

**HOLD FOR MEETING**

Bill 14, CD1 (2023) AND BILL 15, CD1 (2023)  
April 11, 2023, Council meeting

MAUI COUNTY COUNCIL  
Amendment Summary Form

Legislation: Bill 14, CD1 (2023), and Bill 15, CD1 (2023), relating to the Building Code.

Proposer: Committee Chair Tom Cook.



Description: Substitute Bill 14, CD1 (2023), and Bill 15, CD1 (2023), with the attached proposed versions, incorporating revisions from the Water and Infrastructure Committee, the Department of Public Works, and the Department of the Corporation Counsel.

Motion: Move to substitute the proposed bills attached to CR 23-32, with the attached proposed versions.

Reasons: The proposed FD1 versions include the Water and Infrastructure Committee's amendments, and proposed amendments requested by the Department of Public Works and the Department of the Corporation Counsel after the March 6, 2023, Water and Infrastructure Committee meeting.

Attachments: Proposed FD1 versions of Bill 14, CD1 (2023), and Bill 15, CD1 (2023).

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ORDINANCE NO. \_\_\_\_\_

BILL NO. 14, CD1 (2023)

A BILL FOR AN ORDINANCE ESTABLISHING A NEW CHAPTER 16.25,  
MAUI COUNTY CODE, RELATING TO THE ADMINISTRATIVE AND  
SUPPLEMENTAL PROVISIONS OF THE BUILDING CODE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Background. The administrative and supplemental provisions of the building code are currently contained in Chapter 16.26B. This ordinance extracts these provisions from this chapter and creates a new chapter. Placing the administrative and supplemental provisions of the building code into a separate chapter will make adoption of subsequent editions of the building code more efficient since the administrative and supplemental provisions of the building code do not change with each new edition.

SECTION 2. Title 16, Maui County Code, is amended by adding a new chapter to be appropriately designated and to read as follows:

**“CHAPTER 16.25**

**BUILDING CODE ADMINISTRATIVE AND SUPPLEMENTAL  
PROVISIONS**

**Sections:**

**Article 1. Administrative Provisions**

- 16.25.101 General**
- 16.25.102 Applicability**
- 16.25.103 Department of public works**
- 16.25.104 Duties and powers of building official**
- 16.25.105 Permits**

- 16.25.106 Floor and roof design loads**
- 16.25.107 Submittal documents**
- 16.25.108 Temporary structures and uses**
- 16.25.109 Fees**
- 16.25.110 Inspections**
- 16.25.111 Certificate of occupancy**
- 16.25.112 Board of variances and appeals**
- 16.25.113 Violations**
- 16.25.114 Stop work order**
- 16.25.115 Unsafe structures and equipment**

## **Article 2. Improvements to Public Streets**

- 16.25.201 Applicability and scope**

## **Article 3. Post-Construction Stormwater Quality Best Management Practices**

- 16.25.301 Applicability and scope**

## **Article 4. Hawai'i Provisions for Indigenous Hawaiian Architecture Structures**

- 16.25.401 General**
- 16.25.402 Material requirements**
- 16.25.403 Size and location**
- 16.25.404 Allowable and prohibited uses**
- 16.25.405 Fire protection**
- 16.25.406 Design standards**

## **Article I. Administrative Provisions**

### **SECTION 101 GENERAL**

#### **16.25.101 General.**

**101.1 Title.** This chapter shall be known as the Building Administrative and Supplemental Provisions.

**101.2 Scope.**

**101.2.1 Building administrative and supplemental provisions.** This chapter shall be considered part of the current County adopted edition of the International Building Code, as amended, or any other county adopted code that references this chapter, collectively or separately referred to herein as "this code." The definitions in section 16.26C.202 as amended shall apply to this

chapter, and any term listed in this chapter shall have the same definition as the term is defined in section 16.26C.202 as amended.

**101.2.2 Building code.** The building code shall apply to the construction, alteration, movement, enlargement, replacement, repair, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures. The term “building code” as used herein, shall refer to the current county adopted version of the International Building Code, as amended.

**Exceptions:**

1. 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, shall comply with this code or the International Residential Code.
2. Lands within the County that are owned by the federal government or lands designated as Hawaiian homelands.
3. Work related to roadway and transportation systems located in a federal, state, county, or private right-of-way, except as provided in chapter 32.
4. Public utility towers and poles.

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

**Exception:**

1. Appendix C, Group U-Agricultural Buildings, shall be adopted.

**101.3 Intent.** The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, public health and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, and safety to life and property from fire, explosion and other hazards, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

**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. When a referenced code or similar applicable code has been adopted by the jurisdiction, that edition of the referenced code, with amendments, shall be considered the referenced code.

## **SECTION 102 APPLICABILITY**

### **16.25.102 Applicability.**

**102.1 General.** Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern, unless otherwise determined by the building official.

**102.2 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

**102.3 Application of references.** References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

**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 section 102.4.1.

**102.4.1 Conflicts.** Where conflicts occur between provisions of this code, referenced codes and standards, or any other applicable law of the jurisdiction, the building official shall determine which code or standard prevails.

**102.5 Partial invalidity.** In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

**102.6 Existing structures.** A. Permitted structures in existence at the time of the adoption of this chapter may have their existing permitted 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 occupants and the public.

B. Alteration, repair, addition, and change of occupancy to a building or structure in existence at the time of the adoption of this code shall comply with the requirements of the International Existing Building Code, as amended.

## **SECTION 103 DEPARTMENT OF PUBLIC WORKS**

### **16.25.103 Department of public works.**

**103.1 Creation of enforcement agency.** There is hereby established in this jurisdiction a code enforcement agency which shall be under the administrative and operational control of the building official.

**103.2 Appointment.** The building official is hereby authorized and directed to enforce all the provisions of this code.

**103.3 Deputies.** The building official shall have the authority to appoint a deputy building official, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the building official.

## **SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL**

### **16.25.104 Duties and powers of building official.**

**104.1 General.** The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

**104.2 Applications and permits.** The building official shall receive applications, review construction documents and issue permits for the erection, construction, enlargement, repair, improvement, conversion, alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued, and enforce compliance with the provisions of this code.

**104.3 Notices and orders.** The building official shall issue necessary notices or orders to ensure compliance with this code.

**104.4 Inspections.** The building official shall make the required inspections as necessary, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report on unusual technical issues that arise, subject to the approval of the appointing authority.

**104.5 Identification.** The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

**104.6 Right of entry.** Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter

the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

**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. Such records shall be retained in the official records for the period required for retention of public records.

**104.8 Liability.** The building official, members of the board of variances and appeals or employees charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

**104.9 Approved materials and equipment.** Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

**104.9.1 Used materials and equipment.** Materials that are reused shall comply with the requirements of this code for new materials. Used equipment and devices shall not be reused unless approved by the building official.

**104.10 Modifications.** Where there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or the owner's authorized agent, provided that the building official shall first find that special individual reason makes the strict letter of this code impractical, the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of action granting modifications shall be recorded and entered

in the files of the department of building safety.

**104.11 Alternative materials, design and methods of construction and equipment.** This code is not intended to prevent the use of any materials or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved and its use authorized by the building official.

The building official may approve an alternative material, design or method of construction where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. The building official may use the most current code edition of the International Code Council or most current standards as an alternative to meeting the requirements of this code.

**104.11.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

**104.11.2 Tests.** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

**104.12 Cooperation of other officials and officers.** If any provision of this code conflicts with another law, rule, or regulation of any federal, state, or county agency, then the building official shall determine which code or standard prevails.

## **SECTION 105 PERMITS**

### **16.25.105 Permits.**

**105.1 Required.** Any owner or owner's authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is

regulated by this code, or to cause any such work to be performed, shall first make application to the building official and obtain the required permit.

**105.2 Work exempt from permit.** Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Building permits shall not be required for the following:

1. One-story detached accessory structures not greater than 120 square feet in gross floor area, not used as a habitable space, storage of motor vehicles or hazardous materials, and does not block egress.

2. One-story detached agricultural buildings 200 square feet or less in gross floor area within the county agricultural and rural districts having a minimum 10 feet clear unobstructed space from other structures.

3. Detached shade cloth structures not exceeding 20,000 square feet for nursery or agricultural purposes within the county agricultural districts having a minimum building separation of 15 feet from other structures, not including service systems.

4. Water tanks supported directly on grade if the capacity does not exceed:

- a. 5,000 gallons and the ratio of height to diameter or width does not exceed 2:1.

- b. 15,000 gallons and the ratio of height to diameter or width does not exceed 1:2.

5. Detached unroofed decks 30 inches or less measured from adjacent grade to the deck floor.

6. Underground tanks, utility vaults, Individual wastewater systems, and similar structures not below an occupiable building.

7. Prefabricated swimming pools accessory to a Group R-3 occupancy in which the pool walls are entirely above the adjacent grade and do not exceed 5,000 gallons.

8. Reroofing (roof replacement and roof recover) of Group R-3 one- and two-family dwellings and Group U Occupancies accessory to these dwellings where the structural components are not adversely affected.

9. Television and radio antennas and solar panels attached to roofs.

10. Window awnings in Group R-3 and Group U occupancies, supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support and comply with fire separation distance requirements of this code or the International

Residential Code.

11. Painting, papering, tiling, carpeting, cabinets, counter tops, installation of shelves and similar finish work.

12. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

13. Replacement of Electrical, plumbing and mechanical systems, not including commercial kitchen hood and ventilation systems, fire and standpipe systems and other systems effecting fire resistive elements or assemblies or systems and equipment requiring structural reinforcement.

14. Fences, and walls, not over 7 feet (2133.6 mm) high when measured from the lowest grade to the top of the fence or wall; and fences, as defined in section 19.04.040, not over ten feet high when measured from the lowest grade to the top of the fence and when used for the purpose of protecting agricultural operations, conservation areas, cultural sites, and public roadways from axis deer. The height of fences and walls shall be measured separately from retaining walls when the fence or wall foundation is separate from the retaining wall structure.

15. Retaining walls which do not have more than three feet of retainage between the finish grade on each side of the wall and not greater than 7 feet in total height measured from the lowest grade to the top of the wall, unless supporting a slope steeper than 3 (horizontal) to 1 (vertical) or another retaining wall within a distance of twice the height of retainage.

16. Drainage structures.

17. Site work on property, including but not limited to, sidewalks, curbs, parking lots, driveways, planter boxes, and water features less than 24 inches (610 mm) in depth and other landscaping structures as determined by the building official.

18. Recreational and public safety structures, including but not limited to, swings, merry-go-rounds, slides, jungle gyms, goals, life guard stands and towers and other recreational structures as determined by the building official.

19. Street light standards, utility poles, not including wireless telecommunication towers, or television antennas (dishes) over 7 feet in overall height.

20. Temporary construction tool sheds, fences, and jobsite offices on the same property where construction is occurring under a valid building, plumbing, electrical, grading permit, or approved by the building official. These temporary structures shall be removed promptly after work has been

completed or deemed complete by the building official.

21. Construction equipment used for work authorized by a valid permit or for work exempted from permit requirements.

22. Temporary tents or other coverings for private family parties or camping.

23. Temporary tents or coverings for uses other than private family parties or camping, up to a duration of 10 days.

24. Temporary motion picture, television and theater stage sets and scenery, and temporary exhibits and other related structures as approved by the building official.

25. Repairs which involve only the replacement of component parts of existing permitted work with similar materials for the purpose of maintenance and do not cost over \$15,000 per structure in any 12-month period.

26. Work performed for any federal or State of Hawaii governmental agency except where permits are specifically requested by the agency.

27. Work by an electric or telecommunication utility operating under a franchise or charter granted by the State of Hawaii; provided, that the work which is not regulated by the public utilities commission of the State of Hawaii shall be subject to the provisions of this Code. If the utility claims an exemption under this provision, the utility shall have the burden of demonstrating to the satisfaction of the building official that the work is regulated by the public utilities commission.

28. Motor vehicles and trailers with a valid certificate of registration from the Division of Motor Vehicles & Licensing.

Land use requirements enforced by the Planning Department and fire and life safety requirements enforced by the Fire Prevention Bureau shall be complied with.

**105.2.1 Emergency work.** Emergency work may commence without a permit if there is a distinct life safety or fire safety hazard when approved by the building official. Emergency work shall be limited to shoring and bracing to stabilize the structure, or as otherwise approved by the building official. Appropriate permits shall be applied for as soon as possible.

**105.2.2 Emergency alteration and repairs of one-and-two family dwellings and accessory structures.** A. Applicability. Any existing dwelling and its accessory structures that were legally erected and that have been damaged in a disaster or civil defense emergency, recognized by the governor pursuant to chapters 127 or 128, Hawaii Revised Statutes, can be repaired pursuant to this section. The provisions of this section shall remain in effect for a two-year period beginning from the day the governor proclaims the

state of disaster or emergency, and shall apply to those areas of the county covered by the governor's proclamation.

B. Building permit application. The building official shall make available a modified building permit application specifically prepared for the issuance of permits under this section. The modified application may be approved without review from other county agencies or any state agency, except that repair of a non-conforming dwelling or structure shall be reviewed by the planning department. All other state and county agencies that regulate the repair of structures shall be responsible for enforcing their regulations independently upon issuance of the building permit.

C. Electrical and plumbing permits. The modified application may also be used for permits for electrical and plumbing work related to the repair work.

D. Construction drawings. An applicant for a modified permit shall submit construction drawings showing the location and scope of repair work, prepared by a registered design professional. The construction drawings shall be reviewed and approved by the building official. The records of the real property tax division of the department of finance shall be the basis for establishing the shape and size of structures prior to damage, provided that the structures were legally constructed.

E. Permit fees. The building official may defer all plan review and building permit fees upon written request by the applicant.

F. Permit issuance. The building official shall be authorized to issue building permits based upon the modified application. A copy of the approved modified application and construction drawing(s) shall be distributed to appropriate agencies immediately after the permit is issued.

G. Building inspections. The building official shall be authorized to deputize additional inspectors for the purpose of conducting the inspections required by permits issued under this section. Repair work shall be performed in conformance with this code.

H. Illegal construction. Permits issued under this section shall not be interpreted to be an approval of any violation of federal, state, or county statutes, ordinances, or rules. The issuance of a permit shall not relieve the applicant and the property owner from complying with any applicable statutes, ordinances, or rules. Structures or portions thereof that were illegally erected or constructed shall not be repaired under this section.

I. Time extensions. Building, electrical and plumbing permits issued under this section may be extended in accordance with the provisions of the applicable code.

J. Approval by default. If the building official does not take action by either approving, approving with conditions, or denying the modified application within seven calendar days after submittal of all information required by the building official, then the application shall be deemed approved; provided that the time period for the modified application for repair of a nonconforming building or structure that is subject to section 19.500.110, Maui County code, shall be fifteen calendar days.

**105.2.2.1 Deferred permit fee collection.** If the deferred plan review and building permit fees, including any penalties, are not paid within two years from the date the disaster declaration is made, then the building official shall have recourse to the remedies provided by law to recover unpaid fees.

**105.3 Application for permit.** To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the department for that purpose. The application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in this code.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the building official.

**105.3.1 Action on application.** The application, construction documents and other information filed by an applicant for a permit shall be reviewed by the building official. If the application or the construction documents do not conform to the requirements of pertinent laws, the building official shall reject such application in writing, stating the reasons therefor. Upon receipt of all required construction documents, the building official shall provide such documents to appropriate state and county departments for comments. In addition, the building official shall review such documents for compliance with this code and other codes the building official is responsible for administering. The departments shall provide their concurrence or provide substantive written comments on the construction documents no later than thirty calendar days from the date the building official sends the required documents to the departments. The building official may

defer consideration of the building permit pending receipt of additional information from either the applicant or comments from a reviewing department, in which case the running of time is suspended. If reviewing departments do not provide comments within the required time period, the building official shall consider the department as having no comment on the construction documents, unless the building official requires a response from a reviewing agency as specified above. The failure of any reviewing department to comment within the specified time period shall not relieve the applicant of the responsibility to comply with all applicable laws, whether required by the county, state or United States governments, which may include obtaining other required permits prior to construction. Neither the building official in issuing a permit nor the County of Maui shall be responsible for the applicant's failure to comply with any applicable laws. After the time frame for comments has elapsed and the building official has received all required documents, the building official shall review the comments provided and shall approve the permit as submitted, or as it may be modified, or shall disapprove the same and shall express the disapproval and the reasons therefor in writing.

**105.3.2 Time limitation of application.** Any rejected permit application not corrected within sixty calendar days of the rejection may be deemed expired by the building official. All permit applications automatically expire after five years from the date the permit application is filed with the building official..

**105.3.3 Plan review waiver.** Pursuant to rules adopted by the department, the building official shall waive plan reviews if requested in writing by the registered design professional. The rules for waiving plan reviews shall include, but not be limited to:

1. The submitted plans, specifications, computations, or other data are developed by the structural engineer or architect, duly registered under the provisions of chapter 464, Hawaii Revised Statutes;
2. The work described in an application for a plan review waiver is not located on property which abuts either the shoreline or a public beach reserve and is limited in scope as follows: single-family residences and accessory structures to single-family residences; and commercial interior and tenant improvements less than \$125,000;
3. The work described in an application for a plan review waiver is not located on property within any historic district established by title 19 of the Maui County code;
4. The architect or structural engineer shall certify that all applicable county, state, and federal requirements necessary for the granting of a building permit have been met prior to the issuance of a building permit. After certification

by the architect or structural engineer, if it is determined that all requirements have not been satisfied, that failure shall be reported to the State Board of Professional Engineers, Architects, Surveyors, and Landscape Architects for further action; and

5. An applicant for a building permit shall execute a unilateral agreement providing for non-occupancy that shall prohibit occupancy of the structure until such time that all applicable county requirements are met, including but not limited to:

- a. Sewer assessments.
- b. Parks assessment.
- c. Water assessment.
- d. Infrastructure certification for accessory dwellings.
- e. Shoreline setback certification.
- f. Department of health certification.

If the structure is occupied prior to obtaining a release from the non-occupancy agreement, the building permit applicant shall pay a \$1,000 fine prior to the building official issuing a release from the agreement. Payment of this amount shall not limit the ability of the department to avail itself of any other remedies available by law.

When the building official issues the permit where plans are required, the building official shall endorse in writing or stamp on the plans and specifications "APPROVED." When the building official issues the permit where a plan review is waived, "CONDITIONALLY APPROVED" shall be endorsed in writing or stamped on the plans and specifications. The 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.

**105.4 Validity of permit.** The issuance or granting of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, violation of any of the provisions of the Maui County code. Permits presuming to give authority to violate or cancel the provisions of the Maui County code shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the building official from requiring the correction of errors in the construction documents and other data, or from ordering that the work be stopped when building operations are being carried out thereunder in violation of the Maui County code. The building official is also authorized to prevent occupancy or use of a structure where in violation of the Maui County code.

Any building permit requiring an architect or structural engineer or a licensed contractor shall be suspended if the required

architect or structural engineer or contractor notifies the building official in writing that said architect or structural engineer or contractor is withdrawing from the project. The date of permit suspension shall be the date that the building official acknowledges receipt of the written notification by the architect or structural engineer or contractor. The permit shall be deemed expired if the permit suspension exceeds one hundred eighty calendar days.

**105.5 Expiration.** Every permit issued by the building official under this code shall expire and be deemed void five years from the date of issuance of the permit. If a permit expires prior to work being completed, a new permit shall be obtained.

**105.6 Suspension or revocation.** The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. The registered design professional and owner shall be responsible to make corrections promptly to the satisfaction of the building official.

**105.7 Job site construction plans and documents.** The approved job site construction plans and documents shall be kept on the site of the work until the completion of the project when requested by the building official.

## **SECTION 106 FLOOR AND ROOF DESIGN LOADS**

### **16.25.106 Floor and roof design loads.**

**106.1 Restrictions on loading.** It shall be unlawful to lace, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a load greater than is permitted by this code.

## **SECTION 107 SUBMITTAL DOCUMENTS**

### **16.25.107 Submittal documents.**

**107.1 General.** With each application for a building permit construction documents shall be submitted to the building official. Construction documents shall be prepared by a registered design professional:

1. As required by Hawaii Revised Statutes, chapter 464 and related Hawaii Administrative Rules.
2. For new one and two family dwellings.
3. For a change of occupancy classification.
4. For work started or completed prior to obtaining a building permit.

5. For additions, alterations, and repairs 400 square feet or greater.

6. Where a special condition exists, including but not limited to, absence of adequate construction plans; non-prescriptive structural design; fire resistive and means of egress compliance; and alternative materials and methods of construction.

**Exception:**

The building official is authorized to waive the requirement for stamping by a registered design professional if it is found that the nature of the work applied for is such that stamping of construction documents is not required by law.

**107.2 Construction documents.** Construction documents shall be in accordance with sections 107.2.1 through 107.2.7.

**Exception:**

The building official is authorized to waive the submission of certain construction documents or other items if determined to not be necessary to obtain code compliance due to the nature of the work applied for.

**107.2.1 Information on construction documents.**

Construction documents shall be drawn to scale, dimensioned and drawn 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 exact 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 follow construction plans shall be submitted when applying for a permit:

1. Plot and civil plans.
2. Floor plans.
3. Foundation plans.
4. Floor framing plans.
5. Roof framing plans.
6. Cross sections and construction details.
7. Exterior elevations.
8. Electrical, plumbing, mechanical plans.
9. Means of egress and fire wall plan.
10. For existing structures, existing and proposed plans.
11. Other information required by the Building Official.

**107.2.2 Fire protection system shop drawings.** Shop drawings for the fire protection system(s) shall be submitted to the Fire Prevention Bureau or designated agency.

**107.2.3 Means of egress and fire wall.** The construction documents shall show in sufficient detail the location, construction, size and character of all portions of the means of egress including the path of the exit discharge to the public way in compliance with the provisions of this code. In other than occupancies in Groups R-3, and U, the construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces. The plan shall also include the location and fire resistive rating of any Fire Wall pursuant to this code.

**107.2.4 Exterior wall envelope.** Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane and details around openings.

The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system that was tested, where applicable, as well as the test procedure used.

**107.2.5 Exterior balconies and elevated walking surfaces.** Where balconies or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer's installation instructions.

**107.2.6 Site plan.** The construction documents submitted with the application for permit shall be accompanied by a site plan with the property's Tax Map Key number and address and showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

**107.2.7 Structural information.** The construction documents shall provide the information specified in chapter 16.

**107.3 Examination of documents.** 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. This jurisdiction conducts non-structural building code reviews. Structural design requirements shall be by prescriptive methods or engineered design by the registered design professional.

**107.3.1 Approval of construction documents.** When the building official issues a permit, the construction documents shall be approved, in writing or by stamp, as "APPROVED". The approved plans and specifications shall not be changed modified to altered without authorizations from the building official, and all work regulated by this code shall be done in accordance with the approved plans. One set of construction documents so reviewed shall be retained by the building official until construction has been completed and the building official has approved the final inspection. Should there be any errors or omissions, the construction plans and work shall be revised as required by the building official.

**107.3.2 Phased approval.** The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

**107.3.3 Design professional in responsible charge.** Where it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner or the owner's authorized agent to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner or the owner's authorized agent shall designate a substitute registered design professional in responsible charge who shall perform all of the duties required of the original registered 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 or structure.

**107.3.4 Deferred submittals.** For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents and shall submit the deferred submittal for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official. The applicant shall pay additional plan review fees, minimum two hours, as set forth in the annual budget ordinance.

**107.4 Amended construction documents.** Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents. The applicant shall pay additional plan review fees, minimum two hours, as set forth in the annual budget ordinance. The building official can require a new building permit.

**107.5 Retention of construction documents.** One set of approved construction documents shall be retained by the building official.

**107.6 Design registration.** Any architect or structural engineer may submit construction plans for a single-family dwelling unit or for a detached or attached accessory dwelling unit complying to Maui County code, section 19.35, to be registered with the building official as a model home. The architect or engineer shall submit plans and other documents as required by the building official.

A. The filing fee to apply for design registration shall be as set forth in the annual budget.

B. The building official may circulate the plans to other governmental agencies for verification of compliance with other applicable regulations.

C. After the building official determines that the plans are in compliance with applicable codes and regulations, the building official shall assign a registration number on the approved plans, herein referred to as registered plans.

D. Codes and amendments adopted or enforced after registration approval may invalidate such approval or be required to be recertified as determined by the building official.

E. The building permit applicant shall submit a completed building permit application and a copy of a site plan stamped by the same architect or engineer who prepared the registered plans, showing the location of the model home on the property with setback distance, elevation contours, and other applicable information. The model home registration number shall be noted on all building permit application submittals.

F. There shall be a plan review fee for registered designs as set forth in the annual budget. If the registered design includes building design options, the highest value of work shall be used. Other fees and assessments including, but not limited to, permit, park assessment and sewerage fees shall be paid.

G. One revision to the registered plans may be approved by the building official if: the exterior footprint of the model home has not been changed; the proposed revisions are in compliance with the building code and other applicable codes, including any amendments; the applicant pays additional plan review fees as set forth in the annual budget ordinance; and the architect or engineer agrees to submit "as-built" construction drawings immediately. Additional revisions may be allowed as determined by the building official.

**107.7 Errors and omissions.** If there are any errors or omissions on any construction document, the registered design professional and owner shall be responsible to make corrections promptly to the satisfaction of the building official.

## **SECTION 108 TEMPORARY STRUCTURES AND USES**

### **16.25.108 Temporary structures and uses.**

**108.1 General.** The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than one hundred eighty days. The building official is authorized to grant extensions for demonstrated cause.

**108.2 Conformance.** Temporary structures and uses shall comply with the requirements the Maui County Fire code, as amended, and title 19. The applicant and property owner are responsible to ensure the temporary structure is erected and constructed in a safe manner and does not pose a life safety or fire

safety hazard. In the event of severe weather the temporary structure shall be removed.

**108.3 Permit required.** Temporary structures shall obtain a permit unless exempted by this code. The erection and removal dates shall be provided.

**108.4 Construction documents.** A permit application and construction documents shall be submitted for each installation of a temporary structure. The construction documents shall include a site plan indicating the location of the temporary structure and other information required by reviewing agencies.

**108.5 Termination of approval.** The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

## **SECTION 109 FEES**

### **16.25.109 Fees.**

**109.1 Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

**109.2 Schedule of permit fees.** A fee for each permit shall be paid as required, and as set forth in the annual budget ordinance, and shall be paid prior to the issuance of any building permit.

#### **Exceptions:**

1. Affordable housing projects built and offered for sale or rental in accordance with chapter 2.86 of this code, shall be assessed 50 percent of the building permit fee.
2. All units in a residential development in which 100 percent of the units qualify as residential workforce housing units, as defined in section 2.96.020 of this code, shall be exempt from the fee.
3. A residential workforce housing unit, as defined in section 2.96.020 of this code, shall be assessed 50 percent of the fee.
4. When building permits are required for a county capital improvement program project, no fee shall be charged for such permits.
5. When permits are required for projects located on the island of Moloka'i, pursuant to County Council Resolution No. 96-42 relating to designation of the island of Moloka'i as an enterprise zone, no fee shall be charged for such permits for projects valued at \$200,000 or less. This fee waiver shall be applied only once per

structure.

The final determination of value or valuation under any of the provisions of this code shall be made by the building official. Adjustments to the valuations may be made by the building official for special architectural or structural features, type of materials, and location of project.

The value to be used in computing the building permit and building plan review fees shall be based on the square feet of the occupancy and type of construction of the structure. The minimum valuation per square foot shall be based on Table 109.1 for one- and two-family dwellings, garages, carports, decks, patios, lanais; the architect or engineer's submitted value; or the awarded cost of construction. The building official can request for written confirmation of the value from a qualified individual.

**Table 109.1 – Minimum Valuation Table**

<b>1. Dwellings:</b>	<b>Cost Per Square Ft.</b>
Type VB	\$150.00
Basement - Unfinished	\$80.00
<b>2. Private Garages &amp; Carports:</b>	
Garage	\$80.00
Open Carports	\$60.00
<b>3. Decks and Patios</b>	
Covered	\$60.00
Open	\$40.00

**109.2.1 Plan review fees and fund.** A plan review fee shall be paid at the time of submitting the submittal documents for plan review. The fee shall be set forth in the annual budget ordinance. The plan review fees specified in this section are in addition to the permit fees in this code. If the building permit valuation is undervalued at application, the difference shall be paid at permit issuance. No refund shall be granted if the building permit valuation is overvalued at application.

The building official may authorize an expedited plan review process. When the building official issues a building permit where a plan review is waived, pursuant to section 105.3.3 of this code, the applicant shall pay 50 percent of the building permit fee as the plan review fee.

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 salaries, training, contracts, rent payments, fixtures, materials, supplies, and equipment that facilitate plan review and for payment of overtime for plan checking, permit processing, and inspections.

**109.3 Building permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates by qualified individuals, to meet the approval of the building official. Final building permit valuation shall be set by the building official.

**109.4 Work without a permit.** When work for which a permit is required by this code is started or proceeded with before obtaining a permit, the fees as set forth in the annual budget ordinance shall be doubled or increased by an additional amount of \$500, whichever is the greater, but the payment of such fees shall not relieve any persons from fully complying with the requirements of this code in the execution of the work or from any other penalties prescribed in accordance with the Maui County code and any rules adopted by the department.

Inspections shall be required for any work commenced without a permit required by this code. It shall be the responsibility of the permit holder to cause the work to be accessible and exposed for inspection purposes. When any work has been concealed prior to inspection, the property owner may submit a certificate from a building contractor, an architect, or a structural engineer licensed in the State of Hawaii that all work done without inspection complies with the provisions of this code and a unilateral hold harmless agreement, releasing the county of all liability. This agreement shall be recorded with the Bureau of Conveyances. The contents of the certificate and the hold harmless agreement shall be in a form acceptable to the building official. The property owner or permittee shall pay for all recordation fees and any applicable fees for concealing work without inspection(s). The permit holder must still obtain a final inspection which the building official shall perform. Upon receiving an acceptable certificate and hold harmless agreement, the building official may issue a certificate of final inspection or a certificate of occupancy, subject to the terms and conditions contained in the aforementioned agreement, indicating that certain work has been exempted from inspections at the property owner's request.

**109.5 Related fees.** The payment of the fee for the construction, alteration, removal or demolition for work done in

connection to or concurrently with the work authorized by a building permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

**109.6 Refunds.** If requested in writing by the permittee, the building official may authorize refunding 50 percent of the permit fee paid when no work has been done under an unexpired permit. Work includes any earthwork covered by chapter 20.08 of the Maui County code.

If requested in writing by the permittee, the building official may authorize refunding 50 percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any review of plans is initiated. The building official shall not authorize refunding of any fee paid if any work covered by the permit has been initiated.

## **SECTION 110 INSPECTIONS**

### **16.25.110 Inspections.**

**110.1 General.** All construction or work for which a permit is required shall be subject to inspection by the building official and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official. In addition, certain types of construction shall be subject to inspection, as specified in this code. 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 permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for the expense entailed in the removal or replacement of any material required to allow inspection.

A resurvey of the lot may be required by the building official to verify that the structure is located in accordance with the approved plans.

**110.2 Preliminary inspection.** Before issuing a permit, the building official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

**110.3 Required inspections.** The building official, upon notification, shall make the inspections set forth in the following sections.

**110.3.1 Footing and foundation inspection.** Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For

concrete foundations, any required forms shall be in place prior to inspection. Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the building official. All materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C94 or other approved nationally recognized standards, the concrete need not be on the job. Where the foundation is to be constructed of approved treated wood, additional inspections may be required by the building official.

**110.3.2 Frame inspection.** Framing inspections shall be made after the roof deck or sheathing, all framing, fire- blocking and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are approved.

**110.3.3 Lath, gypsum board and gypsum panel product inspection for partitions required to be fire rated.** 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.

**Exception:**

Gypsum board and gypsum panel products that are not part of a fire-resistance-rated assembly or a shear assembly.

**110.3.4 Weather-exposed balcony and walking surface waterproofing.** Where balconies or other elevated walking surfaces are exposed to water from direct or blowing rain, snow or irrigation, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall not be concealed until inspected and approved.

**Exception:**

Where special inspections are provided in accordance with this code.

**110.3.5 Fire- and smoke-resistant penetrations.** Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.

**110.3.6 Energy efficiency inspections.** Inspections shall be made to determine compliance with the Maui County Energy code, as amended at the framing inspection and/or final inspection.

**110.3.7 Other inspections.** In addition to the inspections specified in this code, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the building official.

**110.3.7.1 Miscellaneous inspections.** For any miscellaneous inspection not covered by an issued building permit, the person requesting the inspection shall pay the county a fee as set forth in the annual budget ordinance prior to the miscellaneous inspection.

**Exceptions:**

1. Exemption for adult residential care homes. Where inspections are required pursuant to chapter 100 of the Hawaii Administrative Rules of the State Department of Health, no fee shall be charged for such miscellaneous inspections.
2. Exemption for licensing of day care centers. Where inspections for day care centers are required pursuant to the rules governing licensing of group day care centers and group day care homes of the State Department of Social Services and Housing, no fee shall be charged for such miscellaneous inspections.

**110.3.8 Special inspections.** When special inspection is required by this code, the architect or structural engineer of record shall prepare an inspection program that shall be submitted to the building official for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work that require special inspection and the name or names of the individuals or firms who are to perform the special inspections, and indicate the duties of the special inspectors. The special inspector shall be employed by the owner, the engineer or architect of record, or an agent of the owner, but not the contractor or any other person responsible for the work. When structural observation is required by this code, the inspection program shall name the individuals or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur. The inspection program shall include samples of inspection reports and provide time limits for submission of reports.

**110.3.9 Final inspection.** Final inspection shall be made after finish grading and the building is completed and ready for occupancy.

**110.4 Inspection agencies.** The building official is authorized to accept reports of approved inspection agencies, provided that such agencies satisfy the requirements as to qualifications and reliability to the satisfaction of the building official.

**110.5 Inspection requests.** It shall be the duty of the person doing the work authorized by a permit to notify the building official when work is ready for inspection. The building official may require that every request for inspection be filed at least two working days

before such inspection is desired. The building official shall determine the method of making such request. It shall be the duty of the person requesting any inspections required by this code to provide access to and means for inspections of such work that are required by this code.

**110.6 Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent of the permit holder wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official. There shall be a final inspection and approval of all buildings and structures when completed and ready for occupancy and use.

**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 inspection record 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 a reinspection, the applicant shall file an application therefor in writing on a form furnished for the purpose and pay the reinspection fee as set forth in the annual budget ordinance. In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

**110.8 Certifications.** The building official may require a letter of certification from any architect or engineer whose stamp appears on the approved building permit application or permit plans certifying that certain elements of the work authorized by a permit complies with this code before the final inspection is approved. Certification may be expressed as a professional opinion and may be subject to the scope of services provided contractually by said architect or engineer and facts known by said architect or engineer.

## **SECTION 111 CERTIFICATE OF OCCUPANCY**

### **16.25.111 Certificate of occupancy.**

**111.1 Change of occupancy.** A building, structure, or portion thereof 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.

**Exception:**

Certificates of occupancy are not required for work exempted from permits in accordance with section 105.2, Group R, Division 3 one- and two-family dwellings, and Group U Occupancies.

**111.2 Certificate issued.** After the building official inspects the building, structure, or portion thereof, and does not find violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy which may include, but not be limited to the following:

1. The building permit number.
2. The address of the structure.
3. The name and address of the owner or the owner's authorized agent.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the 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.
7. The edition of the code under which the permit was issued.
8. The use and occupancy, in accordance with the provisions of chapter 3 of this code.
9. The type of construction as defined in chapter 6 of this code.
10. If an automatic sprinkler system is provided and whether the sprinkler system is required.
11. Any special stipulations and conditions of the building permit.

A fee as set forth in the annual budget shall be paid prior to the issuance of any certificate of occupancy.

**111.3 Temporary occupancy.** If the building official finds that no substantial hazard will result from occupancy of any building or portions thereof before the same is completed, a temporary certificate of occupancy may be issued for the use of a portion or portions of a building or structure prior to the completion of the entire building or structure. The building official shall set a time period during which the temporary certificate of occupancy is valid.

**111.4 Revocation.** The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

**111.5 Documents Issued.** The owner or the owner's authorized agent shall keep a copy of the certificate of occupancy documents at the property and make it available for reviewing.

**111.6 Violations.** If a building, structure, or portion thereof occupied prior to obtaining a certificate of occupancy when a certificate of occupancy is required, the building official shall collect a \$1,000 fine prior to issuing the certificate. This shall not limit the ability of the department to avail itself of any other remedies available by law.

## **SECTION 112 BOARD OF VARIANCES AND APPEALS**

### **16.25.112 Board of variances and appeals.**

**112.1 Variance and appeals.** The board of variances and appeals shall hear and determine all variance requests and appeals under this code as follows:

**112.1.1 Variance.** The board of variances and appeals shall hear and determine all variance requests and appeals under this code as follows:

1. That the strict application, operation or enforcement of the code provision or provisions would result in practical difficulty or unnecessary hardship to the applicant;
2. That the granting of the variance shall not be detrimental to the public health, safety or welfare;
3. That the granting of the variance would not be injurious to the adjoining lots and the buildings thereon; and
4. That the granting of the variance would not be contrary to the purposes of this code and the public interest.

**112.1.2 Appeals.** The board of variances and appeals shall hear and determine all appeals alleging error from any person

aggrieved by a decision of the building official in the administration of this code. The board may grant an appeal only if it finds one of the following:

1. That the subject decision or order was based on an erroneous finding of material fact or erroneously applied the law;
2. That the subject decision or order was arbitrary and capricious in its application; or
3. That the subject decision or order was a manifest abuse of discretion.

## **SECTION 113 VIOLATIONS**

### **16.25.113 Violations.**

**113.1 Unlawful acts.** 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, or to otherwise violate any portion of this code, or to otherwise violate any portion of this code.

**113.2 Notice of violation.** The building official is authorized to serve a notice of violation and order or stop work order on any person responsible for the erection, construction, alteration, repair, moving, improvement, removal, conversion, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code or on any person responsible for any other violations of this code. An owner of property in violation of this code shall be considered a “person responsible” under this section. Such order shall be in accordance with section 19.530.030 of this code, as well as any rules adopted by the department.

**113.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

**113.4 Violation penalties.** Violations of this code shall be subject to the enforcement procedures in sections 19.530.020 and 19.530.030 of this code, as well as any rules adopted by the department. Fines collected pursuant to this subsection shall be deposited in the “Plans Review, Permit Processing, and Inspection Revolving Fund.”

The continuance of any such violation after the period set forth for correction in the citation, shall be deemed a separate offense for each day of the continuance.

## **SECTION 114 STOP WORK ORDER**

### **16.25.114 Stop work order.**

**114.1 Authority.** Whenever any work is being done contrary to the provisions of this code, or other pertinent laws or ordinances implemented through the enforcement of this code, the building official may order the work stopped by notice in writing, served on any persons engaged in the doing or causing such work to be done in accordance with any rules adopted by the department, and any such persons shall forthwith stop such work until authorized by the building official to proceed with the work.

## **SECTION 115 UNSAFE STRUCTURES AND EQUIPMENT**

### **16.25.115 Unsafe structures and equipment.**

**115.1 General.** Buildings or structures which are structurally unsafe, 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, or abandonment, as specified in this code or any other provision in title 16, Maui County code, for the purpose of this section, are unsafe buildings. All such unsafe buildings or structures are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition, removal, or other methods approved by the building official in accordance with the procedure specified in 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 any owner or tenant of such building or structure written notice stating the defects thereof. This notice may require the owner, tenant or person in charge of the building or premises, within 48 hours, 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 90 days from date of notice, unless otherwise required by the building official. If necessary, such notice also shall require the building, structure or portion thereof to be vacated immediately and not reoccupied until the required repairs and improvements are completed, inspected, and approved by the building official.

Proper service of such notice shall be by personal service, registered mail or certified mail upon any owner of record, or by posting of such notice on a conspicuous location on the property. If such notice is by registered mail or certified mail, the designated period within which the owner or person in charge is required to comply with the order of the building official shall begin as of the date of mailing.

**115.3 Notice.** If an unsafe condition is found, the building official shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time.

**115.3 Posting of signs.** The building official shall post at each entrance to buildings ordered vacated or at other visible locations on the property if access to the building is a hardship, a notice to read: "DO NOT ENTER. UNSAFE TO OCCUPY." Such notice shall remain posted until the required repairs, demolition or removal 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.

In the event of a major natural disaster, the building official may post "Restricted Use" or "Unsafe" placards at each entrance to a building or on the property if an inspection warrants such posting. Entry or occupancy in a building or portion of a building posted with a "Restricted Use" placard shall be limited to the restrictions stated on the placard. No entry is permitted in a building or portion of a building posted "Unsafe." Placards shall not be removed or altered unless authorized by the building official.

**115.4 Action of 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 initiate enforcement proceedings against the owner or violator.

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 the building or structure or portion thereof, and to recover the cost of such work from the owner or attach alien to the property.

## **Article 2. Improvements to Public Streets**

**16.25.201 Applicability and Scope.** Where public streets are adjacent to the property on which any new structures(s) will be situated or remodeling, reconstruction, repairs, additions and similar work on existing structure(s) are proposed, where the cost of the work over a period of twelve consecutive months exceeds 50 percent of the replacement value of existing structures on the property before work is started, improvements as may be required by the building official shall be constructed on those portions of the streets adjacent to the property. Improvements may include, but shall not be limited to, pavement widening, construction of sidewalks, curbs, gutters, swales, drainage improvements, driveways, curb ramps, striping, signage, relocation of utilities, and placement of utilities underground. Placement of utilities underground can be deferred provided that the owner, heirs, executors, and assigns agree to pay their pro rata share of the cost of utility and utility-related road improvements upon the adjacent public right-of-way(s) based on the actual cost of the capital improvements, divided by the total number of linear feet of the capital improvement, the quotient of which shall be multiplied by the number of lineal feet of the capital improvement adjacent to the property. An agreement shall be prepared by the owner for filing with the state bureau of conveyances. The deferral under this section shall include those developments which have previously entered into agreements deferring the placement of utilities underground. Road widening lot(s) shall be provided when necessary. In determining appropriate improvement and road widening requirements, the building official may take into consideration the Maui County General Plan, Community Plans, standards of title 18 of the Maui County code, future roadway improvement plans, or any other development standard on file with the department. If road widening lot(s) are required, a subdivision plat shall be filed, and the director may approve the building permit should the preliminary subdivision plat generally conform to the requirements of the road widening lot(s) request. The final plat shall be approved by the director prior to the occupancy of the structure.

### **Exception:**

The requirements of this section shall not apply to single family dwellings when the total number of dwellings on a lot does not exceed three, projects involving the use of county funds or land, structures in the state agricultural district, structures which do not exceed the value of \$250,000, and other structures that do not include occupiable or habitable spaces.

### **Article 3. Post-Construction Stormwater Quality Best Management Practices**

**16.25.301 Applicability and Scope.** Post-construction stormwater quality best management practices, as may be required by the building official, shall be implemented for property on which any new structure(s) will be situated, or for any work such as remodeling, reconstruction, repairs, additions, and similar work, where the cost of the work over a period of twelve consecutive months exceeds 50 percent of the replacement value of the existing structure(s) before work is started.

**Exception:**

The requirements of this section shall not apply to a single-family dwelling and its accessory structures, as the same shall be defined in title 19 of this code, provided that the dwelling is not part of a multiple-dwelling development plan or subdivision plan, as determined by the building official, and provided further that the total impervious surface area of the project does not exceed five thousand square feet.

### **Article 4. Hawaii Provisions for Indigenous Hawaiian Architecture**

#### **SECTION 401 GENERAL**

##### **16.25.401 General.**

**401.1 Scope.** The provisions of this chapter 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.

**401.2 Publications incorporated by reference.** The following publications are incorporated by reference and made a part of these provisions. Where there is a conflict between the Hawaii Provisions for Indigenous Hawaiian Architecture and the referenced documents, the Hawaii Provisions for Indigenous Hawaiian Architecture 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.
4. "Arts and Crafts of Hawaii", Section II, Houses (1957) by Te Rangi Hiroa (Peter H. Buck).

**401.3 Definitions.** See chapter 2 of the building code, as amended, for general definitions. As used in this chapter:

“Certified hale builder” means a person who has obtained a certificate of completion for satisfactorily completing a course in Hawaiian hale construction from the University of Hawaii, or any of its community colleges, or as approved by the building official.

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

“Hale or indigenous Hawaiian architecture” means a structure that is consistent with the design, construction methods and uses of structures built by Hawaiians in the 1800's, which uses natural materials found in the Hawaiian Islands, and complies with this chapter and references.

“Separation” means the clear distance between two structures.

“Setback” means the clear distance between a structure and a property line.

## **SECTION 402 MATERIAL REQUIREMENTS**

### **16.25.402 Material requirements.**

**402.1 Hale materials.** Hale shall be constructed using only materials grown and harvested in the State of Hawaii.

**402.2 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 equisitifolia (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.

**402.3 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 Hawaii, to include but not be limited to pili, kualohia, pueo, kāwelu, sugarcane leaves, and ti leaves.

**402.4 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.

**402.5 Metal prohibited.** Metal shall not be used for the construction of the hale.

## **SECTION 403 SIZE AND LOCATION**

### **16.25.403 Size and location.**

**403.1 Height and size limitation.** Hale shall be one-story, detached structure(s) not exceeding 1,800 square feet. Hale shall not exceed the size indicated in Table 403.1.

**Table 403.1 - Maximum Size of Hale (feet)**

Hale Halāwai	Hale Ku'ai	Hale Noa	Hale Wa'a
30 X 60	14 X 20	14 X 24	30 X 60

**403.2 Zoning requirements.** Hale shall comply with minimum yard requirements in the zoning codes.

**403.3 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.

**403.4 Hale Noa.** Hale [noa] Noa structures may only be constructed on property where a separate residence exists on the property.

## **SECTION 404 ALLOWABLE AND PROHIBITED USES**

### **16.25.404 Allowable and prohibited uses.**

**404.1 Allowable uses.** To the extent permitted by other applicable law, allowable uses for hale structures shall be in accordance with Table 404.1.

**Table 404.1 - Allowable Use for Each Hale Type**

Use	Hale Hālāwai	Hale Ku'ai	Hale Noa	Hale Wa'a
Eating ('ai)	Allowed	Allowed	Not permitted	Allowed
Assembling (hālāwai)	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

**404.2 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 of Hawaii, Department of Health.

**404.3 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 405 FIRE PROTECTION**

### **16.25.405 Fire protection.**

**405.1 Fire protection classifications.** Fire protection for Indigenous Hawaiian architecture structures shall be as required in Table 405.1.

**Table 405.1 - Fire Protection Requirements Based on Setback**

Class	Setback Requirements	Fire Protection Requirements
A	<p>The structure (or a group of structures) is:</p> <ol style="list-style-type: none"> <li>1. Located at least 100 feet from any existing structure on the same or neighboring properties; and</li> <li>2. Located at least 100 feet from any property line, except as follows: <ol style="list-style-type: none"> <li>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,</li> <li>b. If the property line abuts the shoreline, the minimum setback for that property line shall be the shoreline setback, or</li> <li>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.</li> </ol> </li> </ol>	No fire protection is required for the structure.
B	<p>The structure (or a group of structures) that conforms to applicable zoning setback requirements but does not satisfy Class A setback requirements.</p>	<p>Automatic fire sprinkler system shall be installed in accordance with design standards in section 3805.2. An electrical permit is required for fire sprinklers systems.</p>

**405.2 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 405.2(a).

**Table 405.2(a) - Total Number of Fire Sprinklers Based on Pipe Size**

Pipe Sizing	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 in Table 405.2(a) 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 405.2(b).

**Table 405.2(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 sprinklers system shall have a local alarm activated by a smoke detector.

**405.3 Certification of water supply.** For any hale that requires fire protection pursuant to section 405, 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.

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

## **SECTION 406 DESIGN STANDARDS**

### **16.25.405 Design standards.**

**406.1 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.

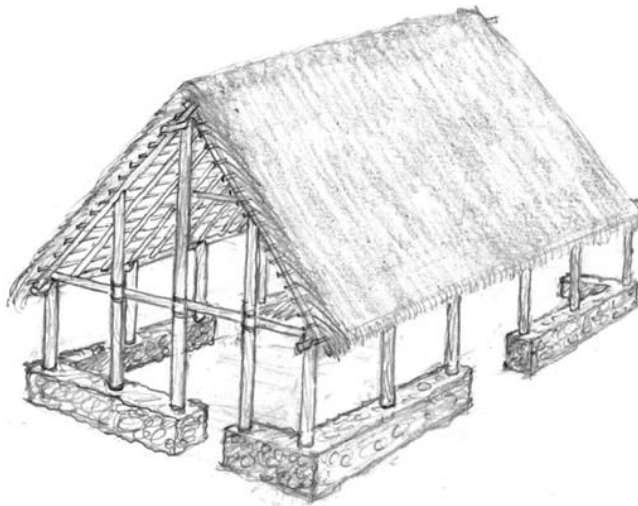
3. The mix formula for mortar specified in these rules shall be one part portland cement, four parts clean sand, and sufficient fresh water to make the mixture workable.

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 Hawaii" or "The Hawaiian Grass House in Bishop Museum" referenced in section 401.2.

**Section 406.2 Allowable designs.** Hale shall be designed and constructed in accordance with the requirements in sections 406.2.1 through 406.2.4.

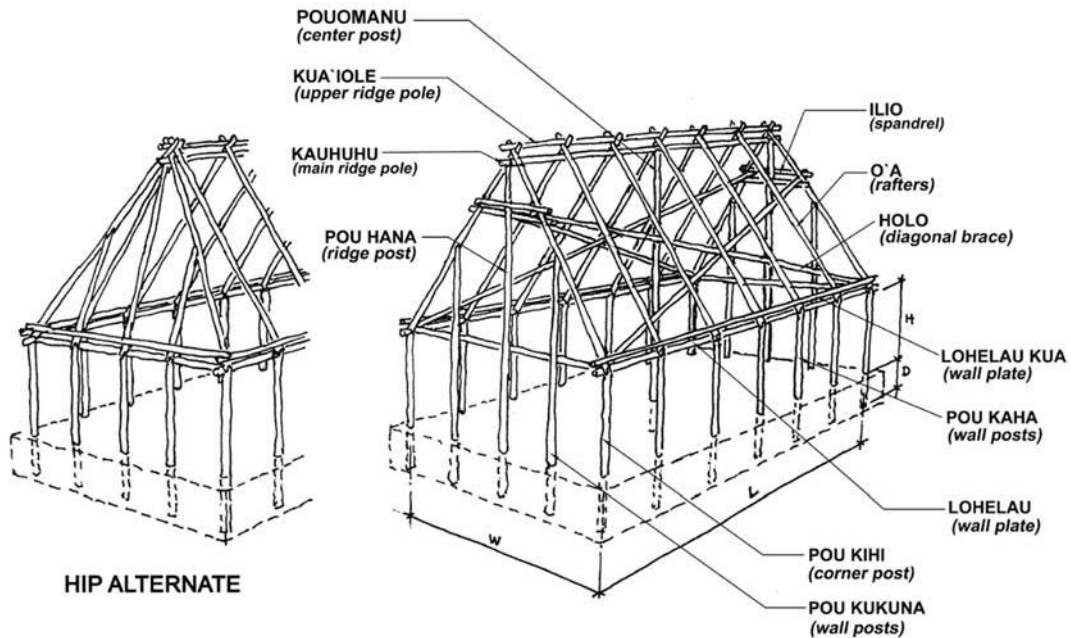
**406.2.1 Hale Hālāwai.** Each end of the Hale Hālāwai may be open or thatched. The ends may also be constructed with a thatched roof hip as an alternate design. Hale Hālāwai shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Hālāwai shall meet the size and spacing requirements in Table 406.2.1(a). Foundations for Hale Hālāwai shall be designed in accordance with Table 406.2.1(b).



HALE HĀLĀWAI  
OPEN END STYLE



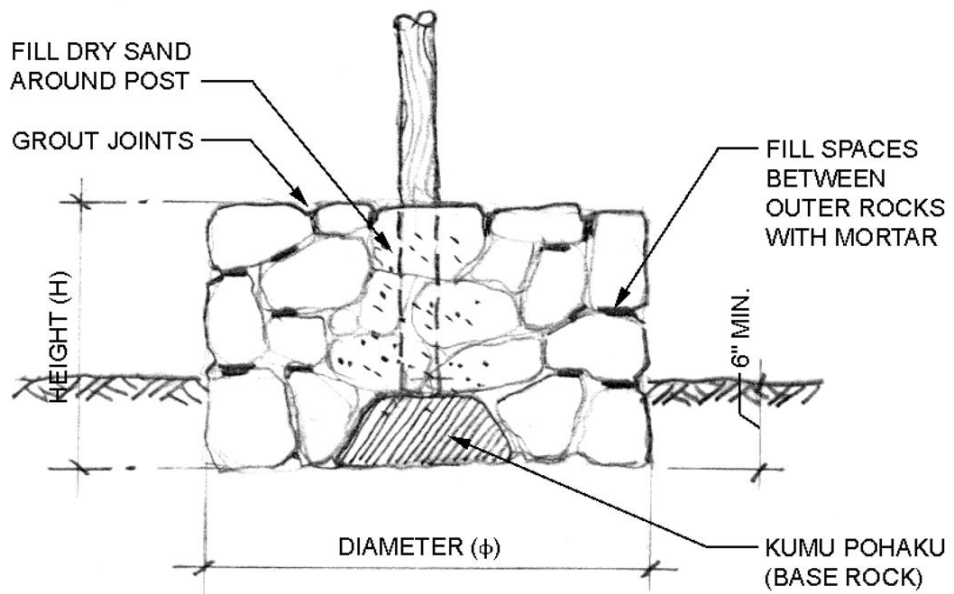
HALE HĀLĀWAI  
THATCHED END STYLE



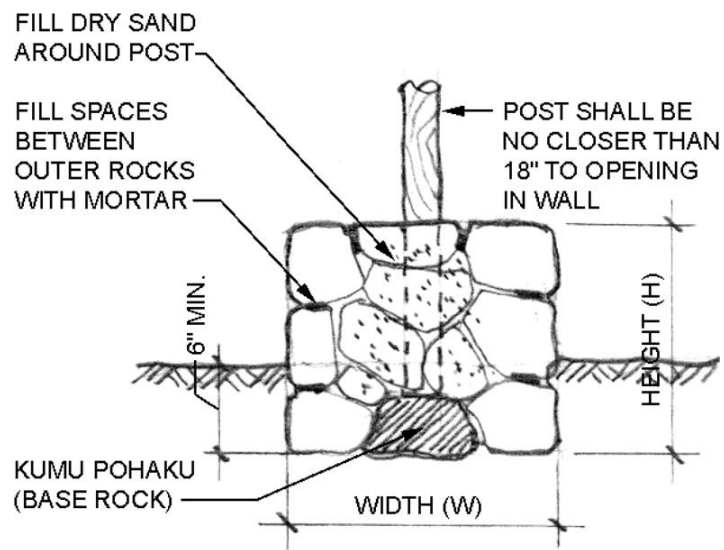
FRAMING SCHEMATIC

**Table 406.2.1(a) - Size and Spacing Requirements for Structural Components used in Hale Hālāwai**

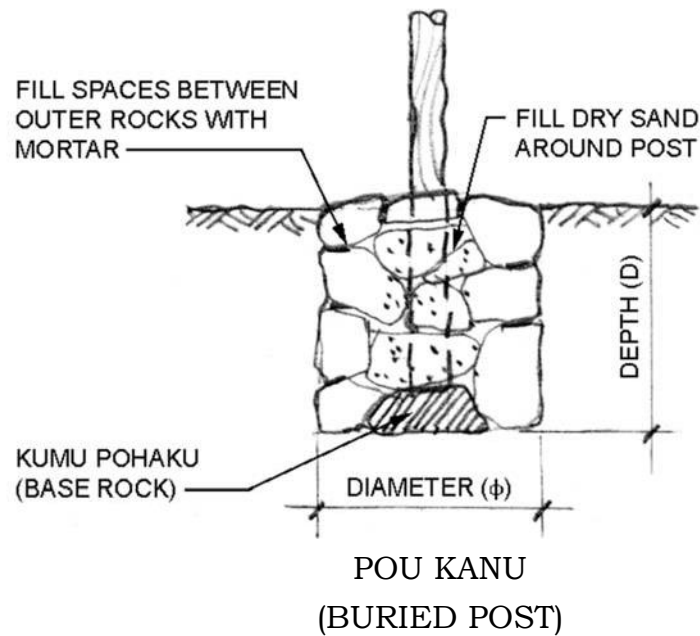
Size W x L x H	pou kihi	pou kukuna & pou kaha	pou hana & pouo manu	o' a	kua ai'ole & holo	ka uhuh u	lo helau	Ma xi mu m po st spa cing (fe et)	Ma xi mu m raft er spa cing (fe et)
	Minimum Diameter (inches)								
12' x 20' x 7'	4	3 ½	4	3 ½	2 ½	3	3	5	3
14' x 24' x 7'	4	4	4½	3 ½	2 ½	3	3 ½	5	3
24' x 30' x 7'	5	4 ½	4½	4	2 ½	3	3 ½	5	3
25' x 50' x 7'	5 ½	5	5½	4	2 ½	3	3 ½	5	3
30' x 60' x 7'	6	5 ½	6	4 ½	2 ½	3	4	5	3



KAHUA  
(PEDESTAL)



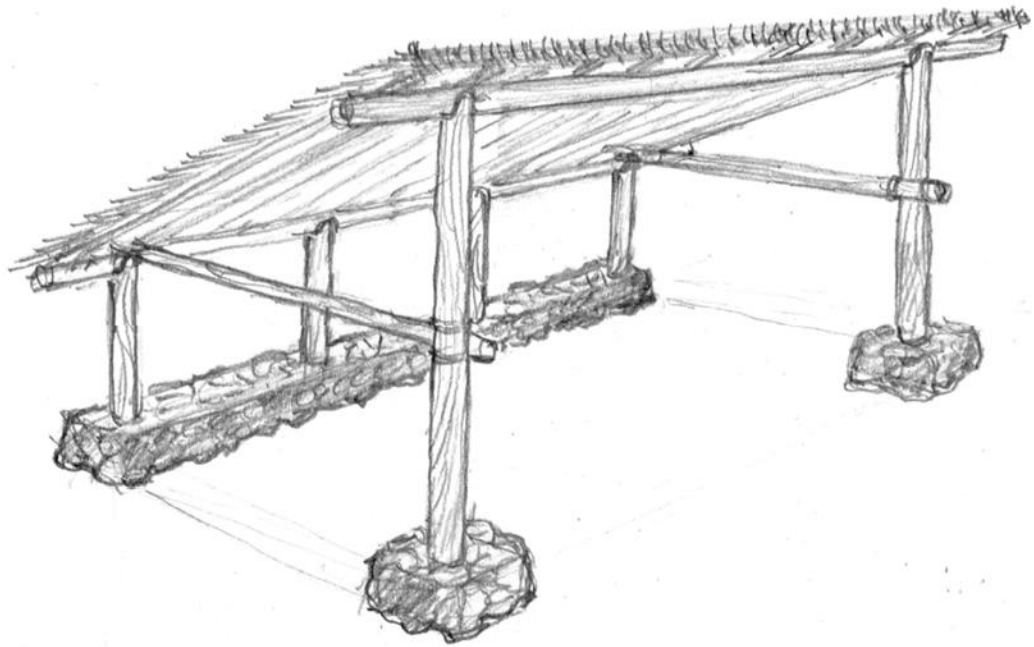
PĀ PŌHAHU  
(FOUNDATION WALL)



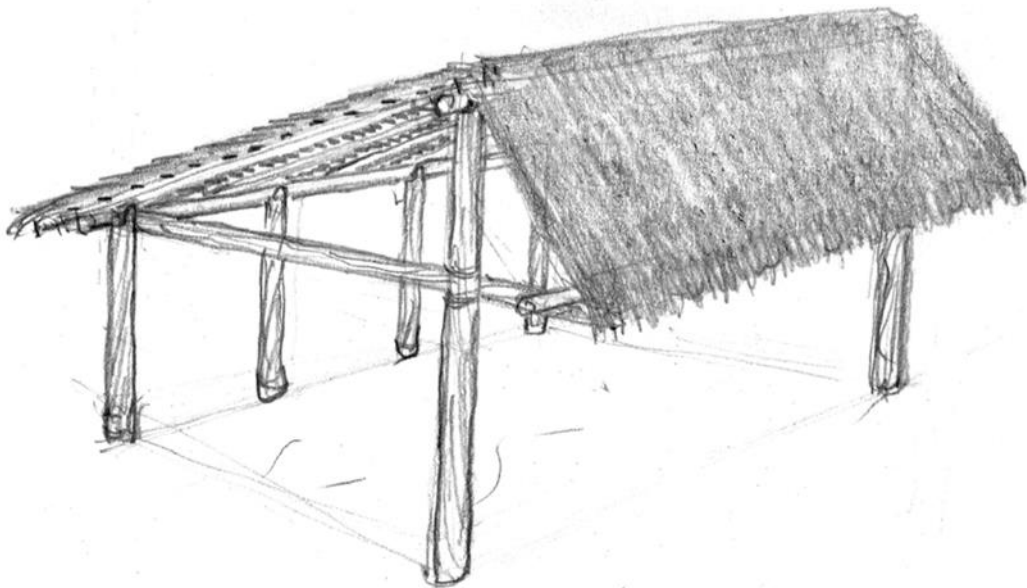
**Table 406.2.1(b) - Foundation Design for Hale Hālāwai**

Size (W x L x H)	Foundation Type		
	kahua Diameter x Height	pā pōhaku 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

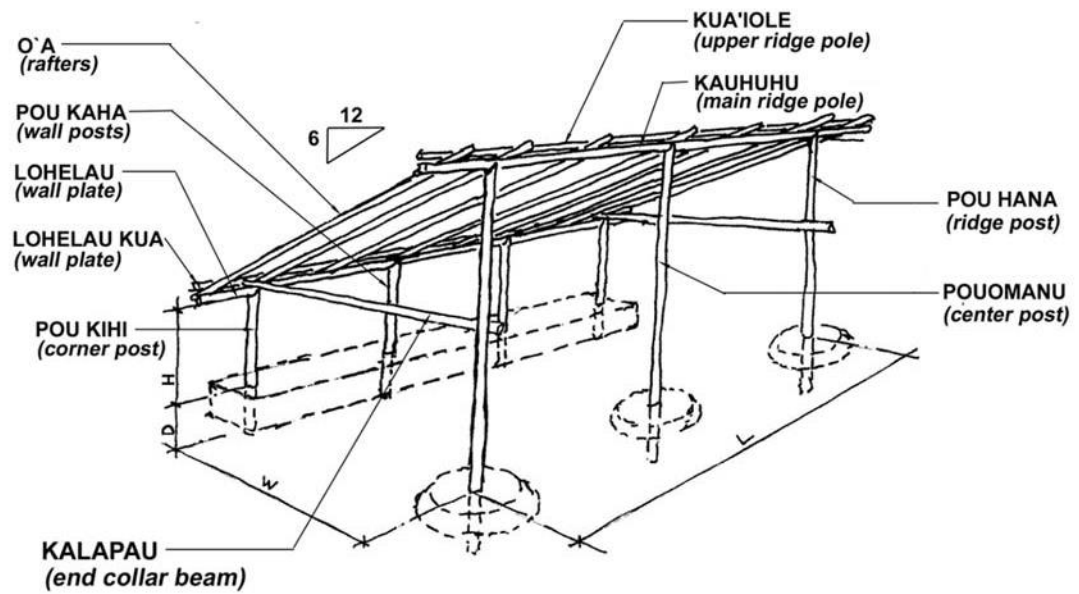
**406.2.2 Hale Ku`ai.** Hale Ku`ai shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Ku`ai shall meet the size and spacing requirements in Table 406.2.2(a). Foundations for Hale Ku`ai shall be designed in accordance with Table 406.2.2(b).



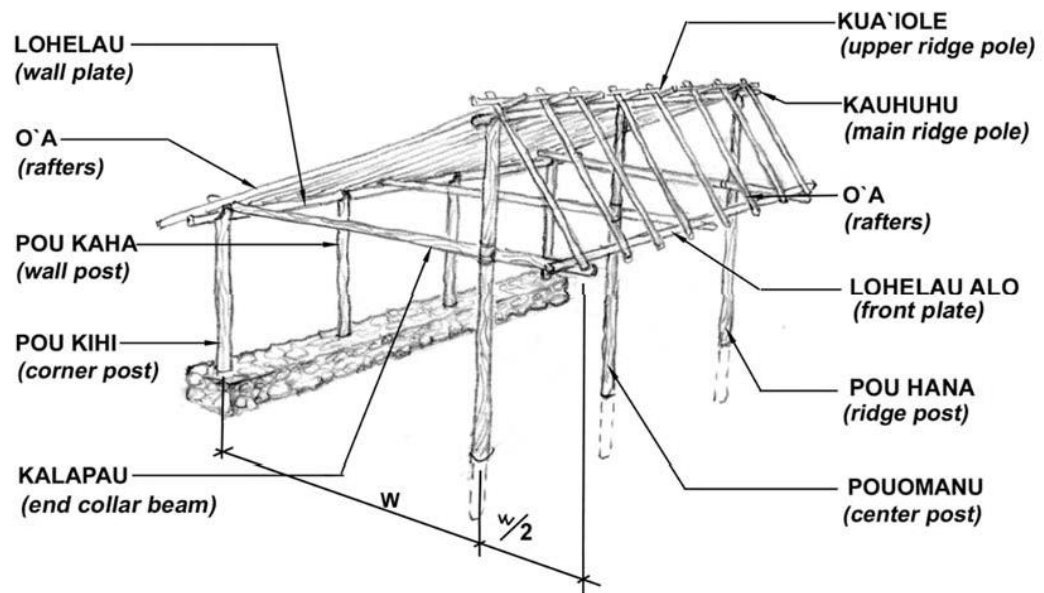
HALE KU'AI  
SHED STYLE



HALE KU'AI  
GABLE STYLE



FRAMING SCHEMATIC 1



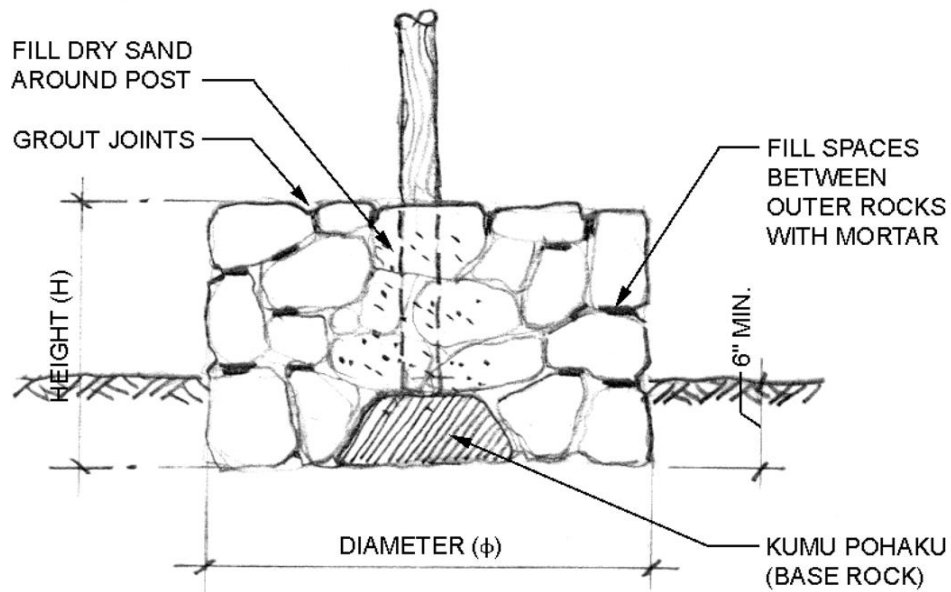
FRAMING SCHEMATIC 2

**Table 406.2.2(a) - Size and Spacing Requirements for Structural Components used in Hale Ku'ai**

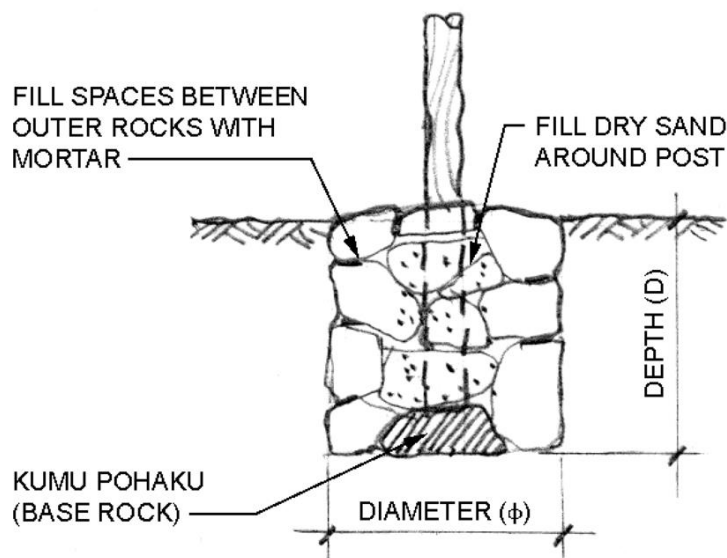
Size (W x L x H)	p o u k i h i a	p o u k a h a a	p o u h a n a b	p o u o m a n u b	o , a	k u a i o l e & h o l o	k a u h u h u	l o h e l a u	Maxi mu m rafter spacing (feet )
	Minimum Diameter (inches)								
5' x 10' x 5'	4	3	3	4	3	2	3	2	4
9' x 12' x 5'	4	3	3	4	3	2	3½	2	4
12' x 16' x 5'	4 ½	3 ½	4	4	3 ½	2	4	2 ½	4
14' x 20' x 5'	4 ½	3 ½	4	4	3 ½	2 ½	4½	2 ½	4

<sup>a</sup> The maximum post spacing for pou kihi and pou kaha is five feet.

<sup>b</sup> The maximum post spacing for pou hana and pouomanu is twelve feet.



**KAHUA  
(PEDESTAL)**

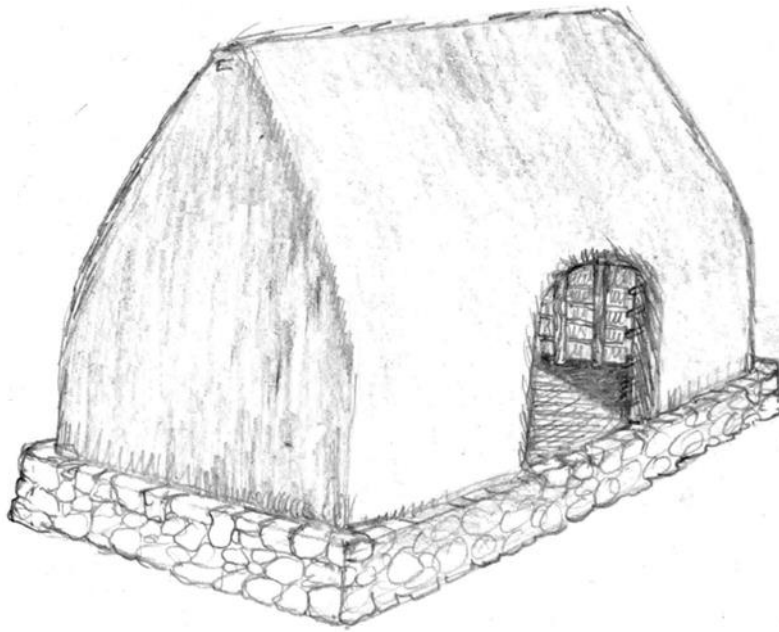


POU KANU  
(BURIED POST)

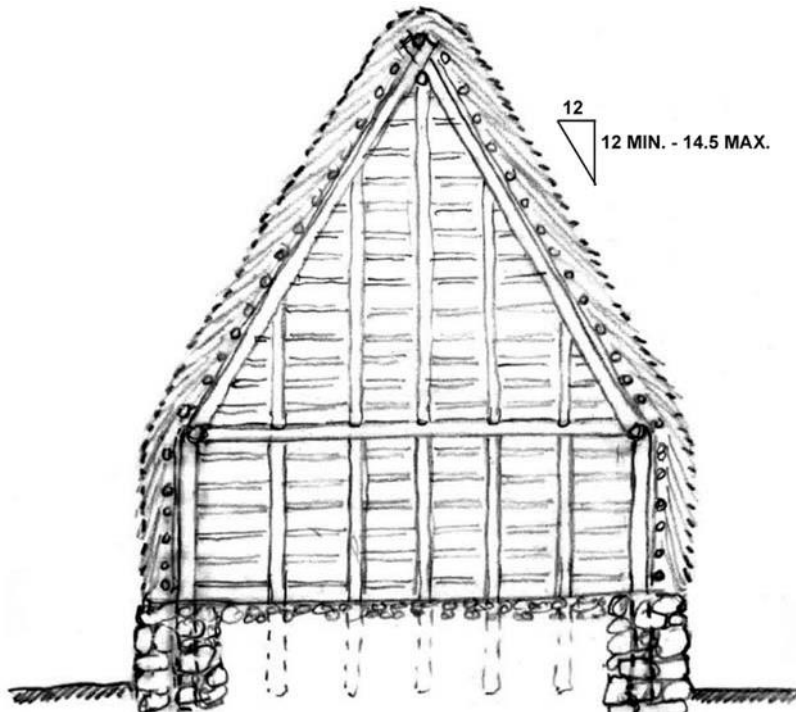
**Table 406.2.2(b) - Foundation Design for Hale Ku'ai**

Size (W x L x H)	Foundation Type		
	kahua Diameter x Height	pā pōhaku 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

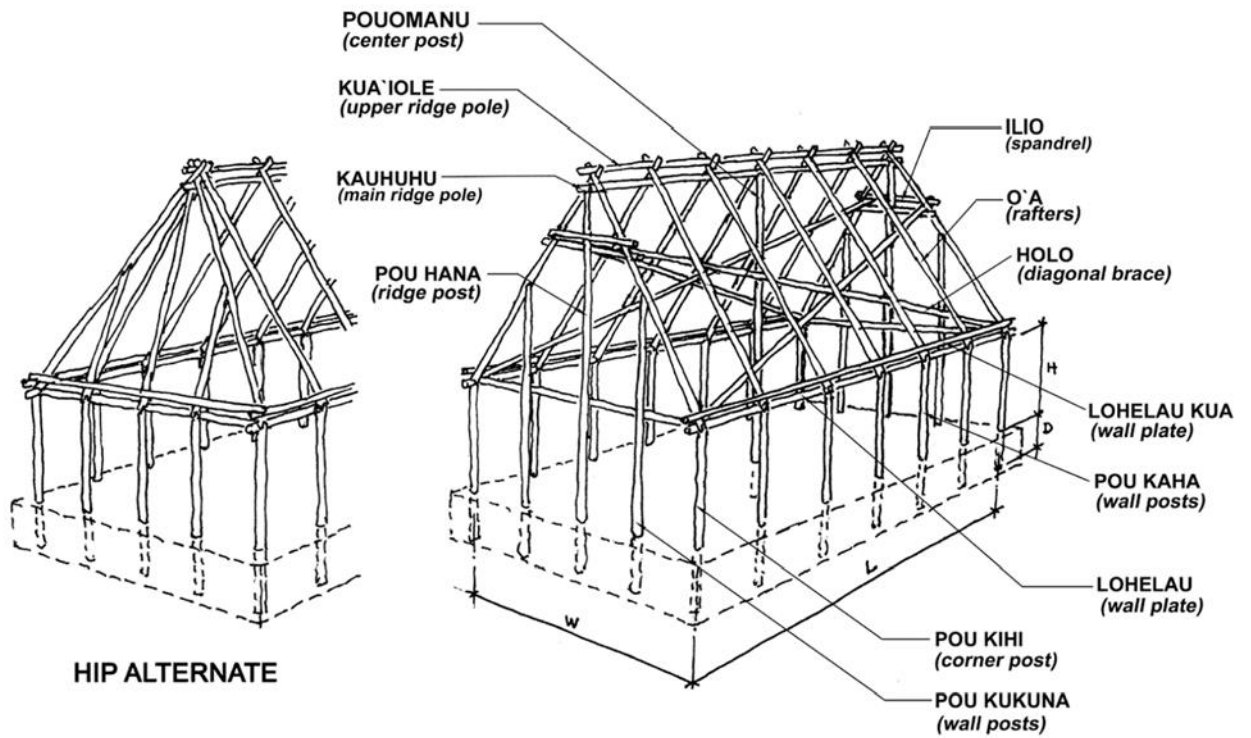
**406.2.3 Hale Noa.** Hale Noa shall have at least two openings. One opening shall be at least 3 feet wide and 5 feet high, and the other opening shall be at least 2 feet wide and 3 feet high. Hale Noa shall be designed in accordance with the following schematics and illustrations. Structural components for Hale Noa shall meet the size and spacing requirements in Table 406.2.3(a). Foundations for Hale Noa shall be designed in accordance with Figure 406.2.3(b).



HALE NOA



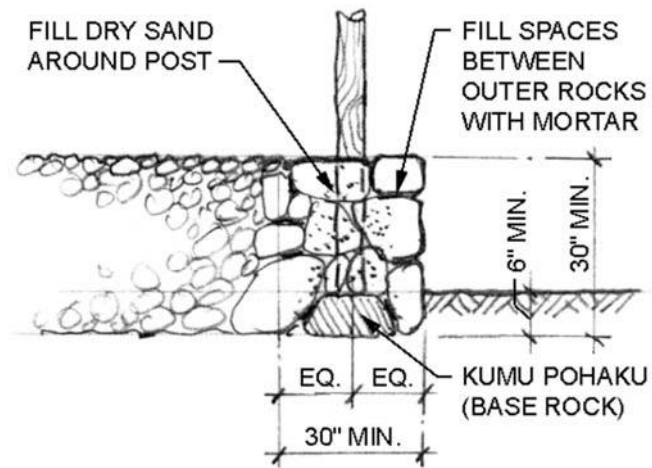
SECTION VIEW



FRAMING SCHEMATIC

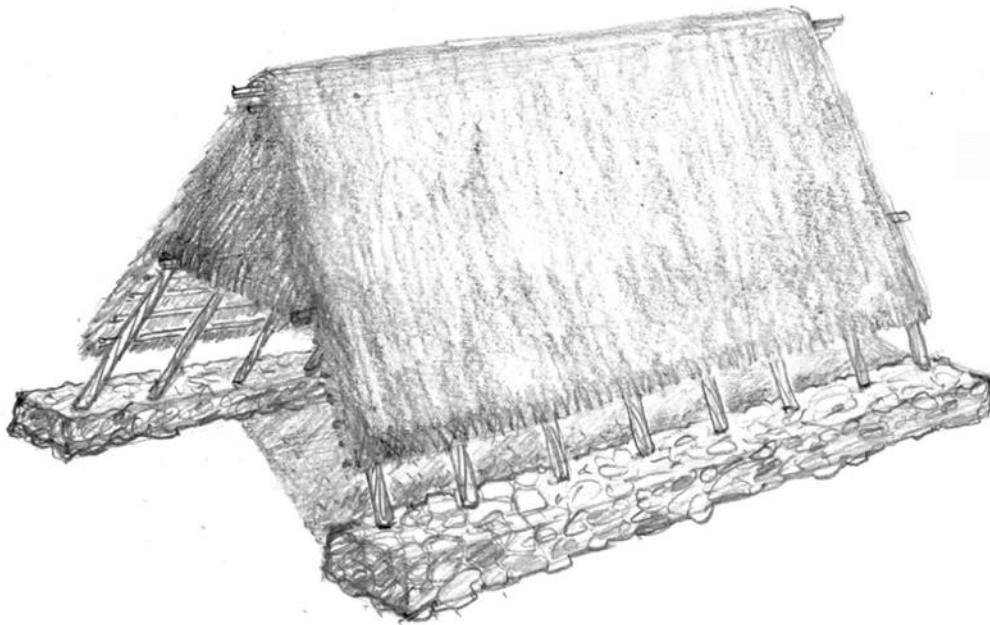
**Table 406.2.3(a) - Size and Spacing Requirements for Structural Components used in Hale Noa**

Size W x L x H	pou kihi	pou kukuna & pou kaha	pou hana	pouo manu	o'a	kua'iole & 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

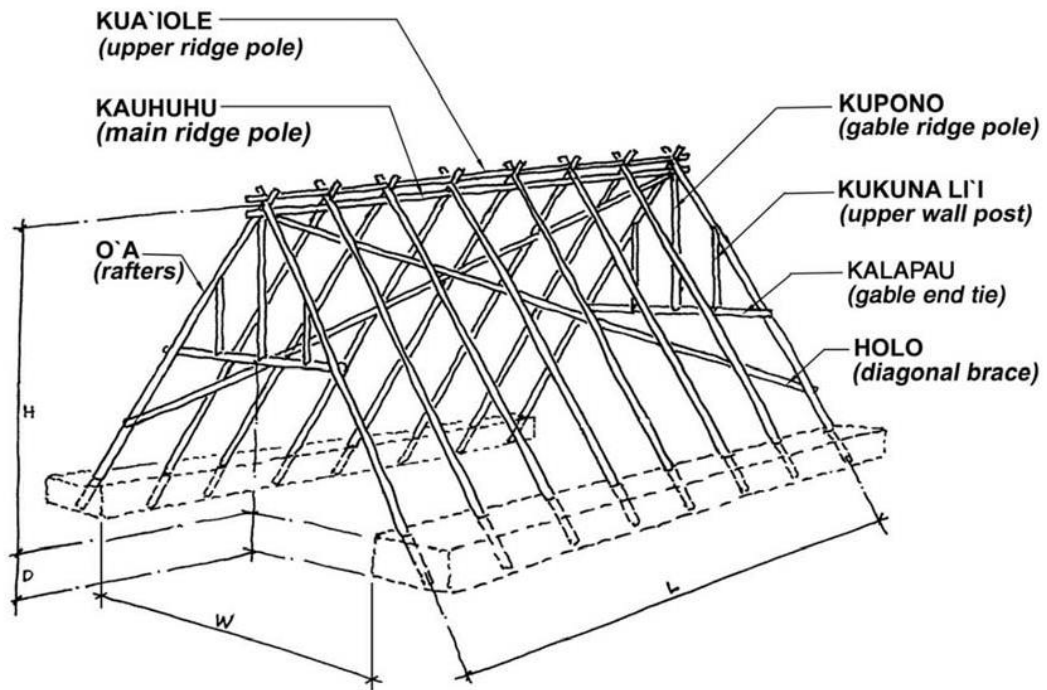


PAPAE  
(HOUSE PLATFORM)  
**Figure 406.2.3(b)**

**406.2.4 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 406.2.4(a). Foundations for Hale Wa'a shall be designed in accordance with Figure 406.2.4(b).



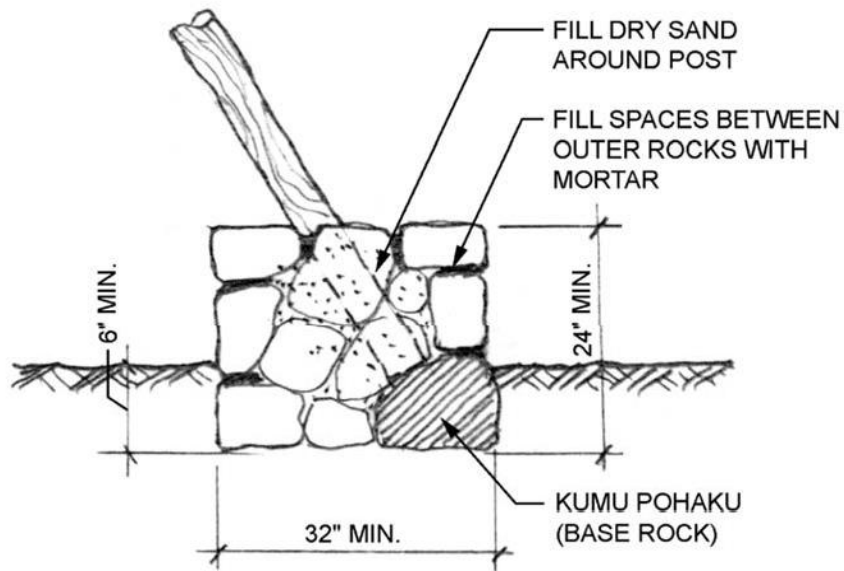
HALE WA'A



FRAMING SCHEMATIC

**Table 406.2.4(a) - Size and Spacing Requirements for Structural Components used in Hale Wa`a**

Size (W x L)	o`a	kua`iole & 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'



PĀ PŌHAKU  
(FOUNDATION WALL)

**Figure 406.2.4(b)**

SECTION 3. Any building permit application received by the director prior to the effective date of this Ordinance or any inspection conducted for a valid building permit that was issued prior to the effective date of this ordinance may be approved if it meets the requirements of either this code or Chapter 16.26B, Maui County Code.

SECTION 4. This Ordinance takes effect on approval; however, for a period of 180 days after the effective date, an applicant for a permit or approval under this Ordinance may elect to have an application processed under the county building code in place prior to the effective date of this Ordinance.

APPROVED AS TO FORM AND  
LEGALITY:

/s/ Michael J. Hopper

MICHAEL J. HOPPER  
Department of the Corporation Counsel  
County of Maui  
wai:misc:003abill01:jpp  
LF2023-0107  
WAI-3 2023-03-31 New Chapter 16.25 Building Code

ORDINANCE NO. \_\_\_\_\_

BILL NO. 15, CD1 (2023)

A BILL FOR AN ORDINANCE REPEALING CHAPTER 16.26B,  
MAUI COUNTY CODE, AND ESTABLISHING A NEW CHAPTER 16.26C,  
MAUI COUNTY CODE, RELATING TO THE BUILDING CODE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Chapter 16.26B, Maui County Code, is repealed in its entirety.

SECTION 2. The “International Building Code, 2018 Edition”, as copyrighted and published in 2017 by International Code Council, Inc., 500 New Jersey Avenue, 6th Floor, Washington, DC 20001, is hereby incorporated herein by reference and made a part hereof and adopted, subject to the provisions of Chapter 16.26C, Maui County Code, as hereinafter enacted and as hereafter may be amended.

SECTION 3. Title 16, Maui County Code, is amended by adding a new chapter to be appropriately designated and to read as follows:

**“Chapter 16.26C**

**BUILDING CODE**

Sections:

16.26C.100	The International Building Code incorporated.
16.26C.101	Section 101 amended.
16.26C.202	Section 202 amended.

16.26C.310	Section 310.4 amended.
16.26C.312	Section 312 amended.
16.26C.403.6.2	Subsection 403.6.2 deleted.
16.26C.406.3.3	Subsection 406.3.3 replaced.
16.26C.423	Section 423 replaced.
16.26C.429	Section 429 added.
16.26C.430	Section 430 added.
16.26C.602	Table 602 amended.
16.26C.705.1	Subsection 705.1 amended.
16.26C.903.2.8	Subsection 903.2.8 amended.
16.26C.906	Section 906 replaced.
16.26C.907	Section 907 replaced.
16.26C.911	Section 911 replaced.
16.26C.913	Section 913 replaced.
16.26C.1009	Section 1009 deleted.
16.26C.1010.1.10	Subsection 1010.1.10 amended.
16.26C.1010.2	Subsection 1010.2 amended.
16.26C.1100	Chapter 11 replaced.
16.26C.1202.1	Subsection 1202.1 amended.
16.26C.1202.3.1	Subsection 1202.3.1 added.
16.26C.1202.5.2	Subsection 1202.5.2 amended.
16.26C.1203	Section 1203 deleted.
16.26C.1402.7	Subsection 1402.7 deleted.
16.26C.1403.1	Subsection 1403.1.1 added.
16.26C.1502	Section 1502 amended.
16.26C.1602.1	Section 1602.1 amended.
16.26C.1603.1	Subsection 1603.1 amended.
16.26C.1603.1.4	Subsection 1603.1.4 amended.
16.26C.1609.1.1	Subsection 1609.1.1 amended.
16.26C.1609.1.1.1	Subsection 1609.1.1.1 amended.
16.26C.1609.2	Subsection 1609.2 amended.
16.26C.1609.2	Table 1609.2 amended.
16.26C.1609.3	Subsection 1609.3 amended.

16.26C.1609.3.1	Subsection 1609.3.1 amended.
16.26C.1609.3	Table 1609.3.1 amended.
16.26C.1609.3	Subsection 1609.3.2 added.
16.26C.1609.3	Figures 1609.3.2(b) through 1609.3.2(d) added.
16.26C.1609.3	Table 1609.3.2(e) added.
16.26C.1609.3	Subsection 1609.3.3 added.
16.26C.1609.3	Table 1609.3.3(a)(2) added.
16.26C.1609.3	Table 1609.3.3(b)(2) added.
16.26C.1609.4.1	Subsection 1609.4.1 amended.
16.26C.1609	Figures 1609.4(b) and 1609.4(c) added.
16.26C.1609.5	Subsection 1609.5.4 added.
16.26C.1613.2	Table 1613.2.5(1) amended.
16.26C.1613.2	Table 1613.2.5(2) amended.
16.26C.1704.2	Subsection 1704.2 amended.
16.26C.1704.2.1	Subsection 1704.2.1 amended.
16.26C.1704.2.3	Subsection 1704.2.3 amended.
16.26C.1704.2.4	Subsection 1704.2.4 amended.
16.26C.1704.3	Subsection 1704.3 deleted.
16.26C.1704.5	Subsection 1704.5 deleted.
16.26C.1705.3	Subsection 1705.3 amended.
16.26C.1705.11	Subsection 1705.11 replaced.
16.26C.1804.1	Subsection 1804.1 amended.
16.26C.1810.3.6	Subsection 1810.3.6 amended.
16.26C.1904	Subsection 1904.3 added.
16.26C.1905	Subsection 1905.1.9 added.
16.26C.1905	Subsection 1905.1.10 added.
16.26C.1905	Subsection 1905.2 added.
16.26C.2104.1	Subsection 2104.1.3 added.
16.26C.2203	Subsection 2203.2 added.
16.26C.2211.1.2	Subsection 2211.1.2 amended.
16.26C.2302.1	Subsection 2302.1 amended.
16.26C.2303.1.9	Subsection 2303.1.9 amended.

16.26C.2304.6.1	Subsection 2304.6.1 amended.
16.26C.2304.6	Table 2304.6.1 amended.
16.26C.2304.12	Subsection 2304.12 replaced.
16.26C.2308.1.1	Subsection 2308.1.1 replaced.
16.26C.2308.7	Table 2308.7.5 replaced.
16.26C.2800	Chapter 28 deleted.
16.26C.2902.1	Subsection 2902.1 amended.
16.26C.2902.2	Subsection 2902.2 amended.
16.26C.3001.1	Subsection 3001.1 amended.
16.26C.3102.7	Subsection 3102.7 amended.
16.26C.3102	Subsection 3102.9 added.
16.26C.3103	Section 3103 deleted.

**16.26C.100 The International Building Code incorporated.** The “International Building Code, 2018 Edition”, herein referred to as the “International Building Code”, “Building Code”, “IBC”, or “this code,” as copyrighted and published in 2017 by the International Code Council, Inc., 500 New Jersey Avenue, 6th Floor, Washington, DC 20001, is incorporated by reference and made a part hereof, subject to the amendments set forth in this chapter, as enacted and as may be amended. If a subsequent edition of the International Building Code becomes an interim Building Code in accordance with the provisions of the Hawaii Revised Statutes, all replacements, amendments, additions, and deletions made in this ordinance shall remain in full force and effect, and the Authority Having Jurisdiction will determine how to best apply those replacements, amendments, additions, and deletions to the interim code.

**16.26C.101 Section 101 replaced.** Section 101 of the International Building Code is deleted in its entirety and replaced to read as follows:

**101.1 Title.** These regulations shall be known as the *Building Code* of the County of Maui, hereinafter referred to as “this code.”

**101.2 Administrative and supplemental provisions.** Provisions relating to scope, permitting, enforcement, inspection, and other administrative procedures and supplemental code provisions, are contained in Chapter 16.25, Building Administrative

and Supplemental Provisions, which shall be considered part of this code.

**16.26C.202 Section 202 amended.** Section 202 of the International Building Code is amended by adding new definitions to be appropriately inserted and to read as follows:

**BUILDING OFFICIAL.** [The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative.] The director of public works of the County of Maui, or the director's duly authorized representative.

**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 wind storm event such as a hurricane.

**CONSTRUCTION DOCUMENTS.** Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit. Construction documents shall include but not be limited to plans (drawings), specifications, product information, and special inspection information, as may be required by the building official.

**COUNTY.** The County of Maui, a political subdivision of the State of Hawaii.

**COUNTY COUNCIL.** The council of the County of Maui.

**FIRE CODE.** The fire code of the County of Maui.

**FIRE CHIEF and FIRE OFFICIAL.** May be used synonymously and shall mean the fire chief of the County or the fire chief's authorized representative.

**NO-BUILD AREA EASEMENT.** An unobstructed area on a property used to satisfy fire separation distance and other yard spacing requirements. Uncovered parking areas, slab on grade, pavement, sidewalks, utilities, lighting, and other minor structures may be allowed. A declaration of restriction, metes and bounds survey map and other information shall be recorded with the Bureau of Conveyance or identified on an approved subdivision plat.

**REGISTERED DESIGN PROFESSIONAL.** An [individual] architect, structural engineer, or other design professional who is registered or licensed [to practice their respective design profession as defined by the statutory requirements of the professional registration laws of] by the state [or jurisdiction in which the project

is to be constructed.] and is able to perform the professional services pursuant to state and county laws, rules, procedures and policies.

**STATE.** The State of Hawaii.

**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 Hawaii Administrative Rules chapter 16-115, implementing Hawaii 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.

**WINDBORNE DEBRIS REGION.** [Areas within hurricane-prone regions located:

1. Within 1 mile (1.61 km) of the coastal mean high-water line where the basic design wind speed,  $V$ , is 130 mph (58 m/s) or greater; or
2. In areas where the basic design wind speed is 140 mph (63.6 m/s) or greater.

For *Risk Category II* buildings and structures and *Risk Category III* buildings and structures, except health care facilities, the windborne debris region shall be based on Figure 1609.3.(1). For *Risk Category IV* buildings and structures and *Risk Category III* health care facilities, the windborne debris region shall be based on Figure 1609.3(2).] Areas in Hawaii 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 Figure 26.5-2D of ASCE 7. The use of wind maps published by the Hawaii State Building Code Council, ASCE 7 Hazard Tool, and other approved documents may be used.

**ZONING PROVISIONS.** The zoning provisions set forth in title 19, Maui County Code and other laws enforced by the Department of Planning.

#### **16.26C.310 Section 310 amended.** Section 310 of the International

Building Code is amended to read as follows:

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

Buildings that do not contain more than *two dwelling units*

Care facilities that provide accommodations for five or fewer persons receiving care

*Congregate living facilities* (nontransient) and facilities providing personal care with [16] sixteen or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Fraternities and sororities

Monasteries

*Congregate living facilities* (transient) with [10] ten or fewer occupants

*Boarding houses* (transient)

*Lodging houses* (transient) with five or fewer guest rooms and 10 or fewer occupants

Bed and breakfast homes and short-term rental homes as defined and permitted in title 19 shall comply with the requirements of this code or the International Residential Code.

**310.4.1 Care facilities within a dwelling.** Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with [Section] section 903.3.1.3 or [Section] section P2904 of the *International Residential Code*.

**310.4.2 Lodging houses.** Owner-occupied *lodging houses* with five or fewer *guest rooms* and [10] ten or fewer total occupants shall be permitted to be constructed in accordance with the *International Residential Code*.

**310.4.3 Bed and Breakfast Homes and Short-Term Rental Homes.** Bed and breakfast homes and short-term rental homes as defined and permitted in title 19 shall comply with the requirements of the *International Residential Code*.

**16.26C.312 Section 312 amended.** Section 312 of the International

Building Code is amended to read as follows:

**312.1 General.** Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire

and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Accessory structures, as defined in the International Residential Code

Agricultural buildings  
Aircraft hangars, accessory to a one- or two-family residence (see [Section] section 412.4)  
Barns  
Carports  
Communication equipment structures with a *gross floor area* of less than 1,500 square feet (139 m<sup>2</sup>)  
Fences more than 6 feet (1829 mm) in height  
Grain silos, accessory to a residential occupancy  
Livestock shelters  
Photovoltaic structures (PV). A PV structure with a use below will be classified to an appropriate occupancy.  
Private garages  
Retaining walls  
Sheds  
Stables  
Swimming Pools and Spas  
Tanks  
Towers  
Windmills and Wind turbines

**312.1.1 Greenhouses.** Greenhouses not classified as another occupancy shall be classified as Use Group U.

**16.26C.403.6.2 Subsection 403.6.2 deleted.** Subsection 403.6.2 of the International Building Code is deleted in its entirety.

**16.26C.406.3.3 Subsection 406.3.3 replaced.** Subsection 406.3.3 of the International Building Code is deleted in its entirety and replaced to read as follows:

**406.3.3 Garages and carports.** Carports shall be open on at least two sides. One side shall be at least 100 percent open, with 100 percent net openings on another side or which is provided with equivalent openings on two or more sides. Carports not meeting the opening requirements shall be considered a garage and shall comply with the provisions of this section for garages.

**16.26C.423 Section 423 replaced.** Section 423 of the International Building Code is deleted in its entirety and replaced with section 423 to read as follows:

**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.

**16.26C.429 Section 429 added.** Section 429 of the International Building Code is amended by adding section 429 to read as follows:

**SECTION 429**  
**HAWAII 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 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.

**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 120 square feet (11 m<sup>2</sup>) 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 430.5.4. 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 430.5-1.

**Table 429.5-1**  
**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 +/- 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. 3/4-inch plywood on wood studs spaced at 16 inches on-center with #8 X 3 inch wood screws at 6 inches on-center.
2. 3/4-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 350S-162-33 studs spaced at 24 inches on-center studs with interior 3/4-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 1/2-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 1/2-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 1/2-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 1/2-inch dens-glass gold exterior sheathing on 362S-137-43 steel studs spaced at 16 inches on-center and 1/2-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.

16. 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 cawling 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 Hawaii licensed professional structural engineer.

**429.9 Special inspection.** The construction or installation of 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.

**16.26C.430 Section 430 added.** Section 430 of the International

Building Code is amended by adding section 430 to read as follows:

### **SECTION 430**

#### **STATE AND COUNTY OWNED 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 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 three hundred.

2. Health care facilities with an occupant load of fifty 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 five thousand.

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 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.

**430.4.2 Excluded spaces.** Spaces such as mechanical and 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 fifty persons, provide an ADA-accessible route to a shelter area at each facility with a minimum of one wheelchair space for every two hundred enhanced hurricane protection area occupants determined per 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 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 per chapter 16. Design for interior pressure based on the largest opening in any exterior facade 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 and/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.

**430.5.7 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 E1996-14 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 of this code.

**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 six continuous hours.

#### **430.6 Ventilation**

**430.6.1 Mechanical ventilation.** Mechanical ventilation as required per 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 rain water.

**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 system(s), alarm and sprinkler,

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.

6. Fabrication and installation of systems or components required to meet the impact-resistance requirements of section 1609.1.2 of this code.

**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, including:

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.

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 Hawaii-licensed structural engineer. A written opinion report of compliance shall be submitted to State Civil Defense, 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 State Civil Defense.

**430.10 Compliance re-certification when altered, deteriorated, or damaged.** Alterations shall be reviewed by a Hawaii-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 Hawaii-licensed structural engineer to determine repairs necessary to maintain compliance with this section.

**16.26C.602 Table 602 amended.** Table 602 of the International Building

Code is amended to read as follows:

**TABLE 602**  
**FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS**  
**BASED ON FIRE SEPARATION DISTANCE<sup>a, d, g</sup>**

<b>FIRE SEPARATION DISTANCE = X (feet)</b>	<b>TYPE OF CONSTRUCTION</b>	<b>OCCUPANCY GROUP H<sup>e</sup></b>	<b>OCCUPANCY GROUP F-1, M, S-1<sup>f</sup></b>	<b>OCCUPANCY GROUP A, B, E<sup>j</sup>, F-2, I, R<sup>i</sup>, S-2, U<sup>h</sup></b>
X < 5 <sup>b</sup>	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1 <sup>c</sup>
	IIB, VB	1	0	0
	Others	1	1	1 <sup>c</sup>
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.3.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- i. For a Group R-3 building of Type II-B or Type V-B construction, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- j. Group E occupancy used for daycare purposes having an occupant load of less than 20 may have exterior wall and opening protection as required in the IRC (Table R302.1).

**16.26C.705.1 Subsection 705.1 amended.** Subsection 705.1 of the

International Building Code is amended to read as follows:

**705.1 General.** *Exterior walls* shall comply with this section.

**Exceptions:**

1. Lot lines established pursuant to R-0 zero lot line provisions in Title 19, Maui County Code;
2. Condominium ownership purposes;
3. Interior lot lines in retail shopping malls; or
4. No-build area easements.
5. Lands owned by the State of Hawaii and County of Maui with building official approval.

**16.26C.903.2.8 Subsection 903.2.8 amended.** Subsection 903.2.8 of the International Building Code is amended to read as follows:

**903.2.8 Group R.** An *automatic sprinkler system* installed in accordance with [Section 903.3] section shall be provided throughout all buildings with a Group R *fire area*.

**Exception:**

Automatic fire sprinklers are not required pursuant to section 46-19.8, Hawaii Revised Statutes.

**16.26C.906 Section 906 replaced.** Section 906 of the International Building Code is deleted in its entirety and replaced with the following:

**906.1 Where Required.** Portable fire extinguishers must be installed and maintained pursuant to the Maui County Fire Code.

**16.26C.907 Section 907 replaced.** Section 907 of the International Building Code is deleted in its entirety and replaced with the following:

**907.1 General.** Fire alarm and detection systems must be installed and maintained pursuant to the Maui County Fire Code.

**16.26C.911 Section 911 replaced.** Section 911 of the International Building Code is deleted in its entirety and replaced with the following:

**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 Maui County Fire Code.

**16.26C.913 Section 913 replaced.** Section 913 of the International Building Code is deleted in its entirety and replaced to read as follows:

**913.1 General.** Fire pumps must be installed and maintained pursuant to the Maui County Fire Code.

**16.26C.1009 Section 1009 deleted.** Section 1009 of the International

Building Code is deleted in its entirety.

**16.26C.1010.1.10 Subsection 1010.1.10 amended.** Section 1010.1.10

of the International Building Code is amended to read as follows:

**1010.1.10 Panic and fire exit hardware.** Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of [50] fifty or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware or fire exit hardware*.

**Exceptions:**

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Double-acting screen doors used in conjunction with exit doors having panic hardware in school cafeteriums.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit or exit access doors*, shall be equipped with *panic hardware or fire exit hardware*. The doors shall swing in the direction of egress travel.

**1010.1.10.1 Installation.** Where *panic or fire exit hardware* is installed, it shall comply with the following:

1. *Panic hardware* shall be *listed* in accordance with UL 305.
2. *Fire exit hardware* shall be *listed* in accordance with UL 10C and UL 305.
3. The actuating portion of the releasing device shall extend not less than one-half of the door leaf width.
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

**1010.1.10.2 Balanced doors.** If *balanced doors* are used and *panic hardware* is required, the *panic hardware* shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

**16.26C.1010.2 Subsection 1010.2 amended.** Section 1010.2 of the

International Building Code is amended to read as follows:

**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.

**Exception:**

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 maybe 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 caused.

**1010.2.1 Stadiums.** *Panic hardware* is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m<sup>2</sup>) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space. See [Section] section 1028.5 for *means of egress* from safe dispersal areas.

**16.26C.1100 Chapter 11 replaced.** Chapter 11 of the International

Building Code is deleted in its entirety and replaced with the following:

**CHAPTER 11**  
**ACCESSIBILITY**

**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, Hawaii Revised Statutes, administered by the Disability and Communication Access Board, State of Hawaii.

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 to 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.

**16.26C.1202.1 Subsection 1202.1 amended.** Subsection 1202.1 of the International Building Code is amended to read as follows:

**1202.1 General.** Buildings shall be provided with natural ventilation in accordance with Section 1202.5, or mechanical ventilation in accordance with the [*International Mechanical Code*] Administrative Rules of the State Department of Health.

[Where the air infiltration rate in a *dwelling unit* is less than 5 air changes per hour where tested with a blower door at a pressure 0.2 inch w.c. (50 Pa) in accordance with Section R402.4.1.2 of the *International Energy Conservation Code—Residential Provisions*, the *dwelling unit* shall be ventilated by mechanical means in accordance with Section 403 of the *International Mechanical Code*. *Ambulatory care facilities* and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407 of the *International Mechanical Code*.]

**16.26C.1202.3 Subsection 1202.3.1 added.** Subsection 1202.3 of the International Building Code is amended by adding subsection 1202.3.1 to read as follows:

**1202.3.1 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 space conditions in both the attic and occupied space below.

**16.26C.1202.5.2 Subsection 1202.5.2 amended.** Subsection 1202.5.2 of the International Building Code is amended to read as follows:

**1202.5.2 Contaminants exhausted.** Contaminant sources in naturally ventilated spaces shall be removed in accordance with the [International Mechanical Code and the International Fire Code] Administrative Rules of the State Department of Health and the Maui County Fire Code, as amended.

**16.26C.1203 Section 1203.** Section 1203 of the International Building Code is deleted in its entirety.

**16.26C.1402.7 Subsection 1402.7 deleted.** Subsection 1402.7 of the International Building Code is deleted in its entirety.

**16.26C.1403.1 Subsection 1403.1.1 added.** Subsection 1403.1 of the International Building Code is amended by adding subsection 1403.1.1 to read as follows:

**1403.1.1 Thatched material.** Thatched material on the exterior of buildings, including the roof, shall be permitted only for buildings used primarily for exhibit or demonstration purposes and for booths that are less than 100 square feet used primarily for retail sales or distribution of information.

The thatched material permitted in this section may only 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.

When thatched material is used as permitted in this section, sprinkler systems and standpipes shall be provided pursuant to the Maui County Fire Code.

**16.26C.1502 Section 1502 amended.** Section 1502 of the International Building Code is amended by adding new subsections 1502.5 Slope and 1502.6 Roof Drains 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.

**16.26C.1602.1 Subsection 1602.1 amended.** Subsection 1602.1 of the International Building Code is amended to read as follows:

**1602.1 Notations.** The following notations are used in this chapter:

$D$  = Dead load.

$D_i$  = Weight of ice in accordance with [Chapter] chapter 10 of ASCE 7.

$E$  = Combined effect of horizontal and vertical earthquake induced forces as defined in [Section] section 2.3.6 of ASCE 7.

$F$  = Load due to fluids with well-defined pressures and maximum heights.

$F_a$  = Flood load in accordance with [Chapter] chapter 5 of ASCE 7.

$H$  = Load due to lateral earth pressures, ground water pressure or pressure of bulk materials.

$L$  = Roof live load greater than 20 psf (0.96 kN/m<sup>2</sup>) and floor live load.

$L_r$  = Roof live load of 20 psf (0.96 kN/m<sup>2</sup>) or less.

$R$  = Rain load.

$S$  = Snow load.

$T$  = Cumulative effects of self-straining load forces and effects.

$V_{asd}$  = Allowable stress design wind speed, miles per hour (mph) (km/hr) where applicable.

$V_{eff-asd}$  = Effective allowable stress design wind speed, miles per hour (mph) (km/hr) where applicable, calculated per section 1609.3.1, that includes the effect of the special Hawaii factors for topographic effects and directionality.

$V$  = Basic design wind speeds, miles per hour (mph) (km/hr) determined from [Figures 1609.3(1) through 1609.3(8)] figures 26.5-2A through 26.5-2D of ASCE 7 for the Risk Category, applied to the strength design of the structure. The use of wind maps published by the Hawaii State Building Code Council, ASCE 7 Hazard Tool, and other approved documents may be used.

$V_{unt}$  = 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.

$W$  = Load due to wind pressure.

$W_i$  = Wind-on-ice in accordance with [Chapter] chapter 10 of ASCE 7.

**16.26C.1603.1 Subsection 1603.1 amended.** Subsection 1603.1 of the

International Building Code is amended to read as follows:

**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] section 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 allowable stress design wind speed, [ $V_{asd}$ ],  $V_{eff-asd}$  as determined in accordance with [Section] section 1609.3.1 and wind exposure.

4. [Seismic design category and site class.] Design spectral response acceleration parameters, SDS and SD1.
5. [Flood design data, if located in flood hazard areas established in Section 1612.3.] Seismic design category and site class.
6. [Design load-bearing values of soils.] Flood design data, if located in flood hazard areas.
7. [Rain load data.] Design load-bearing values of soils.
8. Rain load data.

**16.26C.1603.1.4 Subsection 1603.1.4 amended.** Subsection 1603.1.4

of the International Building Code is amended to read as follows:

**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 and allowable stress design wind speed,  $[V_{asd}] V_{eff-asd}$ , as determined in accordance with [Section] 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<sup>2</sup>).

**16.26C.1609.1.1 Subsection 1609.1.1 amended.** Subsection

1609.1.1 of the International Building Code is amended to read as follows:

**1609.1.1 Determination of wind loads.** Wind loads on every building or structure shall be determined in accordance with [Chapters] 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] 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] section 1609.1.1.1, the provisions of ICC 600 shall be permitted for applicable [Group] group R-2 and R-3 buildings.
2. Subject to the limitations of [Section] 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 of AISI S230.
4. Designs using NAAMM FP 1001.
5. Designs using TIA-222 for antenna-supporting structures and antennas, provided that the horizontal extent of Topographic Category 2 escarpments in [Section] section 2.6.6.2 of TIA-222 shall be 16 times the height of the escarpment.
6. Wind tunnel tests in accordance with ASCE 49 and [Sections] sections 31.4 and 31.5 of ASCE 7.

The wind speeds in [Figures 1609.3(1) through 1609.3(8)] figures 26.5-2A through 26.2-2D 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,  $[V_{asd}]$   $V_{eff-asd}$ , when the provisions of the standards referenced in [Exceptions] exceptions 4 and 5 are used.

**16.26C.1609.1.1.1 Subsection 1609.1.1.1 amended.** Subsection

1609.1.1.1 of the International Building Code is amended to read as follows:

**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] section 1609.4. [The provisions of ICC 600, AWC WFCM and AISI S230 shall not apply to buildings sited on the upper half of an isolated hill, ridge or escarpment meeting all of the following conditions:]

The prescriptive provisions of ICC 600, AWC WFCM, or AISI S230 shall not be permitted for either of the following cases:

1. [The hill, ridge or escarpment is 60 feet (18288 mm) or higher if located in Exposure B or 30 feet (9144 mm) or higher if located in Exposure C.]

Structures which are more than three stories above grade plane in height.

2. [The maximum average slope of the hill exceeds 10 percent. 3. The hill, ridge or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 2 miles (3.22 km), whichever is greater.] Structures designed using exception 3 in section 1609.2 Protection of Openings.

**16.26C.1609.2 Subsection 1609.2 amended.** Subsection 1609.2 of the International Building Code is amended to read as follows:

**1609.2 Protection of openings.** In *windborne 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 windborne debris protection:

5. Covered structures whose primary occupancy is public or educational assembly with an occupant load greater than three hundred.

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

7. Any other public building with an occupant load greater than five thousand.

8. 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  $\frac{7}{16}$  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  $[V_{asd}] \frac{V_{eff-asd}}{V_{eff-asd}}$  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. [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 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, Hawaii residential safe room, or alternatively provide an equivalently sized room structurally protected by construction complying with Section 429.5.

**16.26C.1609.2 Table 1609.2 amended.** Subsection 1609.2 of the International Building Code is amended by amending table 1609.2 to read as follows:

**Table 1609.2**  
**Wind-Borne Debris Protection Fastening Schedule For Wood**  
**Structural Panels <sup>a,b,c,d</sup>**

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 = [4.448 N] 0.454 kg, 1 mile per hour = [0.447 m/s] 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.

**16.26C.1609.3 Subsection 1609.3 amended.** Subsection 1609.3 of the International Building Code is amended to read as follows:

**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 1609.3(1) through (8)] 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 II buildings and structures shall be obtained from [Figures 1609.3(1) and 1609.3(5)] figures 6.5-2B 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 [Figures 1609.3(2) and 1609.3(6)] figures 6.5-2C 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 [Figures 1609.3(3) and 1609.3(7)] figures 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 [Figures 1609.3(4) and 1609.3(8)] figures 6.5-2A of ASCE 7. The basic design wind speed,  $V$ , shown for Hawaii in Figures 26.5-2A through 26.5-2D of ASCE 7 include topographic effects [for the special wind regions indicated] near mountainous terrain and near gorges, and shall be used with topographic factor  $K_{zt}$  of 1.0 and directionality factors given in Table 26.6-1 [in accordance with local jurisdiction requirements. The basic design wind speeds,  $V$ , determined by the local jurisdiction shall be in accordance with Chapter 26] of ASCE 7.

[In nonhurricane-prone regions, when the basic design wind speed,  $V$ , is estimated from regional climatic data, the basic design wind speed,  $V$ , shall be determined in accordance with Chapter 26 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.

### **16.26C.1609.3.1 Subsection 1609.3.1 amended.** Subsection 1609.3.1

of the International Building Code is amended to read as follows:

**1609.3.1 Wind speed conversion.** Where required, the basic design wind speeds of [Figures 1609.3(1)] figures 6.5-2A through [1609.3(8)] 26.5-2D of ASCE 7, shall be converted to effective allowable stress design wind speeds, [ $V_{asd}$ ]  $V_{eff-asd}$ , using Table 1609.3.1 or Equation 16-33.

$$[V_{asd} = V\sqrt{0.6} \quad \text{(Equation 16-33)}$$

where:

$V_{asd}$  = 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 1609.3(1) through 1609.3(8).]

$$V_{eff-asd} = V \sqrt{0.6} \quad \text{(Equation 16-33)}$$

where:

$V_{eff-asd}$  = 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.

**16.26C.1609.3 Table 1609.3.1 amended.** Subsection 1609.3 of the International Building Code is amended by amending table 1609.3.1 to read as follows:

**TABLE 1609.3.1**  
**WIND SPEED CONVERSIONS a, b, c**

$V$	100	110	120	130	140	150	160	170	180	190	200
$[V_{asd}]$ $V_{eff-asd}$	78	85	93	101	108	116	124	132	139	147	155

For SI: 1 mile per hour = 0.44 m/s.

- Linear interpolation is permitted.
- $[V_{eff}]$  = Allowable stress design wind speed applicable to methods specified in Exceptions 1 through 5 of Section 1609.1.1.]  $V_{eff-asd}$  = Allowable stress design wind speed applicable to methods specified in Exceptions 4 through 5 of Section 1609.1.1.
- $[V]$  = basic design wind speeds determined from Figures 1609.3(1) through 1609.3(8).]  $V$  = basic design wind speeds determined from Figures 26.5-2A through 26.5-2D of ASCE 7.

**16.26C.1609.3 Subsection 1609.3.2 added.** Subsection 1609.3 of the International Building Code is amended to add subsection 1609.3.2 to read as follows:

**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 Figures 1609.3.2(b) through 1609.3.2(d).

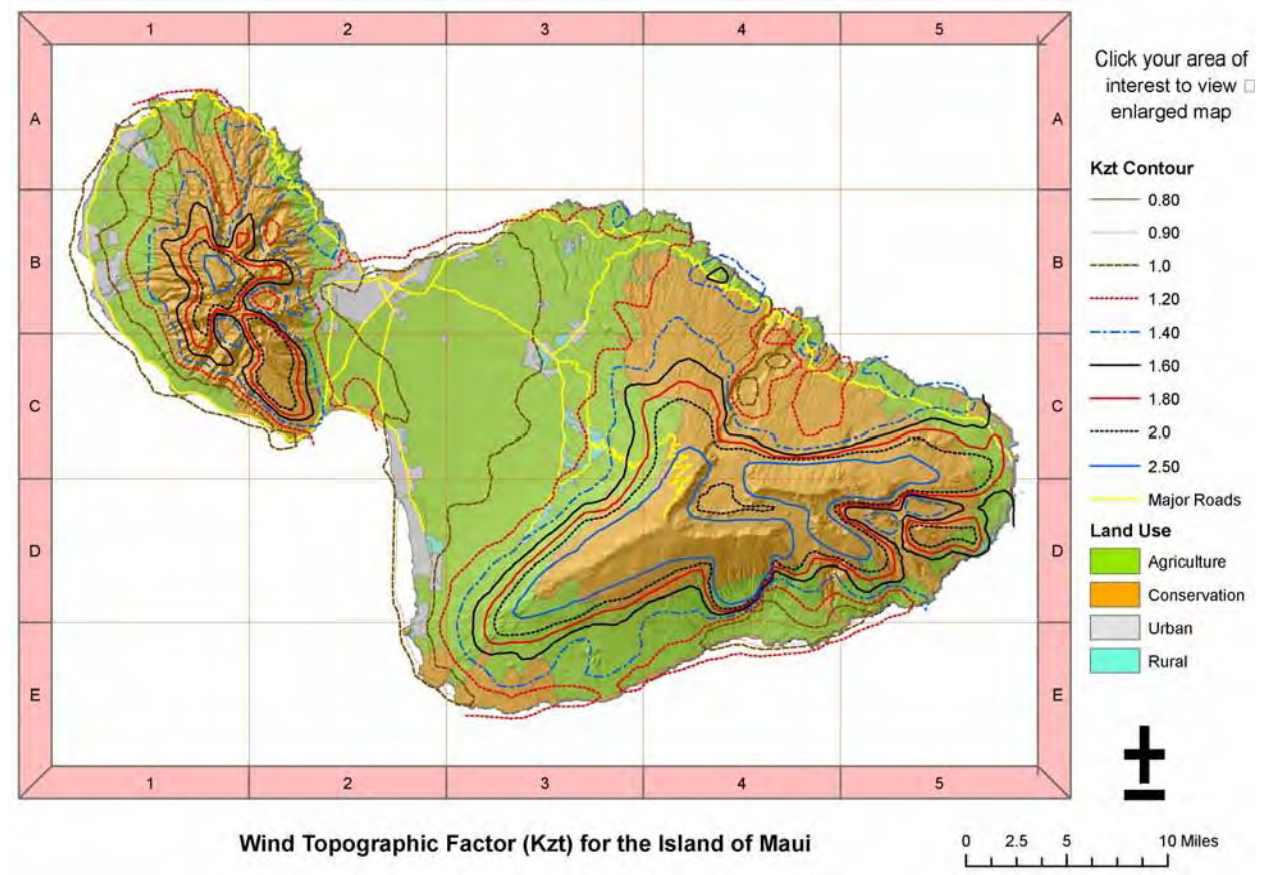
**Exception:**

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.

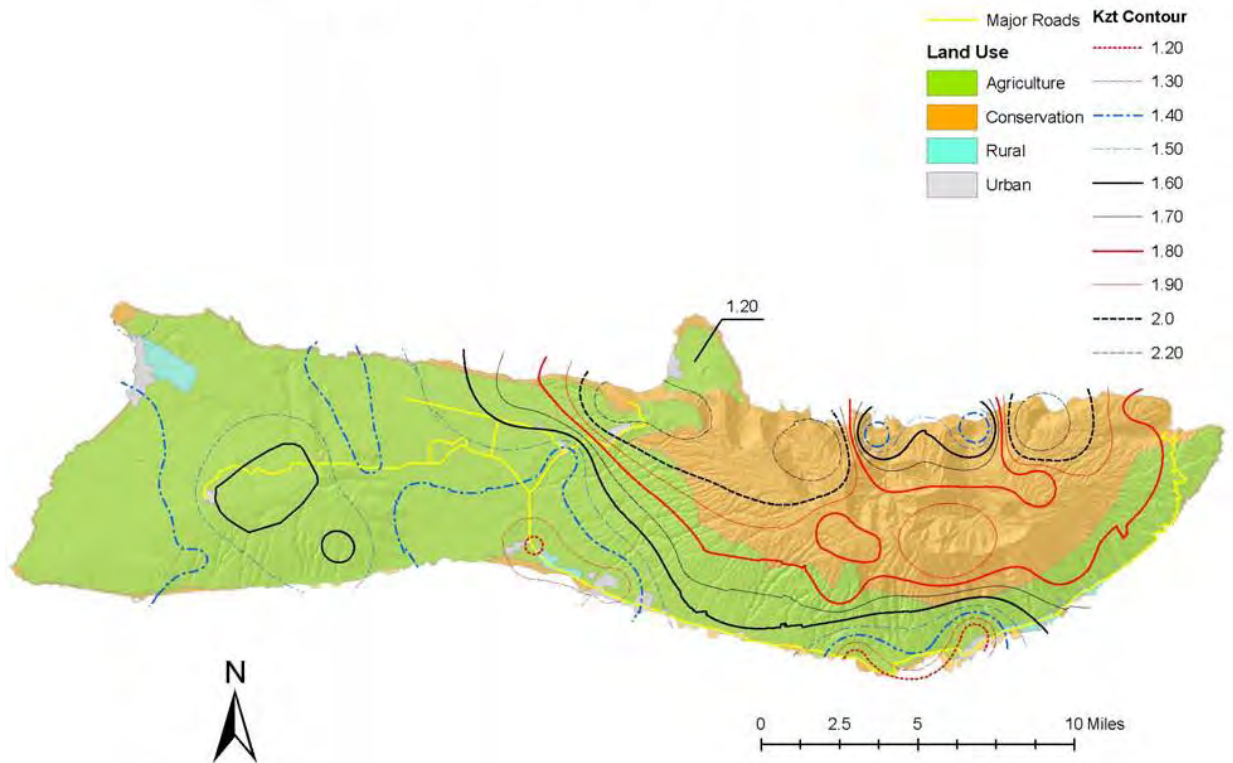
**16.26C.1609.3 Figures 1609.3.2(b) through 1609.3.2(d) added.**

Subsection 1609.3 of the International Building Code is amended by adding figures 1609.3.2(b) through 1609.3.2(d) as shown:



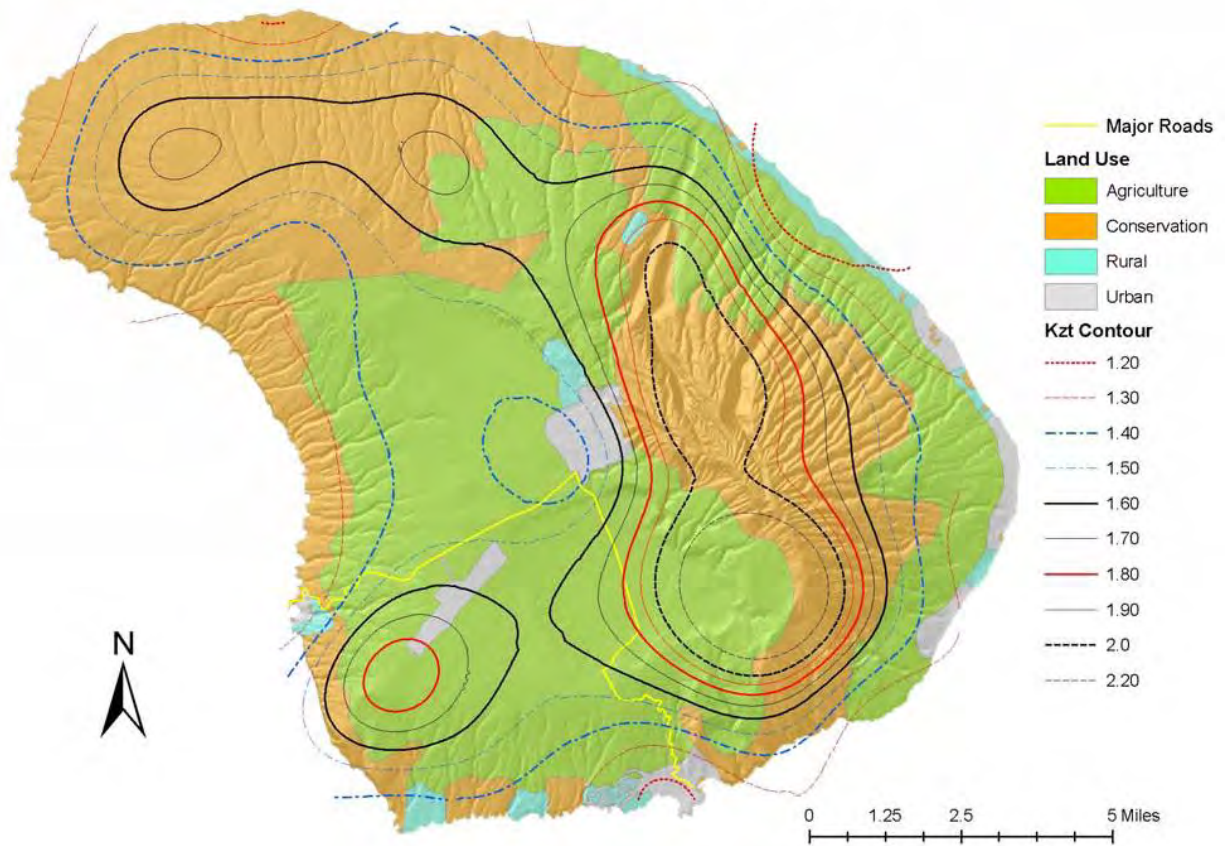
**Figure 1609.3.2(b)**  
**County of Maui, Island of Maui Peak Gust Topographic Factor  $K_{zt}$**

# Wind Topographic Factor ( $K_{zt}$ ) for the Island of Molokai



**Figure 1609.3.2(c)**  
**County of Maui, Island of Moloka'i Peak Gust**  
**Topographic Factor  $K_{zt}$**

# Wind Topographic Factor ( $K_{zt}$ ) for the Island of Lanai



**Figure 1609.3.2(d)**  
**County of Maui, Island of Lānaʻi Peak Gust Topographic**  
**Factor  $K_{zt}$**

**16.26C.1609.3 Table 1609.3.2(e) added.** Subsection 1609.3 of the International Building Code is amended by adding table 1609.3.2(e) as shown:

**Table 1609.3.2(e)**  
**Height Adjustment of Mapped  $K_{zt}$  Values at Sites with Ground**  
**Elevation Less than 500 feet**

Building roof height above ground (ft)	≤100	120	140	160	180	200	220	≥240
Adjustment factor to $K_{zt}$ ≥1.2	100%	98%	96%	94%	92%	90%	92%	94%

**16.26C.1609.3 Subsection 1609.3.3 added.** Subsection 1609.3 of the International Building Code is amended to add subsection 1609.3.3 to read as follows:

**1609.3.3 Directionality factor.** The wind directionality factor,  $K_d$ , shall be determined from table 1609.3.3(a)(2) and 1609.3.3(b)(2).

**Exception:**

Basic design wind speed,  $V$ , is determined per figures 1609.3(5) through 1609.3(8) 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.

**16.26C.1609.3 Table 1609.3.3(a)(2) added.** Subsection 1609.3 of the

International Building Code is amended by adding table 1609.3.3(a)(2) as shown:

**Table 1609.3.3(a)(2)**

**$K_d$  Values for Main Wind Force Resisting Systems Sited in Maui County <sup>a,b</sup>**

Topographic Location in the County of Maui	Main Wind Force Resisting Systems		Main Wind Force Resisting Systems with totally independent systems in each orthogonal direction		Biaxially Symmetric and Axisymmetric Structures of any Height and Arched Roof Structures
	Mean Roof Height less than or equal to 100 ft.	Mean Roof Height greater than 100 ft.	Mean Roof Height less than or equal to 100 ft.	Mean Roof Height greater than 100 ft.	
Sites on the Island of Maui at an elevation not greater than 1000 ft.	0.60	0.65	0.70	0.75	0.85
Sites on the Island of Maui at an elevation greater than 1000 ft.	0.65	.70	0.75	0.80	0.90
All other sites on the Islands of Moloka'i and Lāna'i	0.80	0.85	0.80	0.85	0.95

- The values of  $K_d$  for other non-building structures indicated in ASCE-7 Table 26.6-1 shall be permitted.
- 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 0.60.

**16.26C.1609.3 Table 1609.3.3(b)(2) added.** Subsection 1609.3 of the International Building Code is amended by adding table 1609.3.3(a)(2) as shown:

**Table 1609.3.3(b)(2)**  
 **$K_d$  Values for Components and Cladding of Buildings Sited in Maui**  
**County<sup>a,b</sup>**

Topographic Location on the County of Maui	Components and Cladding		
	Mean Roof Height less than or equal to 100 ft.	Mean Roof Height greater than 100 ft.	Risk Category IV Buildings and Structures
Sites on the Island of Maui at an elevation not greater than 1000 ft	0.65	0.70	0.75
Sites on the Island of Maui at an elevation greater than 1000 ft.	0.70	0.75	0.85
All other sites on the Islands of Moloka'i and Lāna'i	0.80	0.85	0.85

- 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 in any case, subject to a minimum value of 0.65.

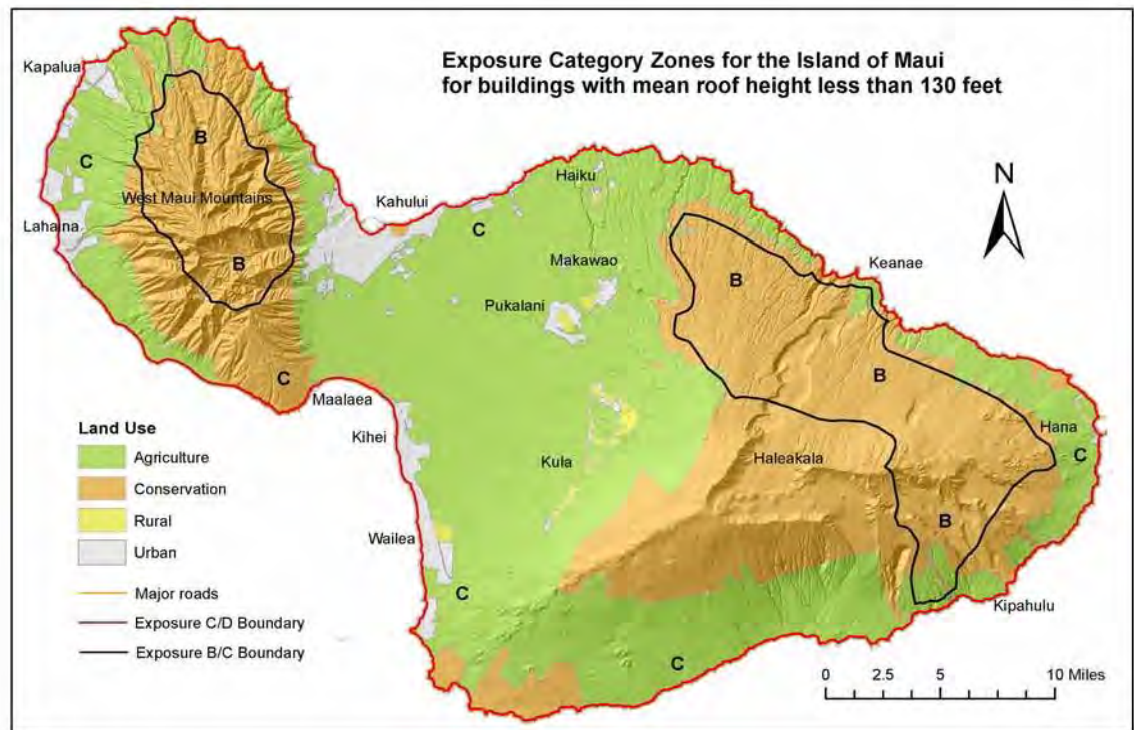
**16.26C.1609.4.1 Subsection 1609.4.1 amended.** Subsection 1609.4.1 of the International Building Code is amended to read as follows:

**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] 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 figures 1609.4(b) and 1609.4(c).

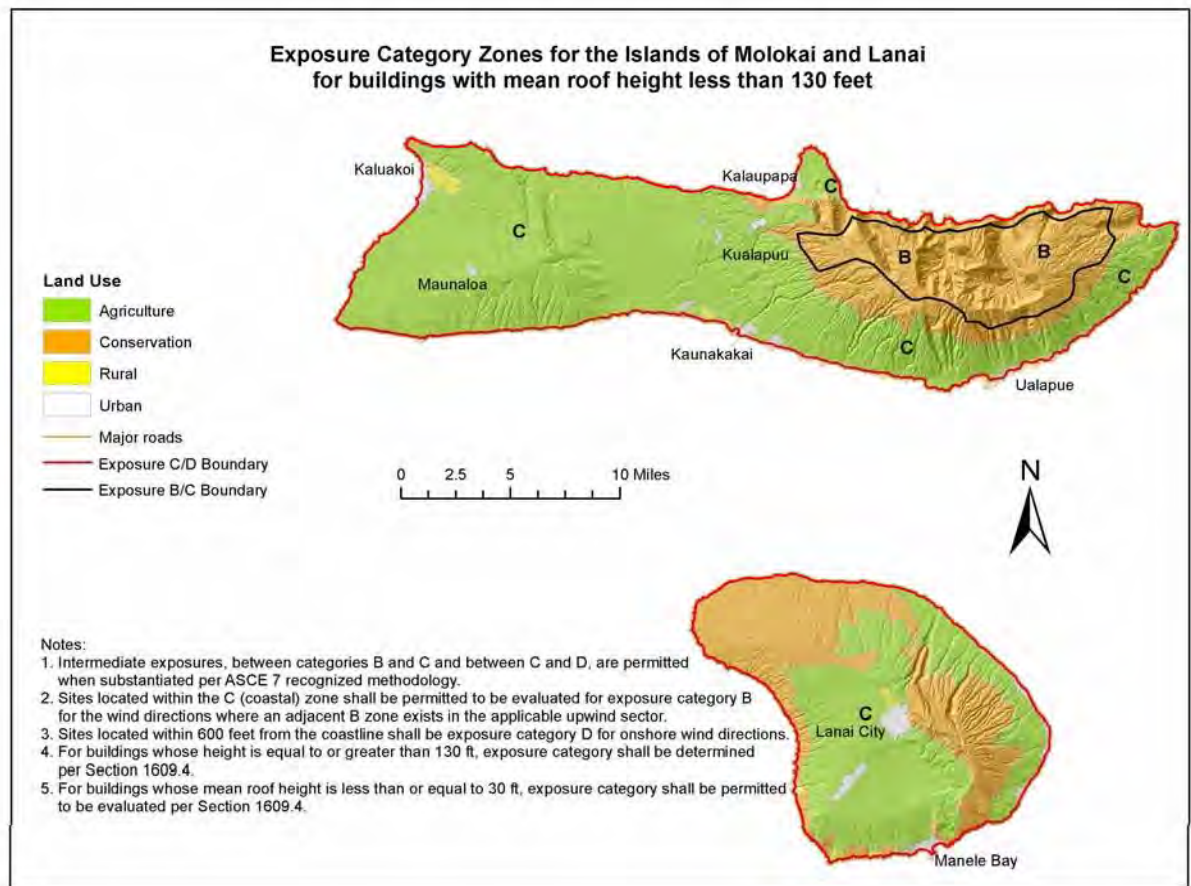
**16.26C.1609.4 Figures 1609.4(b) and 1609.4(c) added.** Subsection 1609.4 of the International Building Code is amended by adding figures 1609.4(b) through 1609.4(c) as shown:



**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.
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 (b)**  
**Exposure Category Zones for Island of Maui, Maui County**



**Figure 1609.4 (c)**  
**Exposure Category Zones for Islands of Moloka‘i and**  
**Lāna‘i, Maui County**

**16.26C.1609.5 Subsection 1609.5.4 added.** Subsection 1609.5 of the International Building Code is amended to add subsection 1609.5.4 to read as follows:

**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:

$$F = q_h(GC_p)C_N A \quad (\text{lb}) \quad (\text{N}) \quad (\text{Equation 1609-5})$$

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  $\theta$  used for the determination of  $C_N$  shall be measured as the angle of the panel with respect to the plane of the roof ( $\omega$  in Figure 29.4-7 of ASCE 7). 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,  $\omega$ , 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  $\alpha$  of 10 degrees or more from a horizontal plane shall be designed to resist the force determined by equation 1609-7:

$$F_{ballast} \geq F \left( \frac{\mu \cos \beta + \sin \beta}{\mu \cos \alpha - \sin \alpha} \right) \quad (1b) \quad (N) \quad (\text{Equation 1609-7})$$

Where:

$F$  = the normal force on each panel determined in accordance with section 1609.5.4

$\alpha$  = the angle of the roof plane with respect to horizontal.

$\beta$  = the angle of tilt of the panel with respect to the roof plane.

$\mu$  = 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.

**16.26C.1613 Table 1613.2.5(1) amended.** Section 1613 of the International Building Code is amended by amending table 1613.2.5(1) to read as follows:

**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	I V
$S_{DS} < 0.167g$	A	A	A
$0.167g \leq S_{DS} < 0.33g$	B	B	C
$0.33g \leq S_{DS} < 0.50g$	C	C	D
$0.50g \leq S_{DS} \leq 0.60g$	[D] <u>C</u>	D	D
$0.60g \leq S_{DS}$	<u>D</u>	<u>D</u>	<u>D</u>

**16.26C.1613 Table 1613.2.5(2) amended.** Section 1613 of the International Building Code is amended by amending table 1613.2.5(2) to read as follows:

**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
$0.20g \leq S_{D1} \leq 0.27g$	[D] <u>C</u>	D	D
$0.27g \leq S_{D1}$	<u>D</u>	<u>D</u>	<u>D</u>

**16.26C.1704.2 Subsection 1704.2 amended.** Subsection 1704.2 of the

International Building Code is amended to read as follows:

**1704.2 Special inspections and tests.** Where application is made to the *building official* for construction [as specified in Section 105, the owner or the owner's authorized agent, other than the contractor, shall employ one or more *approved agencies* to provide *special inspections* and tests during construction on the types of work specified in Section 1705 and identify the *approved agencies* to the *building official*. These *special inspections* and tests are in addition to the inspections by the *building official* that are identified in Section 110.] , 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 official.

**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] section 2211.1.2 or the conventional light-frame construction provisions of [Section] section 2308. For these structures, Section 1705.11 shall nevertheless apply.
4. The contractor is permitted to employ the [*approved agencies* where the contractor is also the owner.] 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.

Special inspections and tests are not required for building components unless the design involves the practice of professional engineering or architecture.

**16.26C.1704.2.1 Subsection 1704.2.1 amended.** Section 1704.2.1 of

the International Building Code is amended to read as follows:

**1704.2.1 Special inspector qualifications.** Prior to the start of the construction, [the *approved agencies*] 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 the [approved agency and their personnel are permitted to act as] special inspector and their personnel are permitted to act as special inspectors for the work designed by them, provided they qualify as special inspectors.

**16.26C.1704.2.3 Subsection 1704.2.3 amended.** Subsection 1704.2.3

of the International Building Code is amended to read as follows:

**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 in accordance with Section 1704.3.

**Exception:**

A statement of special inspections is 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.]

The construction drawings or building permit documentation shall include a complete list of special inspections required by this section and completed by the registered design professional.

**16.26C.1704.2.4 Subsection 1704.2.4 amended.** Subsection 1704.2.4

of the International Building Code is amended to read as follows:

**1704.2.4 Report requirement.** *[Approved agencies]* Special inspectors shall keep records of special inspections and tests. The *[approved agency]* special inspector shall submit reports of *special inspections and tests* to the *[building official and to the registered design professional in responsible charge]* owner and licensed engineer or architect of record. Reports shall indicate that work inspected or tested was or was not completed 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. [If they are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and tests, and correction of any discrepancies noted in the inspections or tests, shall be submitted at a point in time agreed upon prior to the start of work by the owner or the owner's authorized agent 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 in this code, 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.

**16.26C.1704.3 Subsection 1704.3 deleted.** Subsection 1704.3 of the International Building Code is deleted in its entirety:

**16.26C.1704.5 Subsection 1704.5 deleted.** Subsection 1704.5 of the International Building Code is deleted in its entirety.

**16.26C.1705.3 Subsection 1705.3 amended.** Subsection 1705.3 of

the International Building Code is amended to read as follows:

**1705.3 Concrete construction.** *Special inspections* and tests of concrete construction shall be performed in accordance with this section and Table 1705.3.

**Exception:**

[*Special inspections* and tests shall not be required for:] 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 walls 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 footing are designed in accordance with Table 1809.07.]
  - 2.2 Concrete foundation walls constructed in accordance with Table 1807.1.6.2.
  - [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. 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.]4. 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). Concrete patios, driveways and sidewalks, on grade.
- [4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.]
5. Concrete patios, driveways and sidewalks, on grade

**16 .26C.1705.11 Subsection 1705.11 replaced.** Subsection 1705.11 of the International Building Code is hereby deleted in its entirety and adding new Subsection 1705.11 to read as follows:

**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.

**1705.11.1 Complete load path and uplift ties.** Complete Load Path and Uplift Ties. Special inspection is required for metal Complete Load Path and Uplift Ties. Special inspection is required for 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 wind-force-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.

**16.26C.1804.1 Subsection 1804.1 amended.** Subsection 1804.1 of the

International Building Code is amended to read as follows:

**1804.1 Excavation near foundations.** Excavation for any purpose shall not reduce vertical or lateral support for any foundation or adjacent foundation without first underpinning or protecting the foundation against detrimental lateral or vertical movement, or both.

Requirements governing excavation, grading and earth work construction including fills and embankments shall also comply with chapter 20.08, Maui County Code.

**16.26C.1810.3.6 Subsection 1810.3.6 amended.** Subsection 1810.3.6

of the International Building Code is amended to read as follows:

**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. [for design load combinations. Where deep foundation elements of the same type are being spliced, splices shall develop not less than 50 percent of the bending strength of the weaker section. Where deep foundation elements of different materials or different types are being spliced, splices shall develop the full compressive strength and not less than 50 percent of the tension and bending strength of the weaker section. Where structural steel cores are to be spliced, the ends shall be milled or ground to provide full contact and shall be full-depth welded].

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] section 1810.2.2 to other deep foundation elements that do not have splices in the upper 10 feet (3048 mm) of embedment.

**16.26C.1904 Subsection 1904.3 added.** Section 1904 of the International Building Code is amended adding subsection 1904.3 to read as follows:

**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.

**16.26C.1905 Subsection 1905.1.9 added.** Section 1905 of the International Building Code is amended adding subsection 1905.1.9 to read as follows:

**1905.1.9 ACI 318, Section 19.3.2.1.** Modify ACI 318 Table 19.3.2.1 as follows: Change the Maximum w/cm ratio for Exposure Class CI to 0.50.

**16.26C.1905 Subsection 1905.1.10 added.** Section 1905 of the International Building Code is amended adding subsection 1905.1.10 to read as follows:

**1905.1.10 ACI 318, Section 20.7 Embedments.** Add ACI 318, Section 20.7.6 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.

**16.26C.1905 Subsection 1905.2 added.** Section 1905 of the International Building Code is amended adding subsection 1905.2 to read as follows:

**1905.2 ACI 318, Section 1.4.2,** Revised ACI 318, Section 1.4.2 to read as follows: 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.

**16.26C.2104.1 Subsection 2104.1.3 added.** Subsection 2104.1 of the International Building Code is amended adding subsection 2104.1.3 to read as follows:

**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 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. 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 minimum compressive strength of 3,000 psi;
4. Special Inspection is provided.

**16.26C.2203 Subsection 2203.2 added.** Section 2203 of the International Building Code is amended to add subsection 2203.2 to read as follows:

**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.

**16.26C.2211.1.2 Subsection 2211.1.2 amended.** Subsection 2211.1.2

of the International Building Code is amended to read as follows:

**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 of this code.

**16.26C.2302.1. Subsection 2302.1 amended.** Section 2302.1 of the

International Building Code is amended to read as follows:

**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] sections 2304, 2305 and 2306.
2. *Load and resistance factor design* in accordance with [Sections] sections 2304, 2305 and 2307.
3. *Conventional light-frame construction* in accordance with [Sections] sections 2304 and 2308.
4. AWC WFCM in accordance with [Section] 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.

**16.26C.2303.1.9 Subsection 2303.1.9 replaced.** Section 2303.1.9 of

the International Building Code is deleted in its entirety and replaced with the following:

**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 AWPAs Standard U1 (UC1 thru UC4B) for AWPAs 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<sub>2</sub>O<sub>3</sub> (0.42 pcf DOT) for exposure to Formosan termites All such lumber shall be protected from direct weather exposure as directed in AWPAs 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 AWPAs 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 AWPAs 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 AWPAs 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 AWPAs

Standard M-4-02 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 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.

**16.26C.2304.6.1 Subsection 2304.6.1 amended.** Section 2304.6.1 of

the International Building Code is amended to read as follows:

**2304.6.1 Wood structural panel sheathing.** Where wood structural panel sheathing is used as the exposed finish on the outside of exterior 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[, connections and framing spacing] 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 [the applicable wind speed and exposure category where used in] enclosed buildings with a mean roof height not greater than 30 feet (9144 mm) [and a topographic factor ( $K_{zt}$ ) of 1.0].

**16.26C.2304.6 Table 2304.6.1 amended.** Section 2304 of the

International Building Code is amended to amend Table 2304.6.1 to read as follows:

**TABLE 2304.6.1**  
**MAXIMUM EFFECTIVE ALLOWABLE STRESS DESIGN WIND SPEED, [ $V_{eff-asd}$ ]**  
 **$V_{eff-asd}$  PERMITTED FOR WOOD STRUCTURAL PANEL WALL**  
**SHEATHING USED TO RESIST WIND PRESSURES<sup>a,b,c</sup>**

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inches)	MAXIMUM WALL STUD SPACING (inches)	PANEL NAIL SPACING		MAXIMUM <u>EFFECTIVE</u> ALLOWABLE STRESS DESIGN WIND SPEED, $V_{eff-asd}^d$ (MPH)		
Size	Penetration (inches)				Edges (inches o.c.)	Field (inches o.c.)	Wind exposure category		
							B	C	D
6d common (2.0" x 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" x 0.131")	1.75	24/16	7/16	16	6	12	130	110	105
				24	6	6	150	125	110
						12	110	90	85
						6	110	90	85

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

- 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.
- 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.
- 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.
- $V_{eff-asd}$  shall be determined in accordance with Section 1609.3.1.

**16.26C.2304.12 Subsection 2304.12 replaced.** Subsection 2304.12 of the International Building Code is deleted in its entirety and replaced with subsection 2304.12 to read as follows:

## **2304.12 Protection against decay and termites.**

**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 Hawaii 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 AWP Standard U1.

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

**2304.12.4 Retaining walls.** Wood in retaining or crib wall shall be treated to AWP 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 AWP A U1 (Commodity Specifications A or F) for soil and fresh water 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 another approved physical barrier.

**16.26C.2308.1.1 Subsection 2308.1.1 replaced.** Subsection 2308.1.1

of the International Building Code is deleted and replaced to read as follows:

**2308.1.1 General.** Portions exceeding limitations of conventional light-frame construction.

Where portions of a building of 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.

**16.26C.2308.7 Table 2308.7.5 replaced.** Subsection 2308.7 of the International Building Code is amended by deleting Table 2308.7.5 and replacing with Table 2308.7.5 as follows:

**Table 2308.7.5**  
**Required Rating of Approved Uplift Connectors (pounds)<sup>a,b,c,d,e,f,g,h,i</sup>**

Effective Allowable Stress Design Wind Speed, $V_{\text{eff-asd}}$ , 3-sec gust	Roof Span (feet)							Overhangs (pounds/ft) <sup>d</sup>
	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.  $V_{eff-asd}$  is determined from Section 1609.3.1

**16.26C.2800 Chapter 28 Deleted.** Chapter 28 of the International Building Code is deleted in its entirety.

**16.26C.2902.1 Subsection 2902.1 amended.** Subsection 2902.1 of the International Building Code is amended to read as follows:

**2902.1 Minimum number of fixtures.** Plumbing fixtures shall be provided for the minimum number shown in Table 2902.1 based on the actual use of the building or space. Uses not shown on Table 2902.1 shall be considered individually by the code official. The number of occupants shall be determined by this code. Additions, alterations, or repairs to existing buildings shall comply with this chapter or the International Existing Building Code as required by the building official. The use of alternative fixture types may also be allowed.

**16.26C.2902.2 Subsection 2902.2 amended.** Subsection 2902.2 of the International Building Code is amended to read as follows:

**2902.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

**Exceptions:**

1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.
2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of **[15]** fifteen or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is **[100]** one hundred or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is **[25]** twenty-five or fewer.
5. Separate facilities shall not be required to be designated by sex where single-user toilets rooms are provided in accordance with section 2902.1.2.

6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets are installed in accordance with section 405.3.4 of the International Plumbing Code. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.
7. The building official may allow other exceptions with justification.

**16.26C.3001.1 Subsection 3001.1 amended.** Section 3001.1 of the

International Building Code is amended to read as follows:

**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.

**16.26C.3102.7 Subsection 3102.7 amended.** Subsection 3102.7 of the

International Building Code is amended to read as follows:

**3102.7 Engineering design.** The structure shall be designed and constructed to sustain dead loads; loads due to tension or inflation; live loads including wind, snow or flood and seismic loads and in accordance with [Chapter] chapter 16 of this code. Plans and specifications shall be stamped by an architect or structural engineer licensed in the State of Hawaii.

**16.26C.3102 Subsection 3102.9 added.** Section 3102 of the

International Building Code is amended by adding subsection 3102.9 to read as follows:

**3102.9 Applicability.** The provisions of this section shall not apply to residential group R as provided in section 310 of this code.

**16.26C.3103 Section 3103 deleted.** Section 3103 of the International Building Code is deleted in its entirety.”

SECTION 4. Any building permit application received by the director prior to the effective date of this Ordinance or any inspection conducted for a valid building permit that was issued prior to the effective date of this ordinance may be approved if it meets the requirements of either this code or Chapter 16.26B, Maui County Code.

SECTION 5. Material to be repealed is bracketed. New material is underscored. In printing this bill, the County Clerk need not include the brackets, the bracketed material, or the underscoring.

SECTION 6. This Ordinance takes effect on approval; however, for a period of 180 days after the effective date, an applicant for a permit or approval under this Ordinance may elect to have an application processed under the county building code in place prior to the effective date of this Ordinance.

APPROVED AS TO FORM AND  
LEGALITY:

/s/ Michael J. Hopper

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MICHAEL J. HOPPER  
Department of the Corporation Counsel  
County of Maui  
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WAI-3 2023-03-31 New Chapter 16.26C Building Code