



County of Kaua'i  
 Department of Public Works, Building Division  
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 Tel: (808) 241-4854

# Single Family/Duplex Plan Review Checklist

Application No. \_\_\_\_\_ - \_\_\_\_\_

“As-Built” Structure?  Yes  No

Plans shall comply with the 2018 IRC and 2018 IECC as adopted by the State of Hawai'i pursuant to HRS Section 107-28. 2018 UPC and 2017 NEC as adopted by the County of Kaua'i.

Address: \_\_\_\_\_ TMK: \_\_\_\_\_

Scope of work: \_\_\_\_\_

**1. FOUNDATIONS**

- A. Drainage: the lot shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6" within the first 10'. Exception: if drains or swales are used (IRC R401.3).
- B. Fill material for a concrete slab on grade shall be compacted and free of vegetation.
- C. Footings shall be supported on undisturbed natural soils or engineered fill.
- D. Vapor retarder: a 6-mil polyethylene or approved vapor retarder with joints lapped not less than 6" shall be placed between the concrete floor slab and the base course or prepared subgrade where no base course exists. Exception: a vapor retarder is not required for garages, utility buildings, unheated accessory structures, driveways, walks, patios, or other flatwork not likely to be enclosed at a later date.
- E. Concrete slab-on-ground floors shall be min. 3½" thick.
- F. Concrete shall have a minimum specified compressive strength at 28 days as shown in Table R402.2 (minimum 2,500 psi).
- G. Load bearing value of soil: minimum 1,500 psf per IRC Table R401.4.1.
- H. Minimum sizes for concrete and masonry footings shall be as set forth in IRC Table R403.1.
- I. All exterior footings shall be placed at least 12" below the undisturbed ground surface (IRC R403.1.4).
- J. Slab-on-grade with turned-down footings shall have a minimum of one No. 4 bar at the top and bottom of the footing (IRC R403.1.3.2).
- K. Foundations with stem walls shall have installed a minimum of one No. 4 bar within 12" of the top of the wall and one No. 4 bar located 3" – 4" from the bottom of the footing (IRC R403.1.3.1).
- L. The top of the footing shall be level. The bottom surface of footings shall not have a slope exceeding 1:10. Use stepped footings when necessary to change the elevation of the top surface of the footings.
- M. Underfloor clearances:
 

_____ min. 24" between grade & the bottom of floor joists _____ min. 6" clearance between grade and the bottom of wood members when using ipe wood	_____ min. 18" between grade and the bottom of girders _____ min. 6" ground clearance for wood members of an open slat wood deck
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- N. Drains shall be provided around foundations that retain earth and enclose habitable or usable spaces below grade.
- O. Anchor bolts: Shall be min. ½" diameter; min 7" embedment; require a nut and washer on each bolt; spaced a max. of 6' o.c.; min. 2 bolts per plate section; located not less than 7 bolt diameters (3½") nor more than 12" from the end of each section.
- P. Concrete foundation walls: min. 6" height above finished grade
- Q. Foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be dampproofed: IRC 406.1 (Waterproofing: IRC 406).
- R. Min. 18" x 24" access required for all underfloor spaces.
- S. Underfloor Ventilation: minimum 1 sq. foot of ventilation for every 150 sf of underfloor area. One opening required within 3' of each corner of the bldg.

**2. FRAMING**

- A. Diagonal bracing, lateral cross-bracing.
- B. Double plates.
- C. Minimum 22" x 30" scuttle required for attic access if:
  - the attic exceeds 30 sf; and,
  - the attic has a vertical height of 30" or more (IRC R807.1).
- D. Ceiling joist spans shall comply with Chapter 8, IRC.
- E. Brace roof framing to partition.
- F. Provide rafter ties where ceiling joists & rafters are not parallel.
- G. Double joists under parallel bearing partitions.
- H. Provide a continuous load path for roof rafters or trusses to transmit the uplift forces to the foundation.

**3. GARAGE**

- A. 1-hr separation between garage/dwelling lined with minimum ½" gypsum board. Garages beneath habitable rooms shall be separated with 5/8" type "X" gypsum board (IRC Table R302.6).
- B. 1¾" solid core or 20-minute fire resistive door required between garage/dwelling (IRC R302.5.1).
- C. No openings from a garage into a sleeping room (IRC R302.5.1).
- D. Floor shall be of approved noncombustible material (IRC R309.1).
- E. Garage floor shall be sloped toward the main vehicle entry doorway for drainage (or provide a drain).
- F. Minimum 6' 8" opening height for a garage door.

**4. INSULATION**

- A. Min. R-19 at the roof level between framing members or R-30 above the ceiling level.
- B. Min. R-15 entirely above the roof deck.
- C. Air conditioned spaces require min. R-19 insulation for thermal envelope.
- D. Alternative methods and materials may be submitted to meet minimum requirements.

**5. STAIRWAYS**

- A. Maximum 7¾" rise.
- B. Minimum 10" run.
- C. Minimum 6' 8" headroom, including landings.
- D. Minimum 36" width.
- E. Flight of stairs: maximum 12' between floor levels or landings.
- F. A handrail is required on at least one side of each continuous run of treads or flight with 4 or more risers. Each handrails may project a maximum 4½" into the required stairway width.
- G. The top of handrails shall be placed not less than 34" nor more than 38" above the nosing of the treads.

- H. The handgrip portion of the handrail shall not be less than 1¼" nor more than 2" in diameter, or equivalent shape (see Type II handrails: IRC 311.7.8.3, #2).
- I. Handrails shall have a smooth gripping surface with no sharp corners.
- J. Handrails shall have a minimum clear distance of 1½" away from the wall.
- K. Handrails shall be returned or shall terminate in newel posts or safety terminals.
- L. No handrail extensions required in residential construction.
- M. Intermediate rails shall be spaced so no object 4¾" in diameter can pass through. (Less than 4¾" in diameter)
- N. The triangular openings formed by the riser, tread and bottom element of a guard at the open side of a stairway may be of such size that a 6" sphere cannot pass through. (Less than 6" between)
- O. Min.1-hr construction for storage under stairways if space is enclosed and accessible.
- P. Stairway lighting requirements: IRC 303.7.

**6. SPIRAL STAIRS**

- A. Minimum 26" tread width
- B. Minimum 7½" tread depth @ 12" from the narrow end
- C. All treads shall be identical
- D. Maximum rise: 9½"
- E. Minimum headroom: 6' 6"

**7. GUARDS (aka Guardrails)**

- A. Required at stairs & unenclosed floor and roof openings: 36" min. height.
- B. Intermediate rails or an ornamental pattern: spaced so no object 4" in diameter can pass through. (Less than 4" between rails).
- C. Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30" above the floor or grade below.

**8. SMOKE ALARMS/CARBON MONOXIDE ALARMS**

- A. Smoke alarm required locations (must be interconnected):
  - \_\_\_\_\_ in each sleeping room
  - \_\_\_\_\_ outside each separate sleeping area in the immediate vicinity of the bedrooms
  - \_\_\_\_\_ on each additional story of the dwelling
  - \_\_\_\_\_ basements
- B. For new construction carbon monoxide alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages.

FYI: SA's shall receive their primary power from the building wiring and shall be equipped with a battery backup. They shall sound an alarm audible in all sleeping areas of the dwelling unit in which they are located.

**9. EMERGENCY ESCAPE AND RESCUE WINDOWS**

- A. Basements and every sleeping room shall have at least one operable emergency escape and rescue opening (exc. Basements used only to house mechanical equipment and not exceeding 200 sf).
- B. Openings shall open directly into a public street, public alley, yard or court.
- C. Clear opening requires ALL of the following:
  - \_\_\_\_\_ minimum 5.7 square feet
  - \_\_\_\_\_ minimum 24" height
  - \_\_\_\_\_ minimum 20" width
  - \_\_\_\_\_ maximum 44" above the finished floor
- D. Window must be openable from the inside without the use of keys, tools or special knowledge.

**10. EGRESS DOORS**

- A. Not less than one conforming exit door required (IRC R311.2).
- B. The required exit door shall provide access from the habitable portion of the dwelling to the exterior.
- C. The required exit door shall not travel through a garage.
- D. The required exit door shall be side-hinged.
- E. The required exit door shall be not less than 3' wide and 6' 8" high.
- F. There shall be a floor or landing on each side of an exterior door.
- G. The floor or landing shall not be more than 1½" lower than the top of the threshold: see exceptions: IRC 311.3.1.

**11. CARPORTS**

- A. Carports shall be open on at least two sides.
- B. Carport floor surfaces shall be of approved noncombustible materials. Exception: asphalt surfaces shall be permitted at ground level in carports
- C. Carport floor shall be sloped toward the main vehicle entry door for drainage.

**12. SAFETY GLAZING**

- A. Provide safety glazing: IRC 308.4.
- B. Jalousies shall be minimum 3/16" thick and no longer than 48" long
- C. Required glazed openings shall open directly onto a street or public alley, yard, or court on the same lot
- D. Openings must have window protection: R308.4.
- E. S.G. required in panels adjacent to a door where the nearest vertical edge is within a 24" arc of the door in the closed position and the bottom exposed edge of the glazing is less than 60" above the walking surface: R308.4.2.
- F. Glazing in individual fixed or operable panels where:
  - a. the exposed area of the individual pane is larger than 9 sf.; and,
  - b. the bottom edge of the glazing is less than 18" above the floor; and,
  - c. the top edge of the glazing is more than 36" above the floor; and,
  - d. one or more walking surfaces are within 36" horizontally of the glazing
- G. In showers, bathtubs, etc., where the bottom exposed edge of the glazing is less than 60" above the walking surface.

**13. ROOF**

- A. Provide pre-engineered wood truss drawings prepared, stamped/ signed by a registered design professional. Must be submitted/approved before Load/Uplift Ties Inspection.
- B. Roof underlayment required.
- C. Roof deck: minimum 5/8" thick: Table R803.1.
- D. Wood structural panel used as roof sheathing shall be installed with joints staggered or not staggered in accordance with Table R602.3(1), or APA E30.
- E. Opposing rafters shall be aligned at the ridge and shall be connected at the rafters with a ridge strap to resist wind uplift: R802.3.
- F. Provide attic ventilation: 1:150. R806.2.

**14. ELECTRICAL**

- A. Wall switch controlled lighting outlets required:
  - \_\_\_ habitable rooms      \_\_\_ bathrooms      \_\_\_ hallways
  - \_\_\_ stairways            \_\_\_ attached garages
  - \_\_\_ detached garages with electric power
  - \_\_\_ exterior side of outdoor entrances or exits with grade level access
- B. Lighting outlets required:
  - \_\_\_ attic                    \_\_\_ under floor spaces
  - \_\_\_ utility room           \_\_\_ basement
- C. Wall receptacle outlets 6' from openings and every 12' along walls in:
  - \_\_\_ kitchen                \_\_\_ family room      \_\_\_ dining room
  - \_\_\_ living room            \_\_\_ parlor              \_\_\_ library
  - \_\_\_ den                      \_\_\_ sun room           \_\_\_ bedroom
  - \_\_\_ recreation room      \_\_\_ other \_\_\_\_\_
- D. GFCI protection required for all single-phase 120-volt 15 and 20 amp receptacles in:
  - \_\_\_ bathrooms (all)      \_\_\_ outdoors          \_\_\_ accessory buildings
  - \_\_\_ garages (all, including the outlet(s) for the garage door opener)
  - \_\_\_ crawl spaces at or below grade level      \_\_\_ unfinished basements
  - \_\_\_ kitchens serving the countertop surfaces      \_\_\_ boathouses
  - \_\_\_ laundry, utility, and wet bar sinks: all receptacles within 6' of the outside edge of the sink
- E. Outdoor weatherproofed 15 & 20 amp 120-volt receptacles shall be installed at the front and rear of the dwelling, maximum 6.5' above grade
- F. AFCI protection required for all 120-volt single phase 15 & 20 amp circuits supplying outlets installed in dwelling unit:
  - \_\_\_ family rooms      \_\_\_ dining rooms      \_\_\_ living rooms
  - \_\_\_ parlors                \_\_\_ libraries              \_\_\_ dens
  - \_\_\_ bedrooms            \_\_\_ sunrooms            \_\_\_ closets
  - \_\_\_ recreation rooms      \_\_\_ hallways            \_\_\_ similar rooms/areas

Note: AFCI protection NOT required in kitchens, bathrooms, unfinished basements, garages, outdoors, in laundry rooms or for 220-volt equipment.
- G. A dwelling unit shall be supplied by only one electrical service meter.
- H. Trench for electrical conduit:
  - \_\_\_ min. 18" deep      \_\_\_ caution tape at 12" below grade; parallel with pipe.
- I. Outdoor lights must be suitable for a damp location.
- J. Shower lights must be suitable for a wet location.
- K. Provide weatherproof protection for outdoor receptacle(s).
- L. Outlets on opposite sides of the fire wall shall be separated horizontally by at least 24".
- M. Electrical receptacle required within 3' of each bathroom basin.

**15. MISCELLANEOUS**

- A. Walls and soffit lined with 1/2" gypsum board.
- B. Water Heater: if gas heater, provide vents according to the 2018 Uniform Plumbing Code.
- C. Clothes dryers shall be exhausted to the outside air.
- D. Hallway: minimum 36" width.
- E. Recommend: minimum 30" vertical clearance from the cooking top to the bottom of unprotected combustible material.
- F. Show North, East, South and West elevations and provide the north arrow.
- G. TMK shall be listed on all plan pages.
- H. Provide lot dimensions and label the property lines.
- I. Provide a scale for all drawings.
- J. Show location of utilities: cesspool/septic or sewer connection, water lateral, electric meter location and underground/above ground connections.
- K. Show right-of-ways and easements.
- L. Permit required for retaining walls >4' high. Retaining walls ≥5' will require a stamp from an architect or engineer.
- M. Factory-built fireplaces shall be listed and labeled and shall be installed in accordance with the conditions of the listings and shall be UL127 tested.
- N. Requires a solar water heater, or provide variance from the State of Hawaii.
- O. Swimming pool (IBC 3109.4): (exception: a power safety cover)
  - \_\_\_ Min. 4' high fence      \_\_\_ Openings in fence < 4"
  - \_\_\_ Gate: self-closing & self-latching
- P. A signed Energy Code compliance form is required.
- Q. Plans must be stamped and signed by an architect or engineer, licensed in the State of Hawai'i, and must contain the statement: **"This work was prepared by me or under my supervision and construction of this project will be under my observation."**
- R. Provide an approved weather-protective barrier under the siding.
- S. Toilets: provide 30" minimum width, and 24" min. in front of the toilet.
- T. Show a solar hot water system on the plans and show the location of the storage tank and solar collectors.

**16. OTHER REQUIREMENTS**

- A. Soil Treatment and Termite Barriers:
 

Where the plates, sills, and structural lumber of wood frame buildings or structures are supported directly on the ground by concrete blocks, a concrete slab or masonry foundation, either the soil beneath the building or structure may be chemically treated at the recommended level rates by a licensed operator to control ground termites, or, anti-termite sand or other termite barriers approved by the Building Official may be installed.
- B. Treatment for Structural Lumber:
 

All structural lumber including posts, beams, rafters, joists, trusses, studs, plates, sills, sleepers, roof and floor sheathing, flooring and headers of buildings, structures and additions shall be treated in the following manner:

  1. Treated in accordance with American Wood-Preservers Association (AWPA) Standard C1, C2 and C9 for ACZA and ACQ, and labeled by an approving agency; or,
  2. Treated with inorganic boron or other preservative as approved by the building official, and labeled by an approving agency; or,
  3. Treated in accordance with the former American Wood Preservers Bureau (AWPB) approved Hawai'i Local Area Standard, and labeled by an approved agency; or,
  4. For structural glued laminated members made up of dimensional lumber or other engineered wood products, shall be protected by chemical treatment applied at the

recommended label rates by an operator licensed to control ground termites, or in accordance with AWPA Standards C-28 and C-33 or other approved preservative system.

Treatment shall include the following:

1. A quality control and inspection program which meets or exceeds the current requirements of AWPA Standards M2 and M3;
2. Inspection and testing are for the treatment standards as adopted by this Code, and shall be by an approved independent agency 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 the manufacturer's instructions; and,
4. Labeling of all structural lumber 2 inches or greater nominal thickness. All other lumber less than 2 inches in nominal thickness shall be identified per bundle by means of a label not less than 6 inches by 8 inches, and shall be placed on the lower left corner of the strapped bundle.

**C. Numbering Requirements and Specifications**

All owners of houses and buildings shall install or affix to the house or building the numbers applicable thereto in a manner as to be readily visible from the road. The numbers shall be placed at the entrance of a driveway and on the house or building when the house or building is more than 25 feet from the road. The numbers shall be a contrasting color from the background on which they are placed, at least three inches in height, securely affixed in a permanent manner and shall not be readily effaceable. Your assigned house number is: \_\_\_\_\_

**17. REQUIRED INSPECTIONS**

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.

The building official, upon notification from the permit holder or his agent shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his agent wherein the same fails to comply with this code:

**A. FOUNDATION INSPECTION:**

To 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. All materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ICC Standard No. 26-13, 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.

**B. CONCRETE SLAB OR UNDER-FLOOR INSPECTION:**

To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is placed or floor sheathing installed, including the subfloor.

**C. COMPLETE LOAD PATH AND UPLIFT TIES INSPECTION:**

To be made after tie straps, approved framing anchors or mechanical fasteners are installed and prior to concealment by sheathing.

**D. FRAMING INSPECTION:**

To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing, and heating wires, pipes and ducts are approved.

**E. INSULATION INSPECTION:**

Must be inspected prior to covering walls.

**F. LATH AND/OR GYPSUM BOARD INSPECTION:** To be made after all lathing and gypsum board, interior and exterior, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

**G. FINAL INSPECTION:**

To be made after finish grading and the building is completed and ready for occupancy.

Checked: \_\_\_\_\_

Residential Plans Examiner

Date