requirements of Table R402.1.2.
2. Jalousie windows are exempt from SHGC requirements.

(37) Adding Section **R403.5.5 Solar water heating.** Section R403.5.5 is added to read:

R403.5.5 Solar water heating. Solar water heating systems are required for new single-family residential construction pursuant to Section 196-6.5, HRS.

(38) Adding Section **R403.6.2 Ceiling fans.** Section R403.6.2 is added to read:

R403.6.2 Ceiling fans. A ceiling fan, rough-in or whole house fan is provided for bedrooms and the largest space that is not used as a bedroom, provided that the whole house mechanical ventilation system complies with the requirements of Table R403.6.1.

(39) Adding **SECTION R407 POINTS OPTION.** SECTION R407 is added to read:

SECTION R407
POINTS OPTION

R407.1 General (Prescriptive). Above-grade walls and roof/ceiling assemblies are permitted to comply with the points option as an alternative to complying with Section R401.2.1 and R402.2.2.

R407.2 Requirements. One or more efficiency measures shall be selected for roof/ceiling and above-grade wall systems from Table R407.1 that cumulatively equal or exceed 0 (zero) points.

As an alternative above-grade walls and roof/ceilings are permitted to comply separately by scoring 0 (zero) or greater.

TABLE R407.1
POINTS OPTION

Walls		Standard Home Points	Tropical Home Points
Wood Framed			
	R-13 Cavity Wall Insulation	0	1
	R-19 Roof/ceiling Insulation	-1	0
	R-19 Roof/ceiling Insulation + Cool roof membrane or Radiant Barrier[3]	0	1
	R-19 roof/ceiling Insulation + Attic Venting[2]	0	1
	R-30 Roof/ceiling Insulation	0	1
	R-13 Wall Insulation + high reflectance walls[4]	1	2
	R-13 Wall insulation + 90% high efficacy lighting and Energy Star Appliances[5]	1	2
	R-13 Wall Insulation + exterior shading wpf=0 3[6]	1	2
	Ductless Air Conditioner	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1
	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not applicable	2
	House floor area ≤ 1,000 ft[2]	1	1
	House floor area ≥ 2,500 ft[2]	-1	-1
	Energy Star Fans[8]	1	1
	Install 1 kW or greater of solar electric	1	1
Metal Framed			
	R-13 + R-3 Wall Insulation	0	1
	R-13 Cavity Wall Insulation + R-0	-1	0
	R-13 Wall Insulation – high reflectance walls[4]	0	1

	R-13 Wall Insulation + 90% high efficacy lighting and Energy Star Appliances[5]	1	2
	R-13 Wall Insulation + exterior shading wpf=0.3[6]	0	1
	R-30 Roof/ceiling Insulation	0	1
	R-19 Roof/ceiling Insulation	-1	0
	R-19 + Cool roof membrane[1] or Radiant Barrier[3]	0	1
	R-19 Roof/ceiling Insulation + Attic Venting[2]	0	1
	Ductless Air Conditioner[7]	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1
	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not applicable	2
	House floor area ≤ 1,000 ft[2]	1	1
	House floor area ≥ 2,500 ft[2]	-1	-1
	Energy Star Fans[8]	1	1
	Install 1 kW or greater of solar electric	1	1
Mass Walls			
	R – 3/4 Wall Insulation	0	1
	R-0 Wall Insulation	-1	0
	R-0 Wall Insulation + high reflectance walls[4]	0	1
	R-0 Wall Insulation + 90% high efficacy lighting and Energy Star Appliances[5]	1	2
	R-0 Wall Insulation + exterior shading wpf=0.3[6]	0	1
	R-19 Roof/ceiling Insulation	-1	0
	R-19 Roof/ceiling Insulation + Cool roof membrane[1] or Radiant Barrier[3]	0	1
	R-19 Roof Insulation + Attic Venting	0	1
	R-30 Roof Insulation	0	1
	Ductless Air Conditioner[7]	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1
	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not applicable	2
	House floor area ≤ 1000 ft[2]	1	1

	House floor area ≥ 2,500 ft^2	-1	-1
	Energy Star Fans[8]	1	1
	Install 1 kW or greater of solar electric	1	1

1. Cool roof with 3-year aged solar reflectance of 0.55 and 3-year aged thermal emittance of 0.75 or 3-year aged solar reflectance index of 64.
2. One cfm/ft^2 attic venting.
3. Radiant barrier shall have an emissivity of no greater than 0.05 as tested in accordance with ASTM E-408. The radiant barrier shall be installed in accordance with the manufacturer's installation instructions.
4. Walls with covering with a reflectance of ≥ 0.64.
5. Energy Star rated appliances include refrigerators, dishwashers, and clothes washers and must be installed for the Certificate of Occupancy.
6. The wall projection factor is equal to the horizontal distance from the surface of the wall to the farthest most point of the overhang divided by the vertical distance from the first floor level to the bottom most point of the overhang.
7. All air conditioning systems in the house must be ductless to qualify for this credit.
8. Install ceiling fans or whole house fans in all bedrooms and the largest space that is not used as a bedroom.

(40) Amending Section **R501.4 Compliance.** Section R501.4 is amended to read:

R501.4 Compliance. Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions and regulations for alterations, repairs, additions and changes of occupancy or relocation, as adopted by the authorities having jurisdiction.

(41) Amending Section **R503.1.1 Building envelope.** Section R503.1.1 amends the Exception to read:

Exception: The following alterations shall not be required to comply with the requirements for new construction provided that the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
3. Construction where the existing roof, wall or floor cavity is not exposed.
4. Roof re-cover.
5. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during a roof replacement shall meet one of the following:

1. R-30 cavity insulation or the cool roof requirements in Section C402.3 for residential buildings.
2. R-19 cavity insulation or the cool roof requirements in Section C402.3 for Tropical Zone residential buildings.
3. When uninsulated roof sheathing is exposed during alteration, at least two of the following must be installed:
   a. Energy Star compliant roof covering;
   b. Radiant barrier;
   c. Attic ventilation via solar attic fans or ridge ventilation of gable ventilation; or
   d. A minimum of one exception listed in C402.3.

6. Surface-applied window film installed on existing single pane fenestration assemblies to reduce solar heat gain provided that the code does not require the glazing or fenestration assembly to be replaced.

Footnote to exception: Shake roofs on battens must be replaced with materials that result in equal or improved energy efficiency.

(42) Amending Section **R503.2 Change in space conditioning.** Section R503.2 is amended to read:

R503.2 Change in space conditioning. Any nonconditioned or low-energy space that is altered to become conditioned space shall be required to be brought into full compliance with this code.

Exceptions:

1. Where the simulated performance option in Section R405 is used to comply with this Section, the annual energy cost of the proposed design is permitted to be one hundred ten percent (110%) of the annual energy cost otherwise allowed by Section R405.3.
2. Split air conditioner systems where the cost to bring the space into full compliance with this code exceeds a five-year payback period based on the additional energy costs of the added space conditioning system. This exemption is subject to use of a split air conditioner system with a SEER rating in the top twenty-five percent (25%) of readily available units."

SECTION 4. If any provision of this Ordinance or application thereof to any person or circumstance is held invalid, the invalidity does not affect the other provisions or applications of this Ordinance that can be given effect without the invalid provision or application, and to this end, the provisions of this Ordinance are severable.

SECTION 5. Ordinance material to be repealed is bracketed. New Ordinance material is underscored. All of SECTION 3 is new. When revising, compiling, or printing this Ordinance for inclusion in the Kaua'i County Code 1987, as amended, the brackets, bracketed material, and underscoring shall not be included.

SECTION 6. This Ordinance shall take effect upon its approval.

Introduced by:

BILL DECOSTA
(By Request)

DATE OF INTRODUCTION:

July 31, 2024

Līhu'e, Kaua'i, Hawai'i
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CERTIFICATE OF THE COUNTY CLERK

I hereby certify that heretofore attached is a true and correct copy of Bill No. 2926, which was passed on first reading and ordered to print by the Council of the County of Kaua'i at its meeting held on July 31, 2024, by the following vote:

FOR PASSAGE:	Bulosan, Carvalho, Cowden, DeCosta, Kagawa, Kuali'i, Rapozo	TOTAL – 7,
AGAINST PASSAGE:	None	TOTAL – 0,
EXCUSED & NOT VOTING:	None	TOTAL – 0,
RECUSED & NOT VOTING:	None	TOTAL – 0.

Līhu'e, Hawai'i
July 31, 2024

Jade K. Fountain-Tanigawa
County Clerk, County of Kaua'i