



# ENERGY STAR Program Comparison: SFNH vs MFNC

While the Multifamily New Construction program documents are similar to the Single-Family New Homes program documents, this comparison document summarizes the most significant changes, between MFNC Revision 02 and SFNH Revision 11.

## 1. National Program Requirements, MF Reference Design and Target Procedure

- a. Eligibility includes most configurations of MF. Only single family detached and 2-family dwellings will remain with Single-Family New Homes. Townhouses will be able to choose either program (i.e., Checklists), but the Reference Design will be the one from Single-Family New Homes.
- b. If one unit in a building fails, none of the units in the building can be certified, even if they met the requirements on an individual basis.
- c. Changed the criteria for individuals completing the HVAC Commissioning Checklist and re-named it Functional Testing. Created mandatory online orientation training for this 'Functional Testing' agent.
- d. Developed a MF version of the ENERGY STAR Rater Training.
- e. Three paths are available: ERI, Prescriptive, ASHRAE. The ASHRAE Path requires an ASHRAE energy modeler who has completed online orientation.
- f. ERI Path is still under the oversight of the Home Certification Organization, but a Multifamily Review Organization is needed for the Prescriptive and ASHRAE Paths
- g. Some modifications to the Reference Design (i.e., what's used to model the ERI Target and the basis of the Prescriptive Path):
  - Infiltration switched to compartmentalization, with a de-rate
  - Insulation levels based on commercial wood-frame
  - Added Class AW window options
  - 90% Tier I lighting (i.e., CFL)

## 2. Rater Design Checklist

- a. Added blanks for project name and # of units. Moved Rater check of the entity doing Functional Testing (i.e., contractor doing Commissioning Checklist in Single-Family New Homes) to the Rater Field Checklist.
- b. Added a Rater check of the ASHRAE modeler, to ensure they have taken the mandatory online orientation.
- c. Expanded the high-performance fenestration and insulation sections to include common spaces. Insulation requirements generally allow choice between residential or commercial chapter, with values dependent on the Path chosen.
- d. Based on changes to the HVAC Design Report, slight changes to what the Rater reviews
- e. Added an optional, but recommended section, on construction document review.

## 3. Rater Field Checklist

- a. Added blanks for project name and # of units.
- b. Allow a licensed professional to verify certain noted items.

### Thermal Enclosure System (Sections 1, 2, 3, & 4)

- c. Based on new common space high-performance fenestration and insulation requirements, added Rater checklist items to include those spaces.
  - For Prescriptive Path: Window-to-wall ratio <30%
- d. Added insulation requirements for heated plenums and garages.



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- e. For reduced thermal bridging, required R-5 on elevated slabs, like garage podiums and projected balconies, with a UA option for balconies without a thermal break.
- f. For continuous insulation, clarified what specifically can be exempted (e.g., fasteners, projected balconies, PTAC openings), and what portions of the walls cannot (e.g., intermediate floor perimeters, steel columns).
- g. For calculating total UA, clarified how fasteners and other interruptions in continuous insulation must be calculated.
- h. Added an option for continuous interior insulation for gut rehabs, where exterior rigid is not feasible.
- i. Added requirement to test dwelling units for compartmentalization and for entry doors to have a doorsweep, weatherstripping, or equivalent gasket.
  - If using non-ducted returns with AHU closet on exterior wall, 5 Pa pressure differential test also required.

## HVAC System (Sect 5: Heating & Cooling Equipment & Sect 6: Duct Quality Installation)

- j. Added 10 new items. Two new items establish the minimum efficiency for equipment in common spaces and dwelling units following the Prescriptive Path.
- k. Added a Rater check on the entity doing Functional testing, to ensure they have taken the mandatory online orientation.
- l. Added requirements on equipment controls & shared hydronic distribution, that are based on mandatory requirements from commercial code.
- m. Bedroom pressure-balancing is limited to bedrooms with 150+ CFM design airflow.
- n. Established reduced TOTAL duct leakage allowances for dwelling unit systems without ducted returns AND added a pressure differential test, where the allowance increases with system tonnage.
- o. Still require DLTO test for Townhouses, but not for other MF units.
- p. No duct testing required if total SUPPLY is <10 ft and contained within conditioned space.
- q. Central exhaust ducts (serving 4 or more units) must be tested for leakage.

## Dwelling Unit & Common Space Ventilation Systems (Section 7)

- r. Require ASHRAE 62.1 rates in common spaces and allow a non-Rater to measure the ventilation airflows in those spaces, if overseen and in the presence of the Rater.
- s. Require that measured ventilation rates meet or exceed ASHRAE 62.2-2010 rates in dwelling units
- t. Added efficiency requirements to central exhaust fans used for dwelling unit ventilation.

## Local Mechanical Exhaust (Section 8)

- u. Added local mechanical exhaust requirements from ASHRAE 62.1 for a few key common spaces, including garages, which also have CO/NO2 sensor requirements.

## Filtration & Combustion Appliances (Section 9 & 10)

- v. More restrictions on the use of unvented heating/DHW equipment and appliances.

## New Sections 11-14 on DHW, Lighting, Appliances, and Building Data

- w. DHW:
  - added efficiency requirements for Prescriptive Path equipment
  - added a heat trap requirement for in-unit storage water heaters
  - added a Rater-measured delivery temperature requirement



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- Prescriptive Path: WaterSense bath faucets & showerheads required in dwelling units
- x. Lighting:
  - Added common space & shared garage lighting controls and efficacy requirements
  - Prescriptive Path: dwelling units must have 90% ENERGY STAR Certified light bulbs or fixtures and less than 0.75 W/ft<sup>2</sup>
- y. Whole-Building Data:
  - For large MF buildings, a strategy to obtain whole-building data must be confirmed prior to certification. Strategy can include no-cost measures such as lease agreements where resident agrees to release data or at-cost measures, like whole-building energy monitors or agreement with utility to access whole-building data annually.

## 4. HVAC Design Report

- a. Expanded ventilation design to include common area compliance with ASHRAE 62.2.
- b. Added local mechanical exhaust design to the report, for both dwelling units and common space.
- c. Still require room-by-room loads for townhouses; but other units can do unit-level.
- d. Where dwelling unit loads are required (most ducted systems), added parameters to be documented related to occupant gains and non-occupant internal gains.
- e. Added reporting requirement of common space loads & equipment selection, but also allows use of Single-Family New Homes HVAC Design Report to reduce data entry
- f. For improved visibility, added HVAC related items to the Design Report.
- g. Created an Appendix of tables, to document extra spaces or systems as needed.

## 5. HVAC Functional Testing Checklist (replaces HVAC Commissioning Checklist)

- a. Identified the list of credentials that one must have to complete the Functional Testing checklist. While credentialed contractors can still verify the sections that are the same as Single-Family New Homes, they cannot complete the other sections.
- b. Provides an alternative to Section 3 (Indoor HVAC Fan Airflow) for systems with total supply ductwork 10 ft or less, where a Rater may instead complete Item 4.2 (Room-by-room airflows)
- c. Added Sections 5-9 to add in-unit functional testing for all in-unit and common space equipment as well as specific tests for central systems.

## 6. Water Management System Requirements

- a. Rather than 'Builder', used the term 'Partner' to encompass both Builder and Developer Partners.
- b. Added an exemption from the capillary break for open garages or garages with ventilation.