

AHFC New Construction Inspection Guidelines

.01 Introduction

The following information is provided as a guide for the completion of inspections for new residential construction in compliance with the below requirements:

In accordance with Alaska Statute (AS) 18.56.300, residential housing constructed on or after July 1, 1992, must undergo an approved inspection process to be eligible for financing by Alaska Housing Finance Corporation (AHFC). The minimum number of inspections, documentation, and other requirements are outlined below. Residential housing located in approved municipalities as described in .09 is exempt; however, such housing is subject to the building codes adopted and enforced by the approved municipality.

In accordance with Alaska Administrative Code (AAC) 15 AAC 150.040, the Corporation will not make, participate in the making of, purchase, or participate in the purchase of a loan for a residential building, the construction of which begins after December 31, 1991, unless the building complies with the building energy efficiency standard adopted by the Corporation in 15 AAC 155.010. Inspection criteria and compliance certification requirements are located in section .04 Building Energy Efficiency Standard (BEES) Compliance.

Exception: residential construction participating in the Nonconforming housing program per 15 AAC 151.600.

This guide is subject to change and may be updated by AHFC without prior notification. Please visit www.AHFC.us to obtain the most current version.

.02 Independent Inspector Requirements

Only an authorized inspector meeting the following definition may perform the required inspections. An authorized inspector is not hired by, and has no relationship to, AHFC, nor a relationship (personally or financially) to the builder, developer, owner, real estate professional or other person that is a party to the transaction.

An authorized inspector is:

- An individual who is registered under AS 08.18 to perform home inspections for new construction.
- An architect licensed under AS 08.48, an engineer licensed under AS 08.48, or such other person acceptable to AHFC who has received prior approval in writing from AHFC.

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- An inspector from any governmental agency outside the State of Alaska, whose function is the inspection of prefabricated/modular units which may be transported to the State of Alaska, and who inspects prefabricated units for compliance with the AHFC construction standards. This inspector may not be an employee of the manufacturer.

.03 Required Inspections

A minimum of five (5) inspections is required; more may be necessary, depending on the construction methods used. An authorized inspector performs each inspection and completes AHFC Form PUR-102, Summary of Building Inspections.

A. Plan Approval

Plan review and approval is the first inspection and should be completed prior to the beginning of construction. (Refer to .11.B for the definition of “construction start.”)

Plan review and approval for structures containing 4 dwelling units shall be conducted in accordance with and including the provisions set forth in 13 AAC 50.020 Building code, or as required by the deferred jurisdiction having authority. Plan approval by The Department of Public Safety or the deferred jurisdiction having authority is required for structures of this type prior to construction start.

B. Footings and Foundation

Footings and foundation should be supported by undisturbed natural soils or engineered fill that complies with the applicable state building code. Footings and foundation construction should be capable of accommodating all loads and of transmitting the resulting loads to the supporting soil according to the applicable state building code.

1. Footings

Exterior walls should be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems. An inspection is made after excavations for footings are completed and any required reinforcing steel is tied in place. When applicable, ground cable should be installed.

2. Foundation

Inspections may vary depending on the type of construction and the supporting soil. The foundation inspection includes, but is not necessarily limited to, an inspection of the foundation’s reinforcement, depth, drainage, anchorage, elevation, backfill, and waterproofing or damp-proofing.

C. Rough-In Inspections (Framing, Electrical, Plumbing, and Mechanical)

1. Framing

Interior and exterior walls should be constructed according to the type of material used as specified in the state building code. The framing inspection should be

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made after all electrical, plumbing, and mechanical rough-in has been inspected and all ducts, chimneys, hold-downs and shear walls are installed and framing is complete. Pre-assembled walls must be International Code Council (ICC) listed. The manufacturer must comply with ICC's quality control requirements, continuing to keep the wall assemblies listed, as long as the wall assemblies are used in new construction.

Either the manufacturer of the pre-assembled walls or the contractor using them must provide the authorized inspector with a copy of the third-party evaluation report on the wall assembly. The authorized inspector must verify that each wall assembly is, at a minimum, stamped with: 1) the name and address of the manufacturer and 2) the third-party evaluation report number.

2. Electrical

The electrical inspection includes an examination of the material components, and electrical equipment installed. All rough wiring for the structure and the electrical service is inspected at the same time. Rough-in inspection includes, but is not necessarily limited to, all wiring within the walls, all circuit breakers, panel boards and ground splices terminated by mechanical means. The inspection takes place after all wiring systems, including the ground conductor, have been installed in approved boxes, cabinets, and service equipment. Switches, receptacles and fixtures should not be installed at the rough-in. Inspection includes verification of compliance with the mandatory measures of BEES Section R404 Electrical Power and Lighting Systems with the exception of the mandatory measures listed in .04 A Energy Rater Certified Mandatory Measures.

3. Plumbing/Mechanical

In accordance with the state building code, the plumbing and mechanical systems are inspected prior to covering or concealing any portion of the system. The inspection takes place after the installation of all water piping, drain, waste vent piping, fuel gas piping, HVAC ducting, range, dryer and bath exhaust ducting, furnace, boiler, water heater, unit heaters, and/or other fuel fired appliances and their venting system. Also in accordance with the state building code, water or air pressure testing is required on all water, drain, waste and vent piping. Air pressure testing is required on all fuel gas piping. Mechanical inspection includes verification of compliance with the mandatory measures of BEES Section R403 Systems with the exception of the mandatory measures listed in .04 A Energy Rater Certified Mandatory Measures.

D. Insulation and Vapor Barrier

Generally, the insulation/vapor barrier inspection is completed after the rough-in framing, electrical, plumbing and mechanical inspections are approved, all insulation has been installed in ceilings and walls, and all vapor retarder is in place and sealed. The authorized inspector must also have adequate access to determine compliance with Alaska Building Efficiency Standard (BEES). Inspection includes verification of compliance with the mandatory measures of BEES Section R402 Building Thermal

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Envelope with the exception of the mandatory measures listed in .04 A Energy Rater Certified Mandatory Measures.

E. Conditional Approval

A conditional approval is acceptable **only** when unfinished items cannot be completed due to weather or other delays beyond the builder's/contractor's control. Conditioned items must not pose a risk to health or life/safety or impact the results of the Energy Rating or compliance with the Mandatory Measures of the applicable Building Energy Efficiency Standard. The lender is responsible for ensuring timely completion of the work and obtaining final documentation. Conditional Approval is not required if Final Approval is granted.

F. Final Approval

Generally, the final inspection takes place when a residential unit is 100% complete.

.04 Building Energy Efficiency Standard (BEES) Compliance

A. Energy Rating Verified Mandatory Measures

1. R405.3 Performance-based compliance; At least an AkWarm rating of 89 (Five-Star) or equivalent to qualify.
2. R402.4.1.2 Testing; An air-tightness level of 4 ACH₅₀, or less, utilizing an AHFC-approved blower-door testing protocol.
3. R403.2.2 Sealing; A duct tightness test for all heating and ventilation duct systems which are located outside of the building thermal envelope.
4. R403.5 Mechanical ventilation; Ventilation flow measurements showing compliance with the whole-house and spot ventilation requirements set forth in ANSI/ASHRAE Standard 62.2-2010 as amended by AHFC.
5. R403.10.1 Combustion Safety Testing; Combustion safety testing completed in accordance with AHFC regulations; combustion safety testing must be conducted under normal and worst case conditions.
6. R402.4.2 Fireplaces; New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.
7. R402.4.3 Fenestration Air Leakage; Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m²), and swinging doors no more than 0.5 cfm per square foot (2.6/L/s/m²), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.
8. R403.6 Equipment sizing and installation; Heating and cooling equipment shall be sized in accordance with the Air Conditioning Contractors of America Association, Inc.'s (ACCA) Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. The AkWarm design heating load methodology is an approved heating calculation methodology. All heating, cooling, and ventilating equipment shall be installed in accordance with the manufacturer's installation instruction and the requirements of this code. All heating and cooling equipment shall be sized to meet less than 125% of the load calculated by

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the method provided in ACCA Manual J or other heating and cooling load calculation methodology whenever this is feasible given the size options for the equipment available from the manufacturer; when this is not feasible, the equipment delivering the smallest output that will satisfy the load calculation shall be chosen.

9. R403.7 Systems serving multiple dwelling units; Systems serving multiple dwelling units may include a safety factor of up to 20%.

B. Construction Inspection Certified Mandatory Measures

a. Performance Method

i. Mandatory Items Certified through Completion of Required Inspections

1. R402.4 Air Leakage, with the exception of blower door testing.
2. R402.4.1 Building Thermal Envelope, with the exception of blower door testing
3. R402.4.1.3 Crawl Space Vapor Retarder
4. R402.4.4 Recessed Lighting
5. R403.1 Controls
6. R403.1.2 Heat Pump Supplementary Heat
7. R403.2.2 Sealing, with the exception of duct leakage testing
8. R403.2.3 Building Cavities
9. R403.3 Mechanical System Piping Insulation
10. R403.4.1 Circulating Hot Water Systems
11. R403.5 Mechanical Ventilation, with the exception of flow testing
12. R403.8 Systems Serving Multiple Dwelling Units, with the exception of system sizing.
13. R403.8 Snow Melt System Controls
14. R403.9 Pools and In Ground Permanently Installed Spas
15. R403.9.1 Heaters
16. R403.9.2 Time Switches
17. R403.9.3 Covers
18. R404.1.1 Lighting Equipment

b. Prescriptive Method

i. Mandatory Items Certified through Approved third party Inspection

1. All Mandatory and Prescriptive Measures.

.05 Prefabricated/Modular Homes

Prefabricated/modular homes are constructed in a factory under “ideal” conditions, structurally engineered to be built in sections or modules, which can be transported to the site. During construction modular units must be inspected by the appropriate governmental entity in the state or country in which the unit is manufactured, or by an authorized inspector. The purpose of the inspection is to provide oversight and to ensure compliance with current adopted building codes. An authorized inspector may perform all the inspections listed on the applicable Form PUR-102, or in some cases, do so in combination with a governmental entity who certifies compliance with framing, electrical, plumbing, mechanical, insulation, and vapor barrier. (Refer to .06 for a description of PUR-102 forms.)

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A. Plans and Inspections

If a governmental entity in the state or country where the construction takes place performs the inspections, an authorized inspector must complete a plan review **prior** to the plans being submitted to the governmental agency. The plans must clearly specify the seismic zone, along with the wind and snow loading requirements for the community where the unit is to be located.

The governmental agency must conduct a plan review as well as inspecting the construction of the unit.

B. Governmental Seal/Insignia

Modular units **must** have an insignia/seal attached to each completed unit. For inspections performed by an authorized inspector in conjunction with a governmental entity, the seal shall be attached by the governmental entity at the factory. Modular manufacturers who are using authorized inspectors for the entire inspection process must develop a seal/insignia. The seal/insignia must include, at a minimum; the manufacturer's name and address, serial number of the unit along with the year built, wind and snow loading requirements and seismic zone for which the unit has been designed, construction codes used, dates of inspections, and the inspector's name. The authorized inspector must permanently affix the seal/insignia to the unit.

C. On-site and Final Inspections

An authorized inspector must complete the foundation inspection. When the modular unit is placed on the foundation, the authorized inspector must verify that the sections have been properly joined and connected according to the manufacturer's recommendations; the vapor retarder has been properly sealed, all service connections are complete and all systems are operational. The manufacturer's seal/insignia must be present and permanently attached to each section.

.06 Manufactured Homes

Manufactured homes placed on permanent foundations must comply with all the requirements of Housing and Urban Development (HUD) Regulations 24 CFR Parts 3280 and 3282 for the specific area of Alaska in which the unit is being placed.

An authorized inspector must approve the foundation plans, and inspect the footings and foundation. The inspector must be on site to certify that multi-section units are joined according to manufacturer instructions, the vapor retarder has been properly sealed, and all service connections are properly secured and operational.

Once the manufactured home has been placed on its foundation, the authorized inspector performs the final inspection to ensure the unit is properly secured, tied down and the HUD seal/insignia is in place.

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.07 Inspection Forms

AHFC designed Form PUR-102, Summary of Building Inspections, for the authorized inspector to sign certifying that the residential unit is in compliance with the state building code.

- [Form PUR-102](#) for site built homes.
- [Form PUR-102-MD-Gov](#) for prefabricated/modular homes inspected by a governmental entity inspector **and** an authorized inspector. In addition, the governmental entity's inspection report must be recorded as addendum "A."
- [Form PUR-102-MD-Fee](#) for prefabricated/modular homes inspected by an authorized inspector only.
- [Form PUR-102-MH](#) for manufactured/mobile homes.

AHFC recognizes that more than one authorized inspector may perform inspections at various stages of construction; it is recommended that the applicable PUR-102 remain on the construction site until all inspections are completed. A certification must be made for each of the required inspections. The final inspector may rely on the certifications of the previous inspectors when signing the final inspection certifying compliance with the law.

After the builder/contractor signs the applicable PUR-102 certifying compliance with AS 18.56.300 and 15 AAC 150.030, the form should be recorded. **Recording the PUR-102 is the only means of tracking compliance with the law.** Any interested party, such as the builder, owner, or lender may take responsibility for doing so.

.08 Codes and Appendixes

All inspections are based on the 2012 International Residential Code (IRC) with AHFC amendments established by AS 18.56.300; inspection for structures with 4 dwellings shall also meet the provisions set forth in 13 AAC 50.020 Building code. The construction standards mean:

- For building standards, the code for all residential buildings, including those for buildings with four or fewer dwellings, set out in the version of the 2012 IRC with AHFC amendments.
- For mechanical standards, the code adopted by the Department of Public Safety under AS 18.70.080.
- For plumbing standards, the code adopted by the Department of Labor under AS 18.60.705 except where such code conflicts with requirements for residential wastewater disposal established by the Department of Environmental Conservation (DEC) in which case the requirements of the DEC shall be the standard.
- For electrical standards, the code adopted by the Department of Labor and Workforce development under AS 18.60.580.

.09 Approved Municipalities

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Annually, AHFC reviews all municipalities who submit documentation for inspection approval. In order for a municipality to obtain approval, it must **adopt and enforce** codes that meet or exceed the state building code for residential housing. (Refer to .08 Codes and Appendixes.)

AHFC determines which municipalities comply with the inspection procedures mandated by AS 18.56.300 and prepares a list for public use. The [List of Approved Municipalities](#) in the Appendix consists of the municipalities that have building codes and enforcement procedures that meet or exceed the state building code for residential housing. An approved municipality issues a “Certificate of Occupancy” or “CO” as evidence of compliance.

.10 Liability of Inspectors

In accordance with AS 18.56.300 (c), a person may not bring an action for damages against an authorized inspector who inspected a residential unit unless the action is for damages caused by the gross negligence or intentional misconduct of the inspector.

.11 Definitions

A. Inspection

Except for plan approval, an inspection means an “on-site” inspection(s) of the construction project.

Exception: With AHFC’s prior written approval, foundation inspections in rural areas (those meeting the definition of “rural” in the Selling Guide Section 1003), may be conducted by videotape, representative stationary photos, or other acceptable methods. A disinterested third party should take the videotape and/or representative photos, which must fully represent the work performed and the inspection being conducted.

B. Construction Start

AHFC considers construction to have begun if the pilings, footings, or foundation has been started.

Destructive Inspection

.01 Introduction

In accordance with Alaska Statute (AS) 18.56.300, residential housing constructed on or after **July 1, 1992**, must undergo an approved inspection process to be eligible for financing by Alaska Housing Finance Corporation (AHFC). If the inspections were not performed, meeting this requirement may be difficult. Satisfactory completion of a “destructive inspection,” by an authorized inspector **and** an engineer, **may** satisfy this requirement when accompanied by a signed and notarized *Destructive Inspection Certification*. Following are minimum procedures for conducting a “destructive inspection.”

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AHFC does not encourage this type of inspection to certify compliance with the law. Therefore, the borrower(s) must acknowledge and accept the inspection report and agree to hold AHFC harmless of any deficiencies in construction of the residence.

.02 Guidelines

An authorized inspector and engineer must conduct a physical inspection of the property. Using inspection procedures as outlined below, the authorized inspector and engineer determine whether or not a property (that was not initially inspected) complies with statutes. The inspector completes the applicable AHFC Form PUR-102, **and a *Destructive Inspection Certification***, if the property is in compliance.

The authorized inspector retains the following items for a period of five (5) years and makes them available to AHFC upon request; authorized inspector's and engineer's written report, continuous video recording of the inspection and stationary color photos as required below.

.03 Inspection Procedures

The following aspects of construction must be addressed in the written reports as described.

A. Plan Approval

Plans are reviewed and approved by both the authorized inspector and engineer. The engineer should calculate the adequacy of the size and span of the floor joist and beams. The engineer's report should address the depth of the footings and adequacy of the foundation for soil conditions. The engineer should state that the improvements are structurally sound and generally meet the state building code.

B. Footings and Foundation

The engineer must certify that he/she has conducted tests on the footings and foundation walls. Tests must establish that reinforcement steel (rebar) was properly sized and placed in concrete. If the foundation consists of pilings (driven or drilled), a copy of the piling installer's log must be reviewed to verify depth and adequacy for the structure and soil conditions.

C. Framing, Electrical, Plumbing and Mechanical

Refer to *New Construction Inspection Guidelines*, **.07 Codes and Appendixes**, for related code information.

1. Framing

The report must include photos that show framing connectors are properly installed (i.e. truss hold-down clips), the attic is properly vented, and all flashing required is in place. The authorized inspector must certify that handrails and guardrails meet codes.

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2. Electrical

The following electrical items require inspection:

- All electrical outlets must be tested and demonstrate continuous sequencing. The electrical panel box should be properly wired and marked; photos should be provided.
- Smoke detectors should be operational and conform to code.
- Any areas where a G.F.C.I. outlet is required should be properly wired.

In addition, a hole must be cut in the sheetrock in at least two locations (other than the laundry room) to inspect wiring at the junction box. Photos evidencing wiring properly stapled at the box should be included.

3. Plumbing

Plumbing must conform to the state building code. The inspection must include a water or air pressure test on the waste vent and water system. In the laundry area, bathroom, or kitchen, a hole must be cut in the sheetrock to inspect the wastewater and venting in the plumbing wall. Photos showing the plumbing in this area must be included in the report.

4. Mechanical

Mechanical components must meet the state building code and be properly installed.

D. Insulation/Energy Efficiency

This inspection includes **cutting a hole** in the sheetrock to verify the adequacy of insulation, and that the insulation is properly installed. The inspector must also address the insulation in the floor and ceiling. Photos must show evidence of satisfactory installation of the vapor barrier. The house must be rated by the authorized energy rater and meet the minimum requirements of the applicable BEES.

.04 Forms

A. Form PUR-102

The authorized inspector completes the applicable Form PUR-102, depending on the construction methods used. This form is recorded along with a *Destructive Inspection Certification*.

B. Destructive Inspection Certification

The authorized inspector completes a *Destructive Inspection Certification*, which is notarized and recorded along with Form PUR-102. This recorded document serves as public notification that the destructive inspection method was used to certify compliance with the law (AS 18.56.300). **This certification must be recorded as an addendum to Form PUR-102.**

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Destructive Inspection Certification

By my signature below, I certify that this dwelling meets the construction standards as outlined in AS18.56.300 and 15 AAC 150.097.

INSPECTOR: _____ LICENSE#: _____ Date: _____
ACKNOWLEDGMENT STATE OF ALASKA)) SS.

_____ Judicial District)

On this ____ day of _____, _____, before me, a Notary Public in and for the State of Alaska, personally appeared _____ and _____ known to be the person(s) who executed the above instrument freely and voluntarily for the purpose therein mentioned.

_____ My Commission Expires: _____

By my signature below, I certify that this dwelling meets the construction standards as outlined in AS18.56.300 and 15 AAC 150.097.

ENGINEER: _____ Seal: _____ Date: _____
ACKNOWLEDGMENT STATE OF ALASKA)) SS.

_____ Judicial District)

On this ____ day of _____, _____, before me, a Notary Public in and for the State of Alaska, personally appeared _____ and _____ known to be the person(s) who executed the above instrument freely and voluntarily for the purpose therein mentioned.

_____ My Commission Expires: _____