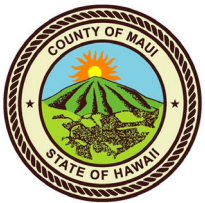


# 2018 International Building Code

Maui County Council Presentation  
March 6, 2023



Jordan Molina, Director of Public Works  
Wade Shimabukuro, DSA Administrator  
Lance Nakamura, Assistant DSA Administrator  
Jarvis Chun, DSA Supervising Building Plans Examiner

# Background - State Building Code

- ❖ Act 82, Session Law Hawaii, 2007 created the State Building Council.
- ❖ The purpose of the Council is to establish a state building code through the timely adoption of national codes that would include the latest fire code, building codes, plumbing code, electrical, and energy conservation code.

# Background - State Building Code

- ❖ Hawaii Revised Statutes (HRS), Section 107-28(a), states in part, “... Each county shall amend and adopt the Hawaii state building codes and standards listed in Section 107-25, as the referenced Hawaii state building codes and standards for its respective county building code ordinance, **no later than two years after the adoption of the Hawaii state building codes.**”
- ❖ HRS, Section 107-28(b), states, “If a county does not amend the Hawaii state building code within the **two-year time frame**, the Hawaii state building codes shall become applicable as the **interim county building code.**”

# State Building Code

DAVID Y. IGE  
GOVERNOR  
JOSH GREEN  
LT. GOVERNOR



Curt T. Otaguro  
Comptroller  
AUDREY HIDANO  
Deputy Comptroller

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
STATE BUILDING CODE COUNCIL  
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

April 20, 2021

SUBJECT: State Building Code Adoption  
Adopting the 2018 International Building Code with Amendments

The attached document is the Hawaii State Building Code as adopted on April 20, 2021 by the State Building Code Council in accordance with HRS 107-24.

No later than April 20, 2022, the design of all State building construction must comply with the attached code in accordance with HRS 107-27.

No later than April 20, 2023, each county in the State of Hawaii must amend and adopt the attached code in accordance with HRS 107-28(a).

If by April 20, 2023, a county does not amend the attached code, it shall become applicable as an interim county building code in accordance with HRS 107-28(b).

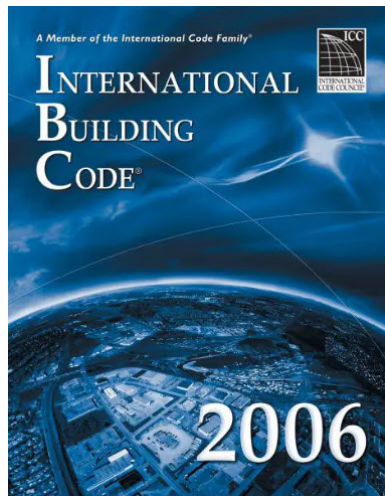
State Building Code Council

Attached: Hawaii State Building Code

❖ On April 20, 2021, The State Building Code Council approved the amendments to the 2018 IBC.

# Proposed Code Adoption

Delete the **2006 IBC**  
effective 3/19/2012



Adopt the **2018 IBC** with  
State & County amendments



# Create a New Administrative

## Chapter 16.25

- ❖ Goal is to move the administrative functions of the code to a separate chapter.
- ❖ This includes the purpose, scope, duties, building permit processing, inspection, and enforcement functions of the code. Amendments were made to update and clarify our procedures and requirements.
- ❖ Improvements to Public Streets, Post-Construction Storm Water BMPs, and Indigenous Hawaiian Architecture are also included.

# Wind Design

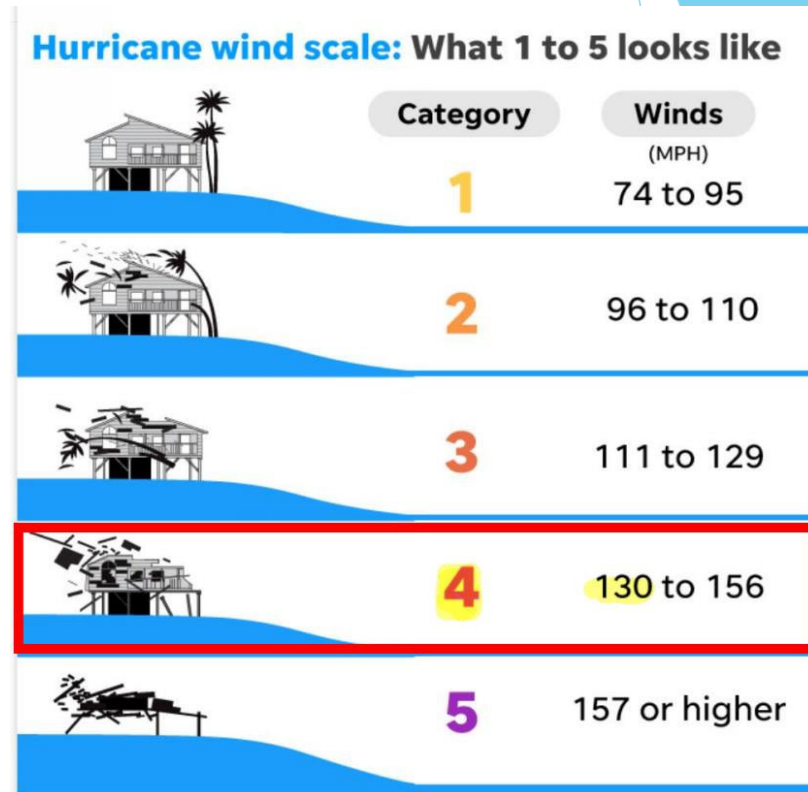
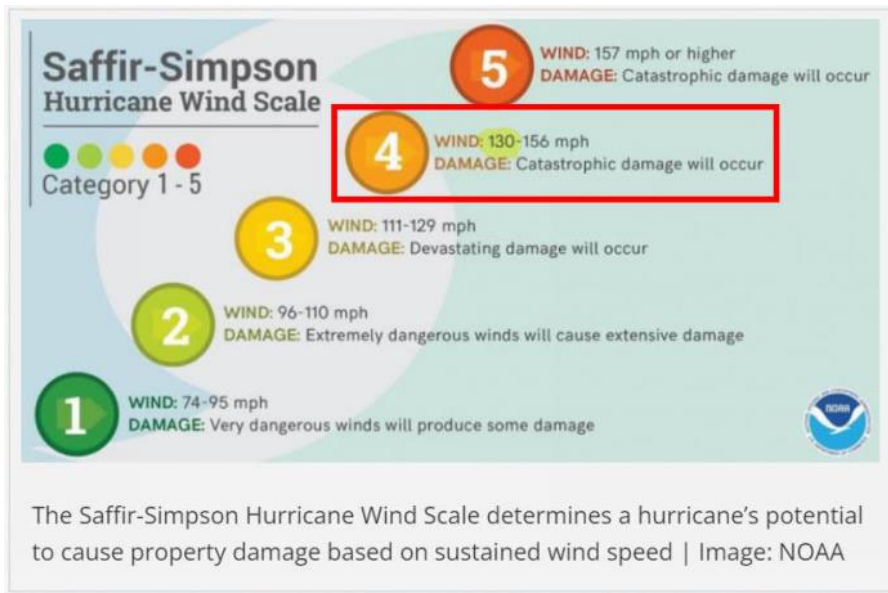
- ❖ Research has shown that Hawaii's topography is more complex than the national design standards.
- ❖ For many years, the state building code council has been working on Hawaii specific wind design provisions.
- ❖ Hawaii is within *Hurricane-Prone Region* as defined in the IBC.
- ❖ The proposed 2018 IBC, with SBC amendments, incorporates the latest code and design standards.
- ❖ The IBC and ASCE-7 references the Risk Category of the building and corresponding wind speed maps.

## Special Inspection for Wind

- ❖ A Special Inspection is a test or observation done for the integrity of the building or components. It's in addition to inspections conducted by our building staff due complexity of design and numerous inspections needed to comply with the professionals specifications.
- ❖ A Special Inspection for wind is required by the SBC when the wind speed is 120 mph or greater.

# Wind-Borne Debris Protection, Why 130 MPH or ???

- ❖ Scale estimates property damage
- ❖ Category 4 Hurricane



# Risk Category

TABLE 1604.5  
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES

RISK CATEGORY	NATURE OF OCCUPANCY
I	Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"> <li>• Agricultural facilities.</li> <li>• Certain temporary facilities.</li> <li>• Minor storage facilities.</li> </ul>
II	Buildings and other structures except those listed in Risk Categories I, III and IV.
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"> <li>• Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.</li> <li>• Buildings and other structures containing Group E occupancies with an occupant load greater than 250.</li> <li>• Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.</li> <li>• Group I-2, Condition 1 occupancies with 50 or more care recipients.</li> <li>• Group I-2, Condition 2 occupancies not having emergency surgery or emergency treatment facilities.</li> <li>• Group I-3 occupancies.</li> <li>• Any other occupancy with an occupant load greater than 5,000.<sup>a</sup></li> <li>• Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.</li> <li>• Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that: <ul style="list-style-type: none"> <li>Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and</li> <li>Are sufficient to pose a threat to the public if released.<sup>b</sup></li> </ul> </li> </ul>
IV	Buildings and other structures designated as essential facilities, including but not limited to: <ul style="list-style-type: none"> <li>• Group I-2, Condition 2 occupancies having emergency surgery or emergency treatment facilities.</li> <li>• Ambulatory care facilities having emergency surgery or emergency treatment facilities.</li> <li>• Fire, rescue, ambulance and police stations and emergency vehicle garages.</li> <li>• Designated earthquake, hurricane or other emergency shelters.</li> <li>• Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.</li> <li>• Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.</li> <li>• Buildings and other structures containing quantities of highly toxic materials that: <ul style="list-style-type: none"> <li>Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and</li> <li>Are sufficient to pose a threat to the public if released.<sup>b</sup></li> </ul> </li> <li>• Aviation control towers, air traffic control centers and emergency aircraft hangars.</li> <li>• Buildings and other structures having critical national defense functions.</li> <li>• Water storage facilities and pump structures required to maintain water pressure for fire suppression.</li> </ul>

a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.

b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

# Wind Maps based on Risk Category

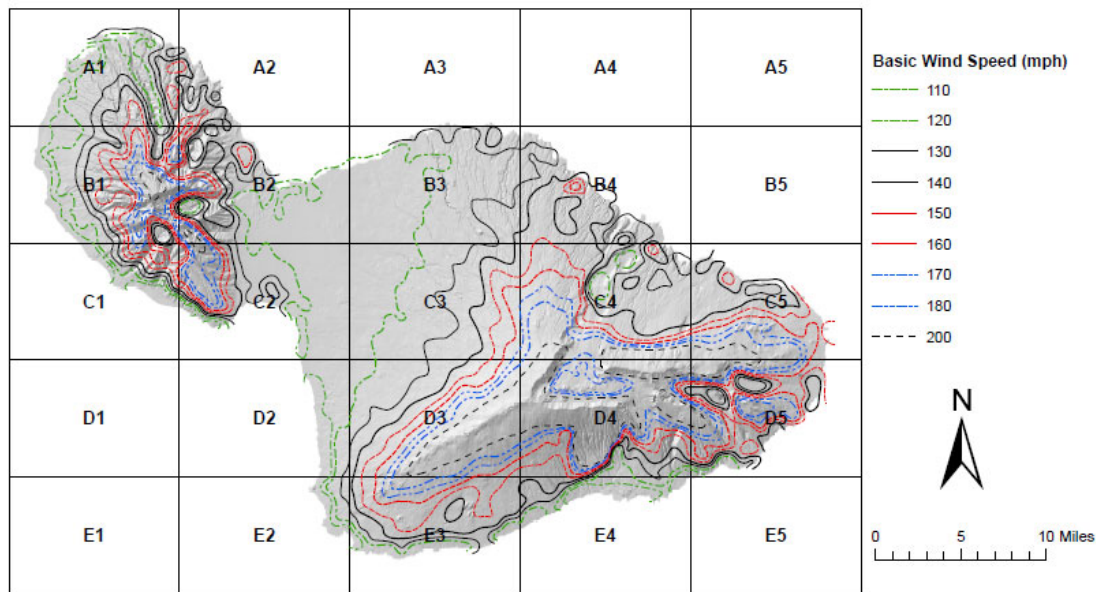
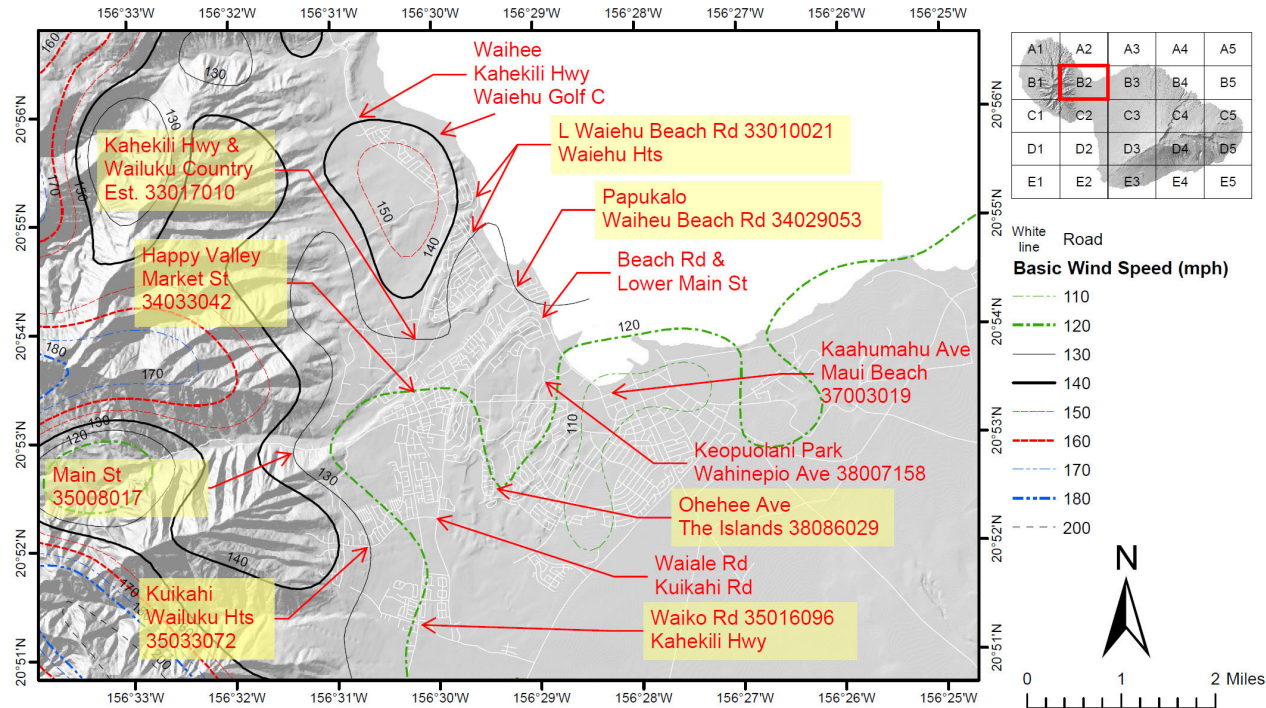


Figure 26.5-2B Basic Wind Speeds for Risk Category II Buildings and Other Structures (the Island of Maui, Hawaii)

**Notes:**

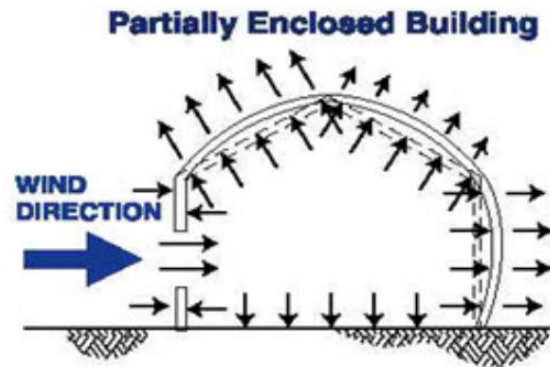
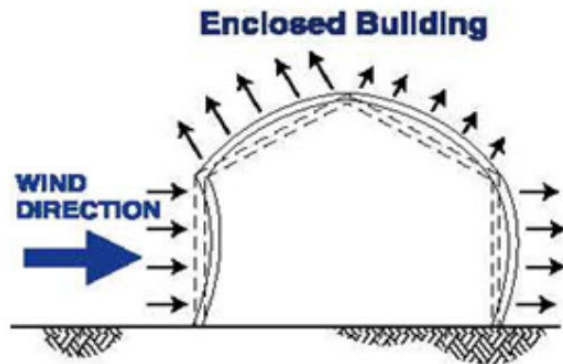
1. Values are nominal design 3-second gust wind speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category.
2. Linear interpolation between contours is permitted.
3. Islands and coastal areas outside the last contour shall use the last wind speed contour of the coastal area.
4. It is permitted to use the standard values of  $K_{zt}$  of 1.0 and  $K_d$  as given in Table 26.6-1.
5. Ocean promontories and local escarpments shall be examined for unusual wind conditions.
6. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (Annual Exceedance Probability = 0.00143, MRI = 700 Years).

# Wind Maps based on Risk Category



## Wind-Borne Debris Protection...

- ❖ Basically it's protection of the openings (windows, doors) from flying debris.
- ❖ This requirement starts where the properties wind speed is 130 mph or greater.



# Summary

*The intent of many of the proposed county amendments update our administrative functions and to adopt the most current state building code and design standards.*

**MAHALO**

Department of Public Works

Development Services Administration