



ENERGY STAR

Quality Assurance Checklists: Key Enhancements

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Agenda

Part 1) ENERGY STAR Quality Assurance Checklist

- Overview
- 6 Key Enhancements

Part 2) ENERGY STAR Certification Review

*for Single-Family New Homes

Presentation Notes

Green – Relates to **Single Family New Homes**

Purple – Relates to **Multifamily New Construction (ERI Path)**

Where to Download

RESNET Website:

www.resnet.us/about/quality-assurance/resnet-quality-assurance-resources/

The screenshot shows the RESNET website header with the logo and navigation menu. The main content area features a list of resources under the heading '+ QA Templates'. A dark blue box highlights '- Quality Assurance Checklists'. A 'LOGIN HERE' button is visible on the right side.

RESNET
RESIDENTIAL ENERGY SERVICES NETWORK

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WHO WE ARE | RATERS | PROVIDERS | BUILDERS | APPRAISERS | CONFERENCE | RESOURCES

+ QA Templates

– Quality Assurance Checklists

[RESNET QA Review Checklist](#)

[ENERGY STAR QA/CR Checklist \(Rev. 11\)](#) (Single Family New Homes)

[ENERGY STAR QA Checklist \(Rev. 02\)](#) (Multifamily New Construction)

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Where to Download

EPA Website: www.energystar.gov/newhomesrequirements

ENERGY STAR RESIDENTIAL NEW CONSTRUCTION PROGRAM REQUIREMENTS

SINGLE FAMILY MULTIFAMILY MANUFACTURED UNDERGOING GUT REHAB

ADDITIONAL RESOURCES

- Single-Family Policy Record
- Partners and Stakeholders
- Educational Resources
- Building America Solutions Center
- National Version 3 Cost & Savings Document (PDF, 786 KB)
- National ERI Target Procedure Version 3 (PDF, 136 KB)
- National Version 3.1 Cost & Savings Document (PDF, 781 KB)
- National ERI Target Procedure Version 3.1 (PDF, 131 KB)
- Complaints and Certification Review
- Quality Assurance and Certification Review Checklists (PDF, 572 KB)

ADDITIONAL RESOURCES

- MFNC Policy Record
- MFNC Partners and Stakeholders
- MFNC Certification Process
- Educational Resources
- Building America Solutions Center
- Comparison of SFNH to MFNC (PDF, 114 KB)
- Comparison of MFHR to MFNC (PDF, 477 KB)
- MFNC Rater Quality Assurance Checklist (ERI Path) (Rev.02) (PDF, 734 KB)
- MFNC Rater Quality Assurance Checklist (MROs) (Rev.02) (PDF, 734 KB)

Glossary

- **HCO** = Home Certification Organization
 - RESNET is currently the only EPA recognized HCO, but there may be others in the future.
- **Reviewer** = Quality Assurance Designee (QAD)
- **ERI** = Energy Rating Index, i.e. a rating to ANSI/RESNET Std. 301.
 - Effectively the same numerical value as the HERS index

A photograph of a house with a metal roof and a dormer window, partially obscured by a blue overlay containing text. The house has a dark metal roof with some snow patches. The dormer window has a white frame and a grid pattern. The blue overlay is semi-transparent and contains the text "Part 1: Quality Assurance Checklist" in white.

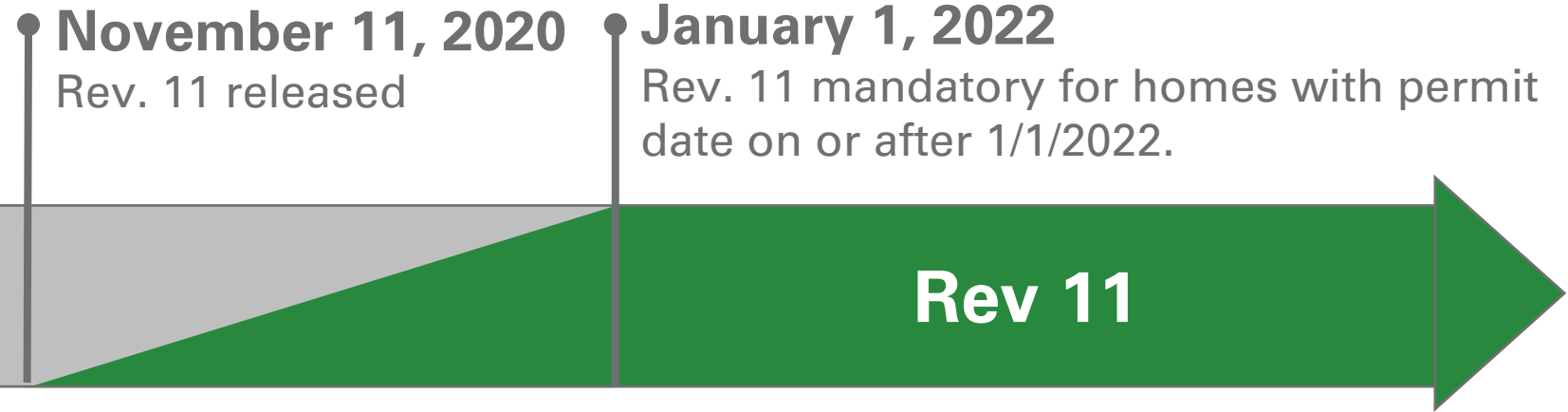
Part 1: Quality Assurance Checklist

6 Key Enhancements

1. Clarifies implementation schedule for each new revision.
2. Defines policy on correcting failures.
3. Delineates requirements for File QA vs. Field QA.
4. Sets expectations for documentation collection.
5. Includes all 'reviewable' items, not subset.
6. MFNC QA Checklist also includes common spaces.

Key Enhancement #1: Implementation Schedule

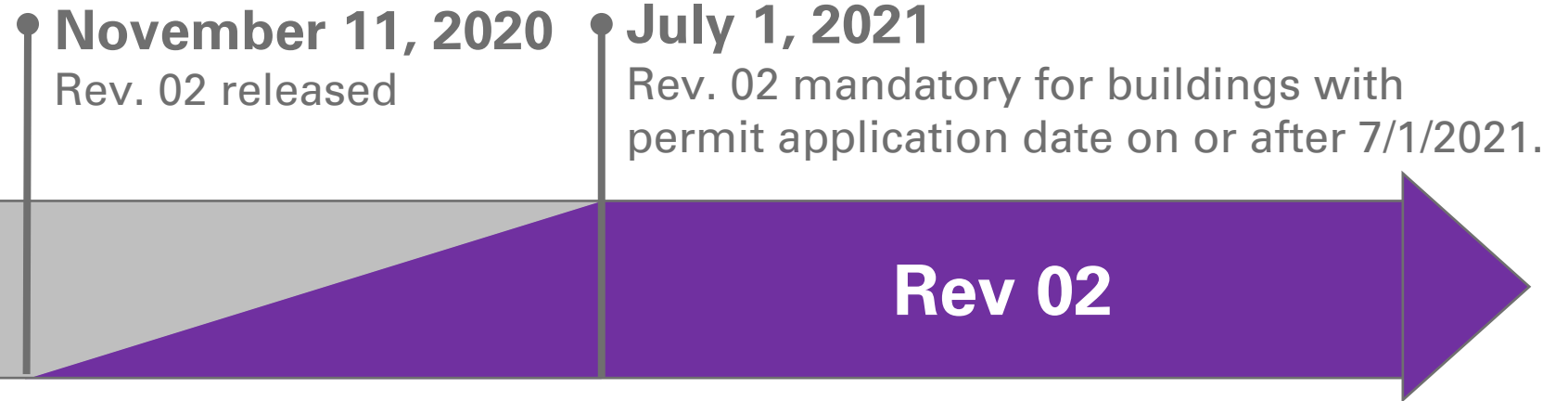
SFNH Revision 11 Timeline



- If home was certified using Rev. 11, the QA reviews should use the “Quality Assurance and Certification Review (Rev. 11)” document.
- QA checklist is backwards compatible so it can be used with Rev. 10 as well, if desired.

Key Enhancement #1: Implementation Schedule

MFNC Revision 02 Timeline



- If project was certified using Rev. 02, the QA reviews should use the “Quality Assurance Checklist - ERI Path (Rev. 02)” document.

Notable Instructions

- A limited amount of QA can occur at the pre-drywall stage, according to the HCO's policies (up to 25% according to MINHERS).
- Additional items may be reviewed at the QAD's discretion.
- **Key Enhancement #2:** Items found out of compliance shall be corrected. If correction is not possible, the home or building's certification is required to be withdrawn. (Please contact us for guidance on specific cases)

Signatures - SFNH

QA Review	Review Type:
Field Review:	Rater Name:
Original Rating	Rater Company:
Pre-Drywall Inspection:	Rater Name:
Final Inspection:	Rater Name:



ENERGY STAR Single-Family New Homes Quality Assurance & Certification Review Checklists, Version 3 / 3.1 (Rev. 11)

6. Duct Quality Installation	Yes	No	Not Verified	N/A
6.1 Ductwork installed without kinks, sharp bends, compression or excessive coiled flexible ductwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Bedrooms pressure-balanced using any combination of transfer grills, jump ducts, dedicated return ducts, and / or undercut doors to achieve measured pressure differential ≥ -3 Pa and $\leq +3$ Pa with respect to main body of the house when all bedroom doors are closed & all air handlers are operating. For bedrooms with a design airflow ≥ 150 CFM as reported in item 5.5 of the HVAC Design Report, measured pressure differential ≥ -5 Pa ≤ 5 Pa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 All supply and return ducts in unconditioned space, including connections to trunk ducts, are insulated to $\geq R-6$.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4 Measured total duct leakage meets the greater of ≤ 8 CFM25 per 100 sq. ft. of CFA or ≤ 80 CFM; or, for a duct system with three or more returns, ≤ 12 CFM25 per 100 sq. ft. of CFA or ≤ 120 CFM. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Measured duct leakage to outdoors is the greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM25. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Dwelling Unit Mechanical Ventilation Systems & Inlets In Return Duct				
7.1 Measured ventilation rate is within ± 15 CFM or $\pm 15\%$ of design report value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.2 A readily-accessible ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 For any outdoor air inlet connected to a ducted return of the HVAC system (Complete if present; otherwise check "N/A"); ²				<input type="checkbox"/>
7.3.1 Controls automatically restrict airflow using a motorized damper during vent. off-cycle and occupant override. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3.2 Rater-measured vent. rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7 Air inlet location (Complete if ventilation air inlet location was specified on design report; otherwise check "N/A"); ³	-	-	-	<input type="checkbox"/>
7.7.1 Inlet pulls ventilation air directly from outdoors & not from attic, crawlspace, garage, or adjacent dwelling unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.7.2 Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.7.3 Inlet is provided with rodent / insect screen with ≤ 0.5 inch mesh.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
8. Local Mechanical Exhaust				
In each kitchen & bathroom, system is installed that exhausts directly to outdoors & meets one of the following measured airflow standards:				
Location	Continuous Rate	Intermittent Rate		
8.1 Kitchen	≥ 5 ACH, based on kitchen volume. ²	≥ 100 CFM and, if not integrated with range, also ≥ 5 ACH based on kitchen volume. ²	<input type="checkbox"/>	<input type="checkbox"/>
8.2 Bathroom	≥ 20 CFM	≥ 50 CFM	<input type="checkbox"/>	<input type="checkbox"/>
9. Filtration				
9.1 Filter location capable of accepting a MERV 6 filter installed in each ducted mechanical system in a location that facilitates access and regular service by the occupant. ^{2,3}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2 Filter access panel includes gasket or comparable sealing mechanism and fits snugly against the exposed edge of filter when closed to prevent bypass.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3 All return air and mechanically supplied outdoor air passes through filter location prior to conditioning. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Combustion Appliances				
10.1 Furnaces, boilers, and water heaters located within the home's pressure boundary are mechanically drafted or direct-vented. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2 Fireplaces located within the home's pressure boundary are mechanically drafted or direct-vented. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3 If unvented combustion appliances other than cooking ranges or ovens are located inside the home's pressure boundary, the Rater has followed ANSI / ACCA 12 QH-2014, Section 3.2.2, Appendix A Sections A2.2.6, A3, and A4, and verified the equipment meets the limits defined within.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QA Review	Review Type: <input type="checkbox"/> File <input type="checkbox"/> Field	QA Reviewer: _____	Date of Review: _____
Field Review:	Rater Name: _____	Status of home: <input type="checkbox"/> Pre-drywall <input type="checkbox"/> Final construction or completed	
Original Rating	Rater Company Name: _____		
Pre-Drywall Inspection:	Rater Name: _____	Rater ID #: _____	Date: _____
Final Inspection:	Rater Name: _____	Rater ID #: _____	Date: _____

Date of Review: 2/24/2021

Final construction or completed

Date: 12/10/2020

Date: 2/05/2021

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Instructions - M

Instructions for Performing C

- This checklist is used to document the quality assurance review of the items being verified by the Rater in the dwelling units and common spaces of an ENERGY STAR Multifamily New Construction building.
- One checklist shall be used to document all applicable items for one dwelling unit and the common space. Where more than one dwelling unit in a building is being reviewed, additional checklists shall be used for the additional dwelling units, but the common space only needs to be reviewed once per building.
- During File Review, complete the Action Items / Summary of QA, Documentation Collection, Energy Rating File and National Rater Design Review Checklist sections.
- In accordance with the HCO's policies, a limited amount of the required QA Field Reviews may be performed at the pre-drywall stage. Mark items that are not yet installed as "N/A."¹
- Where a checklist item cannot be verified because it is not visible, not accessible, cannot be tested, or there are other extenuating circumstances, mark the box in the column "Not Verified," and include an explanation in an attached document.
- Additional items may be reviewed at the reviewer's discretion and included in the Additional Checklist Items and Exemptions report below.
- Items found to be out of compliance shall be corrected. If correction is not possible, the building's certification is required to be withdrawn (please contact energystarhomes@energystar.gov).



ENERGY STAR Multifamily New Construction Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

12. Lighting	Yes	No	Not Verified	N/A
12.1 Common Space Lighting Controls:				
12.1.1 At least 50% of common spaces (including shared garages), except the building lobby and where automatic shutoff would endanger the safety of occupants, have occupancy sensors or automatic bi-level lighting controls installed and operation has been verified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2 Common Space Lighting Power Density Maximum (except garages):²				
12.2.1 Rater-provided lighting power density calculations for the combined common spaces do not exceed ASHRAE 90.1-2007 allowances for those combined spaces, using the Space-by-Space or Building Area Method. For at least 50% of common spaces, the fixture counts, wattage, and approximate square footage are confirmed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3 Shared garages: Rater-provided lighting power density calculations do not exceed 0.24 W/ft ² . The fixture counts, fixture wattage, and approximate square footage are confirmed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4 Exterior lighting controls: Fixtures, including parking lot fixtures, must include automatic switching on timers or photocell controls except fixtures intended for 24-hour operation, required for security, or located on dwelling unit balconies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.5 In at least 50% of all exterior and common spaces, lighting fixtures meet the efficiency requirements in the ENERGY STAR Multifamily Reference Design, except fixtures located on dwelling unit balconies. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Appliances, Ceiling Fans, and Plumbing Fixtures				
13.2 Where installed in common spaces, refrigerators and dishwashers are ENERGY STAR certified and showerheads are WaterSense labeled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Whole Building Energy Consumption Data Acquisition Strategy				
14.1 For buildings 50,000 ft ² and larger, if the strategy involves a meter or other item installed at the location, this device has been confirmed as a strategy that enables the collection of monthly or annual building-level energy consumption data (electricity, natural gas, chilled water, steam, fuel oil, propane, etc.). ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instructions for Performing Quality Assurance Review

- This checklist is used to document the quality assurance review of the items being verified by the Rater in the dwelling units and common spaces of an ENERGY STAR Multifamily New Construction building.
- One checklist shall be used to document all applicable items for one dwelling unit and the common space. Where more than one dwelling unit in a building is being reviewed, additional checklists shall be used for the additional dwelling units, but the common space only needs to be reviewed once per building.
- During File Review, complete the Action Items / Summary of QA, Documentation Collection, Energy Rating File and National Rater Design Review Checklist sections. During Field Review, complete the entire checklist.
- In accordance with the HCO's policies, a limited amount of the required QA Field Reviews may be performed at the pre-drywall stage. Mark items that are not yet installed as "N/A."¹
- Where a checklist item cannot be verified because it is not visible, not accessible, cannot be tested, or there are other extenuating circumstances, mark the box in the column "Not Verified," and include an explanation in an attached document.
- Additional items may be reviewed at the reviewer's discretion and included in the Additional Checklist Items and Exemptions report below.
- Items found to be out of compliance shall be corrected. If correction is not possible, the building's certification is required to be withdrawn (please contact energystarhomes@energystar.gov).

Footnotes

1. Home Certification Organizations (HCOs) are independent organizations recognized by EPA to implement an ENERGY STAR certification program for single-family and multifamily homes and apartments using an Energy Rating Index (ERI) compliance path. Learn more and find a current list of HCOs at energystar.gov/partner_resources/residential_new/working/other_participants/hco.
2. This item has been edited for space or has a footnote with an exemption or alternative. Refer to referenced program document for details. When an item is properly met using an exemption or alternative, mark the item as "Yes" and record a description in the Additional Checklist Items and Exemptions table.
3. This requirement is modified from the original program requirement in order to be applicable in the context of a finished building.
4. While the QA Reviewer is not required to verify compliance with the insulation requirements in each common space, the QA Reviewer is required to review the ceiling insulation in at least one common space and floor insulation in at least one common space, if applicable.
5. For Items 5b.1, 5.5, 7.1, and 10.1 while the QA Reviewer is not required to verify compliance for each HVAC and ventilation system installed in the building, the QA Reviewer shall verify compliance for the systems serving the dwelling unit being reviewed and in addition, the QA Reviewer shall verify compliance for a minimum of two systems that provide heating and/or cooling to a common space, and two systems that provide ventilation to a common space.
6. For Items 7.3 and 8.3, while the QA Reviewer is not required to verify compliance with the ventilation requirements in each common space, the QA Reviewer is required to review the Rater-provided common space ventilation test results for compliance. The QA Reviewer is then required to directly measure ventilation airflows for the lesser of 5 or 20% of the reported values.

Revised 3/02/2021

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water in the dwelling units and common space. Where more than one dwelling unit in a building is being reviewed, additional checklists shall be used for the additional dwelling units, but the common space only needs to be reviewed once per building.

Rating File and National Rater Design

performed at the pre-drywall stage. Mark items that are not yet installed as "N/A."¹ Where a checklist item cannot be verified because it is not visible, not accessible, cannot be tested, or there are other extenuating circumstances, mark the box in the column "Not Verified," and include an explanation in an attached document.

Additional items may be reviewed at the reviewer's discretion and included in the Additional Checklist Items and Exemptions report below.

Items found to be out of compliance shall be corrected. If correction is not possible, the building's certification is required to be withdrawn

Signatures - M



ENERGY STAR Multifamily New Construction Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

An ENERGY STAR Quality Assurance Checklist shall be completed during each quality assurance file review and field review (QA review) of buildings being certified through the ENERGY STAR Multifamily New Construction program's ERI Path in accordance with the policies and procedures of the Home Certification Organization (HCO) ¹. This revision of the QA checklist is mandatory for buildings certified under Version 1 / 1.1 / OR-WA 1.2, Revision 02. QA reviews for buildings certified under Revision 01 may continue to use the prior revision of this document titled "2020 Rater Quality Assurance Checklist", available upon request by email at energystarhomes@energystar.gov. Review [complete instructions](#) on page 6 below.

ENERGY STAR Quality Assurance Checklist

Project Name: _____		Number of Units: _____		Permit Date: _____	
Building Address: _____		City: _____		State: _____	
QA Review	Review Type: <input type="checkbox"/> File <input type="checkbox"/> Field	QA Reviewer: _____	Date of Review: _____		
	Unit Number: _____	Common Spaces: _____			
	Rater Being QA'd: _____	Status of Project: <input type="checkbox"/> Pre-drywall <input type="checkbox"/> Final construction or completed			
Original Rating	Rater Company Name: _____		<input type="checkbox"/> Confirmed as ENERGY STAR Partner		
Pre-Drywall Inspection:	Rater Name: _____	Rater ID #: _____	Date: _____	<input type="checkbox"/> MFNC Training Complete	
Final Inspection:	Rater Name: _____	Rater ID #: _____	Date: _____	<input type="checkbox"/> MFNC Training Complete	
Action Items / Summary of QA			Yes	No	N/A
If any Item marked "No" or "Not Verified," an action/explanation summary document shall be attached			<input type="checkbox"/>	-	<input type="checkbox"/>
Documentation Collection – Collect these items as part of the QA data file			Yes	No	N/A
A) Energy Rating File collected.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Documentation collected that demonstrates that all dwelling units in the multifamily building were registered and certified to the same version.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) National Rater Design Review Checklist collected, with no Items left blank.			<input type="checkbox"/>	<input type="checkbox"/>	-
D) Documentation collected that builder or developer had an ENERGY STAR partnership agreement at the time of certification. If documentation of active partnership cannot be verified, contact energystarhomes@energystar.gov .			<input type="checkbox"/>	<input type="checkbox"/>	-
If Track A – HVAC Grading by Rater was pursued:					
E.a) HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, with the ENERGY STAR MFNC supplement, collected, with no Items left blank.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F.a) ANSI / RESNET / ACCA Std. 310 Rater Design Review Checklist collected, completed for applicable housing type and with all items marked "Rater Verified".			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Track B – HVAC Testing by FT Agent was pursued:					
E.b) ENERGY STAR National HVAC Design Report collected, with no Items left blank.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) National Rater Field Checklist collected, with no Items left blank or marked Must Correct.			<input type="checkbox"/>	<input type="checkbox"/>	-
List of any exemptions or alternatives used by the Rater.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 1.2, 3.5, and/or 3.6, documentation collected on alternative UA calculations, if used for compliance.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 5b.1, written approval from designer collected, if installed models do not match Design Report.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 7.3 and 8.3, documentation collected of the measured ventilation airflows in common spaces.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 12.2 and 12.3, lighting power density calculations collected for common spaces and shared garages. ²			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 14.1, for buildings 50,000 ft ² and larger, documentation collected confirming the strategy used to enable the collection of monthly or annual building-level energy consumption data. ²			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rater Name, Inspection Dates are recorded.			<input type="checkbox"/>	<input type="checkbox"/>	-
If any Builder Verified Items are used, Builder Employee, Builder Inspection Date and Builder Initials are recorded.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If any LP Verified Items are used, Licensed Professional, LP Inspection Date and LP Initials are recorded.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) National HVAC Functional Testing Checklist(s) collected for common space systems and Dwelling Unit systems using Track B – HVAC Testing by FT Agent, with no Items left blank and with all HVAC systems in the building / project fully documented. Exception: Where credentialed HVAC Contractor(s) are completing the National HVAC Functional Testing Checklist, the checklist is not required to be collected. ²			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) Documentation collected that Functional Testing Agent(s) held credential required to complete the National HVAC Functional Testing Checklist(s) and were listed on the appropriate online directory at the time of certification.			<input type="checkbox"/>	<input type="checkbox"/>	-

Project Name: _____	
Building Address: _____	
QA Review	Review Type: _____
	Unit Number: _____
	Rater Being QA'd: _____
Original Rating	Rater Company Name: _____
Pre-Drywall Inspection:	Rater Name: _____
Final Inspection:	Rater Name: _____

Permit Date: _____
State: _____
Review: 2/24/2021
Issuing Office: _____
Final Construction Status: Final construction or completed
ENERGY STAR Partner: <input checked="" type="checkbox"/>
MFNC Training Complete: <input checked="" type="checkbox"/>
MFNC Training Complete: <input checked="" type="checkbox"/>



QA Checklist Sections

- Action Items / Summary of QA
- Documentation Collection
- Energy Rating File
- National Rater Design Review Checklist
- National Rater Field Checklist

= File QA

= Field QA

Key Enhancement #3: File QA vs. Field QA

- File Review = first 4 sections
- Field Review = all 5 sections

Action Items – SFNH & MFNC

ENERGY STAR Quality Assurance Checklist			
Home Address: _____ City: _____ State: _____ Zip Code: _____			
Action Items / Summary of QA	Yes	No	N/A
If any Items are marked "No" or "Not Verified," an action/explanation summary document shall be attached.	<input type="checkbox"/>	-	<input type="checkbox"/>
Documentation Collection – Collect these items as part of the QA data file			

Final Inspection:	Rater Name: _____	Rater ID #: _____	Date: _____	<input type="checkbox"/> MFNC Training Complete
Action Items / Summary of QA	Yes	No	N/A	
If any Item marked "No" or "Not Verified," an action/explanation summary document shall be attached	<input type="checkbox"/>	-	<input type="checkbox"/>	
Documentation Collection – Collect these items as part of the QA data file				

Documentation Collection - SFNH

Key Enhancement #4: Documentation Collection

Home Address: _____	City: _____	State: _____	Zip Code: _____
Action Items / Summary of QA	Yes	No	N/A
If any Items are marked "No" or "Not Verified," an action/explanation summary document shall be attached.	<input type="checkbox"/>	-	<input type="checkbox"/>
Documentation Collection – Collect these items as part of the QA data file	Yes	No	N/A
(A) Energy Rating File collected.	<input type="checkbox"/>	<input type="checkbox"/>	-
(B) National Rater Design Review Checklist collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	-
(C) Documentation that builder had an ENERGY STAR partnership agreement at the time of certification. If documentation of active partnership cannot be verified, contact energystarhomes@energystar.gov .	<input type="checkbox"/>	<input type="checkbox"/>	-
If Track A – HVAC Grading was pursued:			
D) HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, with the ENERGY STAR supplement, collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) ANSI / RESNET / ACCA Std. 310 Rater Design Review Checklist collected, completed for applicable housing type and with all items marked "Rater Verified".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Track B – HVAC Credential was pursued:			
(D) ENERGY STAR National HVAC Design Report collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(E) Documentation that HVAC contractor held required credential at the time of certification, unless all equipment is an exempted type, in which case check: <input type="checkbox"/> Exempted If documentation or active credential cannot be verified, contact energystarhomes@energystar.gov .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(F) National Rater Field Checklist collected, with no Items left blank or marked Must Correct.	<input type="checkbox"/>	<input type="checkbox"/>	-
List of any exemptions or alternatives used by the Rater.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 5b.1, written approval from designer collected if installed models do not match National HVAC Design Report.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 7.7, if smaller distance is used for inlet and outlet of balanced ventilation system per footnote, manufacturer's instructions collected indicating that the smaller distance may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rater name, rater inspection dates and rater initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If any Builder Verified Items are used, builder employee, builder inspection date and builder initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Documentation Collection - MFNC

Documentation Collection – Collect these items as part of the QA data file	Yes	No	N/A
A) Energy Rating File collected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Documentation collected that demonstrates that all dwelling units in the multifamily building were registered and certified to the same version.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) National Rater Design Review Checklist collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	-
D) Documentation collected that builder or developer had an ENERGY STAR partnership agreement at the time of certification. If documentation of active partnership cannot be verified, contact energystarhomes@energystar.gov .	<input type="checkbox"/>	<input type="checkbox"/>	-
If Track A – HVAC Grading by Rater was pursued:			
E.a) HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, with the ENERGY STAR MFNC supplement, collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F.a) ANSI / RESNET / ACCA Std. 310 Rater Design Review Checklist collected, completed for applicable housing type and with all items marked "Rater Verified".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Track B – HVAC Testing by FT Agent was pursued:			
E.b) ENERGY STAR National HVAC Design Report collected, with no Items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) National Rater Field Checklist collected, with no Items left blank or marked Must Correct.	<input type="checkbox"/>	<input type="checkbox"/>	-
List of any exemptions or alternatives used by the Rater.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 1.2, 3.5, and/or 3.6, documentation collected on alternative UA calculations, if used for compliance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 5b.1, written approval from designer collected, if installed models do not match Design Report.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 7.3 and 8.3, documentation collected of the measured ventilation airflows in common spaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 12.2 and 12.3, lighting power density calculations collected for common spaces and shared garages. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Per 14.1, for buildings 50,000 ft ² and larger, documentation collected confirming the strategy used to enable the collection of monthly or annual building-level energy consumption data. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rater Name, Inspection Dates are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	-
If any Builder Verified Items are used, Builder Employee, Builder Inspection Date and Builder Initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If any LP Verified Items are used, Licensed Professional, LP Inspection Date and LP Initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) National HVAC Functional Testing Checklist(s) collected for common space systems and Dwelling Unit systems using Track B – HVAC Testing by FT Agent, with no Items left blank and with all HVAC systems in the building / project fully documented. Exception: Where credentialed HVAC Contractor(s) are completing the National HVAC Functional Testing Checklist, the checklist is not required to be collected. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) Documentation collected that Functional Testing Agent(s) held credential required to complete the National HVAC Functional Testing Checklist(s) and were listed on the appropriate online directory at the time of certification.	<input type="checkbox"/>	<input type="checkbox"/>	-

Energy Rating File - SFNH

Instructions collected indicating that the smaller distances may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rater name, rater inspection dates and rater initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If any Builder Verified Items are used, builder employee, builder inspection date and builder initials are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy Rating File – File is consistent with program requirements, Rater's documentation, and field observations.	Yes	No	N/A
Energy Rating file passes the Home Certification Organization's (HCO's) quality assurance review checklist. ¹	<input type="checkbox"/>	<input type="checkbox"/>	-
ERI of the home meets or exceeds the ENERGY STAR ERI Target for the program version applicable at the time of certification.	<input type="checkbox"/>	<input type="checkbox"/>	-
Energy Rating file is consistent with the Rater Design Review Checklist	<input type="checkbox"/>	<input type="checkbox"/>	-
2.1 Modeled fenestration meets or exceeds	<input type="checkbox"/>	<input type="checkbox"/>	-
3.1 Modeled ceiling, wall, floor, and slab	<input type="checkbox"/>	<input type="checkbox"/>	-
3.1.1 Meets or exceeds 2009 IECC le	<input type="checkbox"/>	<input type="checkbox"/>	-
3.1.2 Achieves ≤ 133% of the total U/A modeled infiltration does not exceed 3 ACH50 in CZs 1,2 2.5 A	<input type="checkbox"/>	<input type="checkbox"/>	-
Energy Rating file is consistent with the Rater Design Review Checklist	<input type="checkbox"/>	<input type="checkbox"/>	-
1.3 Modeled insulation achieves Grade 1	<input type="checkbox"/>	<input type="checkbox"/>	-
3.1, 3.3 & 4.10 Modeled attic insulation r	<input type="checkbox"/>	<input type="checkbox"/>	-
3.2 For slabs on grade in CZ 4-8, slab e	<input type="checkbox"/>	<input type="checkbox"/>	-
3.4 Modeled above grade walls are cons	<input type="checkbox"/>	<input type="checkbox"/>	-
6.3 Modeled supply and return ducts in u	<input type="checkbox"/>	<input type="checkbox"/>	-
6.4 & 6.5 Modeled duct leakage is consi	<input type="checkbox"/>	<input type="checkbox"/>	-
7.1 Modeled ventilation rate is within ± 1	<input type="checkbox"/>	<input type="checkbox"/>	-

The screenshot shows the RESNET QA Review Checklist software. The main window displays a table with the following columns: 'Item #', 'Checklist Item Justified via plan and/or site data', 'Checklist Item Instructions', and 'REMRate page'. The table contains 18 items related to energy rating requirements. A blue arrow points from the background table to the 'Energy Rating file passes the Home Certification Organization's (HCO's) quality assurance review checklist' row.



Rater Design Review Checklist - SFNH

National Rater Design Review Checklist	Yes	No	N/A	
If Track A – HVAC Grading was pursued:				
4a.3 Cooling sizing % is within the cooling sizing limit selected by the HVAC designer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If Track B – HVAC Credential was pursued:				
4b.2 HVAC Design Report reviewed by Rater for the following parameters (National HVAC Design Report Item # indicated in parenthesis):				
4b.2.1 Cooling season and heating season outdoor design temperatures used in loads (3.3) are within the limits defined at energystar.gov/hvacdesigntemps for the State and County where the home is built or the designer has provided an allowance from EPA to use alternative values.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.2 Number of occupants used in loads (3.4) is within ± 2 of the home being reviewed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.3 Conditioned floor area used in loads (3.5) is between 100 sq. ft. smaller and 300 sq. ft. larger than the home being reviewed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.4 Window area used in loads (3.6) is between 15 sq. ft. smaller and 60 sq. ft. larger than the home being reviewed or, for homes with > 500 sq. ft. of window area, between 3% smaller and 12% larger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.6 Sensible, latent & total heat gain are documented (3.10 – 3.12) for the orientation of the home being reviewed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.7 The difference between the maximum total heat gain across orientations and that of the orientation of the home being reviewed (3.13) is ≤ 6 kBtuh. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4b.2.8 Cooling sizing % (4.13) is within the cooling sizing limit (4.15) selected by the HVAC designer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2. Accessible insulation (ceiling, wall, floor, and slab) complies with one of the following options, as specified in Item	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rater Design Review Checklist - MFNC

National Rater Design Review Checklist	Yes	No	N/A
2.2.1 Rater documentation that installed common space fenestration meets or exceeds ENERGY STAR MF Reference Design Req'ts. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2.1 Rater documentation that installed common space ceiling, wall, floor, and slab-on-grade insulation levels meet or exceed ENERGY STAR MF Reference Design requirements. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Track A – HVAC Grading by Rater was pursued:			
4a.4 Total occupant gains do not exceed 645 Btuh per occupant. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4a.5 Non-occupant internal gains are less than 3,600 Btuh.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4a.6 Cooling sizing % is within the cooling sizing limit selected by HVAC designer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Track B – HVAC Testing by FT Agent was pursued:			
4b.2 National HVAC Design Report(s) reviewed for the following parameters (National MFNC HVAC Design Report Item # indicated in parenthesis):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.2 Cooling season and heating season outdoor design temperatures used in loads (3.4) are within the limits defined for the State and County where the building will be built, or the designer has provided an allowance from EPA to use alternative values. All limits are published at www.energystar.gov/hvacdesigntemps . Note that revised (i.e., 2019 Edition) limits are required to be used for all HVAC Design Reports generated after 07/01/2020. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.3 Number of occupants used in loads (3.6) is within ± 2 of the dwelling unit being reviewed and total occupant gains (3.7) do not exceed 645 Btuh per occupant. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.4 Conditioned floor area used in loads (3.8) is between 100 sq. ft. smaller and 300 sq. ft. larger than the dwelling unit being reviewed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.5 Window area used in loads (3.9) is between 15 sq. ft. smaller and 60 sq. ft. larger than the dwelling unit being reviewed, or for dwelling units to be certified with > 500 sq. ft. of window area, between 3% smaller and 12% larger. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.6 Predominant window SHGC used in loads (3.10) is within 0.1 of rater-documented predominant value installed in the dwelling unit being reviewed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.7 Mechanical ventilation used in loads (3.12) is the same as the ventilation design (2.7) for the given unit plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.8 Non-occupant internal gains (3.13) are less than 3,600 Btuh.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.9 Sensible & total heat gain are documented (3.15, 3.17) for the orientation of the dwelling unit being reviewed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b.2.10 Cooling sizing % (4.18) is within the cooling sizing limit (4.19) selected by the HVAC designer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QA Checklist Sections

- Action Items / Summary of QA
- Documentation Collection
- Energy Rating File
- National Rater Design Review Checklist
- National Rater Field Checklist

=  File QA

Rater Field Checklist - SFNH

National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2 Accessible insulation (ceiling, wall, floor, and slab) complies with one of the following options, as specified in Item 3.1 of the National Rater Design Review checklist: ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.1 Meets or exceeds 2009 IECC levels OR ;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.2 Meets or exceeds the modeled levels AND home infiltration does not exceed the following: 3 ACH50 in CZs 1,2 2.5 ACH50 in CZs 3,4 2 ACH50 in CZs 5,6,7 1.5 ACH50 in CZ 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 All insulation achieves Grade I install. per ANSI / RESNET / ICC Std. 301. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
2. Fully-Aligned Air Barriers				
2.3 At attic knee walls and skylight shaft walls, a complete air barrier provided that is fully aligned at exterior vertical surface of wall insulation in all climate zones; also at interior vertical surface of wall insulation in CZ 4-8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Reduced Thermal Bridging				
3.1 For insulated ceilings with attic space above (i.e., non-cathedralized), Grade I insulation extends to the inside face of the exterior wall below and is \geq R-21 in CZ 1-5; \geq R-30 in CZ 6-8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Insulation beneath attic platforms (e.g., HVAC platforms, walkways) \geq R-21 in CZ 1-5; \geq R-30 in CZ 6-8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Air Sealing				
4.1 Visible ducts, flues, shafts, plumbing, piping, wiring, exhaust fans & other penetrations to unconditioned space sealed, with blocking / flashing as needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
4.2 Recessed lighting fixtures adjacent to unconditioned space ICAT labeled and gasketed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.9 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions made substantially air-tight with weatherstripping or equivalent gasket.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10 Attic access panels, drop-down stairs, & whole-house fans equipped with durable \geq R-10 cover that is gasketed (i.e., not caulked). Fan covers either installed on house side or mechanically operated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Heating & Cooling Equipment - Complete Track A - HVAC Grading or Track B - HVAC Credential				

Rater Field Checklist - SFNH

Key Enhancement #5: Comprehensive, including all 'inspectable' items.

6. Duct Quality Installation	Yes	No	Not Verified	N/A
6.1 Ductwork installed without kinks, sharp bends, compression or excessive coiled flexible ductwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.2 Bedrooms pressure-balanced using any combination of transfer grills, jump ducts, dedicated return ducts, and / or undercut doors to achieve measured pressure differential ≥ -3 Pa and $\leq +3$ Pa with respect to main body of the house when all bedroom doors are closed & all air handlers are operating. For bedrooms with a design airflow ≥ 150 CFM as reported in item 5.5 of the HVAC Design Report, measured pressure differential ≥ -5 Pa ≤ 5 Pa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 All supply and return ducts in unconditioned space, including connections to trunk ducts, are insulated to $\geq R-6$.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.4 Measured total duct leakage meets the greater of ≤ 8 CFM25 per 100 sq. ft. of CFA or ≤ 80 CFM; or, for a duct system with three or more returns, ≤ 12 CFM25 per 100 sq. ft. of CFA or ≤ 120 CFM. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Measured duct leakage to outdoors is the greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM25. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Dwelling Unit Mechanical Ventilation Systems & Inlets In Return Duct				
7.1 Measured ventilation rate is within ± 15 CFM or $\pm 15\%$ of design report value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.2 A readily-accessible ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 For any outdoor air inlet connected to a ducted return of the HVAC system (Complete if present; otherwise check "N/A"): ²				<input type="checkbox"/>
7.3.1 Controls automatically restrict airflow using a motorized damper during vent. off-cycle and occupant override. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3.2 Rater-measured vent. rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7 Air inlet location (Complete if ventilation air inlet location was specified on design report; otherwise check "N/A"): ³	-	-	-	<input type="checkbox"/>
7.7.1 Inlet pulls ventilation air directly from outdoors & not from attic, crawlspace, garage, or adjacent dwelling unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.7.2 Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.7.3 Inlet is provided with rodent / insect screen with ≤ 0.5 inch mesh.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-

Rater Field Checklist - MFNC

Key Enhancement #5: Comprehensive, including all 'inspectable' items.



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2 Accessible insulation in dwelling units meets or exceeds levels specified in Item 3.1 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed.				
3.1.2 Installed ceiling and floor insulation levels meet or exceed values from the "Group R" column in the 2009 IECC Commercial chapter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Accessible insulation in common spaces meets or exceeds levels specified in Item 3.2 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed. ⁴				
3.2.1 Installed ceiling and floor insulation levels meet or exceed ENERGY STAR MF Reference Design requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 All visible insulation achieves Grade I install. per ANSI / RESNET / ICC Std. 301. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Heated plenums in unconditioned space or ambient conditions meet the following requirements: ²				
1.5.1 Sides of heated plenum are an air barrier and insulated to $\geq R-3ci$ in CZ 1-4; $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.2 Insulation at top of plenum meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.3 Bottom of heated plenum has at least R-13 insulation. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Garages with space heating meet the following requirements: ²				
1.6.1 Insulation on above grade walls and walls on the first story below grade $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6.2 Ceiling insulation meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Rater Field Checklist - MFNC

Key Enhancement #6: MFNC Also includes common spaces.



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2 Accessible insulation in dwelling units meets or exceeds levels specified in Item 3.1 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed.				
3.1.2 Installed ceiling and floor insulation levels meet or exceed values from the "Group R" column in the 2009 IECC Commercial chapter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Accessible insulation in common spaces meets or exceeds levels specified in Item 3.2 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed. ⁴				
3.2.1 Installed ceiling and floor insulation levels meet or exceed ENERGY STAR MF Reference Design requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 All visible insulation achieves Grade I install. per ANSI / RESNET / ICC Std. 301. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Heated plenums in unconditioned space or ambient conditions meet the following requirements: ²				
1.5.1 Sides of heated plenum are an air barrier and insulated to $\geq R-3ci$ in CZ 1-4; $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.2 Insulation at top of plenum meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.3 Bottom of heated plenum has at least R-13 insulation. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Garages with space heating meet the following requirements: ²				
1.6.1 Insulation on above grade walls and walls on the first story below grade $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6.2 Ceiling insulation meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Rater Field Checklist - MFNC

Key Enhancement #6: MFNC Also includes common spaces.



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2 Accessible insulation in dwelling units meets or exceeds levels specified in Item 3.1 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed.				
3.1.2 Installed ceiling and floor insulation levels meet or exceed values from the "Group R" column in the 2009 IECC Commercial chapter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Accessible insulation in common spaces meets or exceeds levels specified in Item 3.2 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed. ⁴				
3.2.1 Installed ceiling and floor insulation levels meet or exceed ENERGY STAR MF Reference Design requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 All visible insulation achieves Grade I install. per ANSI / RESNET / ICC Std. 301. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Heated plenums in unconditioned space or ambient conditions meet the following requirements: ²				
1.5.1 Sides of heated plenum are an air barrier and insulated to ≥ R-3ci in CZ 1-4; ≥ R-5ci in CZ 5-6; ≥ R-7.5ci in CZ 7; ≥ R-9.5ci in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.2 Insulation at top of plenum meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.3 Bottom of heated plenum has at least R-13 insulation. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Garages with space heating meet the following requirements: ²				
4. While the QA Reviewer is not required to verify compliance with the insulation requirements in each common space, the QA Reviewer is required to review the ceiling insulation in at least one common space and floor insulation in at least one common space, if applicable.				
4.1 Insulation on above-grade walls and walls on the first story below-grade ≥ R-5ci in CZ 5-6; ≥ R-7.5ci in CZ 7; ≥ R-9.5ci in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Ceiling insulation meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Rater Field Checklist – MFNC Common Spaces



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

National Rater Field Checklist – Mandatory during Field Review; optional during File Review	Yes	No	Not Verified	N/A
1. High-Performance Fenestration & Insulation				
1.2 Accessible insulation in dwelling units meets or exceeds levels specified in Item 3.1 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed.				
3.1.2 Installed ceiling and floor insulation levels meet or exceed values from the "Group R" column in the 2009 IECC Commercial chapter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Accessible insulation in common spaces meets or exceeds levels specified in Item 3.2 of the Rater Design Review Checklist. Where no examples are accessible, rater documentation of installed insulation is reviewed. ⁴				
3.2.1 Installed ceiling and floor insulation levels meet or exceed ENERGY STAR MF Reference Design requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 All visible insulation achieves Grade I install. per ANSI / RESNET / ICC Std. 301. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Heated plenums in unconditioned space or ambient conditions meet the following requirements: ²				
1.5.1 Sides of heated plenum are an air barrier and insulated to $\geq R-3ci$ in CZ 1-4; $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.2 Insulation at top of plenum meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5.3 Bottom of heated plenum has at least R-13 insulation. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Garages with space heating meet the following requirements: ²				
1.6.1 Insulation on above grade walls and walls on the first story below grade $\geq R-5ci$ in CZ 5-6; $\geq R-7.5ci$ in CZ 7; $\geq R-9.5ci$ in CZ 8, AND;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6.2 Ceiling insulation meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Rater Field Checklist – MFNC Common Spaces

2009 IECC				
3. Reduced Thermal Bridging				
The following items must be verified in the dwelling unit being reviewed and 50% of common spaces where the condition is present:				
3.1 For insulated ceilings with attic space above (i.e., non-cathedralized), Grade I insulation extends to the inside face of the exterior wall below and is $\geq R-21$ in CZ 1-5; $\geq R-30$ in CZ 6-8. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 For insulated ceilings with attic space above, attic access panels and drop-down stairs insulated $\geq R-10$ or equipped with durable $\geq R-10$ cover. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Insulation beneath attic platforms (e.g., HVAC platforms, walkways) $\geq R-21$ in CZ 1-5; $\geq R-30$ in CZ 6-8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Air Sealing				
The following items must be verified in the dwelling unit being reviewed and 50% of common spaces where the condition is present, to reduce air leakage to exterior, adjacent buildings, or unconditioned spaces:				
4.1 Visible ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Recessed lighting fixtures adjacent to unconditioned space ICAT labeled and gasketed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions made substantially air-tight with doorsweep and weatherstripping or equivalent gasket.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.8 Attic access panels, roof hatches and drop-down stairs are gasketed (i.e., not caulked) or equipped with durable covers that are gasketed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The following items must be additionally verified in the dwelling unit being reviewed:				
4.9 Doors serving as a unit entrance from a corridor/stairwell made substantially air-tight with doorsweep and weatherstripping or equivalent gasket.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10 Measured compartmentalization is no greater than 0.30 CFM50 per square feet of dwelling unit enclosure area, following procedures in ANSI / RESNET / ICC Std. 380. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10.1 For dwelling units with forced air distribution systems without ducted returns and located in a closet adjacent to unconditioned space, the measured pressure difference between the space containing the air handler and the conditioned space during the compartmentalization test is no greater than 5 Pa. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rater Field Checklist – MFNC Common Spaces

5. Heating & Cooling Equipment – Complete Track A – HVAC Grading or Track B – HVAC Testing by FT Agent		Yes	No	Not Verified	N/A
Track A	5a.1 Blower fan volumetric airflow is Grade I or II per ANSI / RESNET / ACCA Std. 310.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5a.2 Blower fan watt draw is Grade I or II per ANSI / RESNET / ACCA Std. 310.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5a.3 Refrigerant charge is Grade I per ANSI / RESNET / ACCA Std. 310. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Track B	5b.1 HVAC manufacturer & model number on installed equipment matches either of the following (check box): ^{2, 5} <input type="checkbox"/> National HVAC Design Report (4.6-4.9 & 4.25-4.26) <input type="checkbox"/> Written approval received from designer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
5.5 Heating and cooling eqpt. serving common spaces, but not dwelling units, meet efficiency levels in the Exhibit X. ^{2, 5}		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment Controls					
5.8 All heating and cooling systems serving the dwelling unit have thermostatic controls within the dwelling unit which are not located on exterior walls.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9 Stair and elevator shaft vents equipped with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to open as required by fire and smoke detection systems. Dampers are verified to be closed at the time of inspection.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10 Freeze protection systems, such as heat tracing of piping and heat exchangers, including self-regulating heat tracing, and garage / plenum heaters include automatic controls that are verified to shut off the systems when pipe wall or garage / plenum temperatures are above 40°F.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10.1 Where heat tracing is installed for freeze-protection, controls must be based on pipe wall temperature and a minimum of R-3 pipe insulation is also required.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.11 Snow- and ice-melting systems include automatic controls that are verified to shut off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control is installed that is verified to shut off system when the outdoor temperature is above 40°F, so that the potential for snow or ice accumulation is negligible.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydronic Distribution					
5.12 For hydronic distribution systems, all terminal heating and cooling distribution equipment are separated from the riser or distribution loop by a control valve or terminal distribution pump, so that heated or cooled fluid is not delivered to the dwelling unit distribution equipment when there is no call from the thermostat.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.13 In the dwelling unit being reviewed, terminal units in hydronic distribution systems are equipped with pressure independent balancing valves or pressure independent control valves.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.15 For circulating pumps serving hydronic htg. or clg. systems with 3-phase motors, 1 HP or larger, motors meet or exceed efficiency standards for NEMA Premium™ motors. If 5 HP or larger, also installed with VFDs. ²		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. For Items 5b.1, 5.5, 7.1, and 10.1 while the QA Reviewer is not required to verify compliance for each HVAC and ventilation system installed in the building, the QA Reviewer shall verify compliance for the systems serving the dwelling unit being reviewed and in addition, the QA Reviewer shall verify compliance for a minimum of two systems that provide heating and/or cooling to a common space, and two systems that provide ventilation to a common space.

Rater Field Checklist – MFNC Central Exhaust Test

6. Duct Quality Installation				
6.1 In the dwelling unit being reviewed, ductwork installed without kinks, sharp bends, compressions, or excessive coiled flexible ductwork. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Bedrooms with a design supply airflow ≥ 150 CFM (per Item 5.2 on the National HVAC Design Report) pressure-balanced (e.g., using transfer grilles, jump ducts, dedicated return ducts, undercut doors) to achieve a measured pressure differential ≥ -5 Pa and $\leq +5$ Pa with respect to the main body of the dwelling unit when all air handlers are operating. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 In the dwelling unit being reviewed, all visible supply and return ducts in unconditioned space, including connections to trunk ducts, are insulated to $\geq R-6$. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4 Measured total duct leakage in dwelling unit being reviewed meets one of the following two options: ²				
6.4.1 <u>Rough-in</u> : Tested per allowances below, with the air handler & all ducts, building cavities used as ducts, & duct boots installed. In addition, verified <u>all</u> duct boots sealed to finished surface, at final. ² <u>No ducted returns</u> : ² The greater of ≤ 3 CFM25 per 100 sq. ft. of CFA or ≤ 30 CFM. Additionally, the measured pressure difference between the space containing the air handler and the conditioned space, with the air handler running at high speed, is ≤ 5 Pa. For systems > 1 ton, increase by 1 Pa per half ton. <u>One or two ducted returns</u> : ² The greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM. <u>Three or more ducted returns</u> : ² The greater of ≤ 6 CFM25 per 100 sq. ft. of CFA or ≤ 60 CFM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4.2 <u>Final</u> : Tested per allowances below, with the air handler & all ducts, building cavities used as ducts, duct boots, & register grilles atop the finished surface (e.g., drywall, floor) installed. ² <u>No ducted returns</u> : ² The greater of ≤ 6 CFM25 per 100 sq. ft. of CFA or ≤ 60 CFM. Additionally, the measured pressure difference between the space containing the air handler and the conditioned space, with the air handler running at high speed is ≤ 5 Pa. For systems > 1 ton, increase by 1 Pa per half ton. <u>One or two ducted returns</u> : ² The greater of ≤ 8 CFM25 per 100 sq. ft. of CFA or ≤ 80 CFM. <u>Three or more ducted returns</u> : ² The greater of ≤ 12 CFM25 per 100 sq. ft. of CFA or ≤ 120 CFM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Townhouses only: Measured duct leakage to the outside the greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM25. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7 Duct leakage of central exhaust system that serves four or more dwelling units, serving the dwelling unit being reviewed meets one of the following two options:				
6.7.1 <u>Rough-in</u> : Tested including horizontal run outs, trunks, branches, and take-offs up to, but not including, the grilles where the leakage does not exceed 25% of exhaust fan flow. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7.2 <u>Final</u> : Tested inclusive of all ductwork between the fan and the grilles where the leakage does not exceed 30% of exhaust fan flow. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rater Field Checklist – MFNC Common Spaces

7. Dwelling-Unit & Common Space Mechanical Ventilation Systems & Inlets in Return Duct	Yes	No	Not Verified	N/A
7.1 Ventilation manufacturer & model number on installed equipment in the building matches either of the following (check box): ^{2,5} <input type="checkbox"/> National HVAC Design Report <input type="checkbox"/> Written approval received from designer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2 Measured ventilation rate is within either ± 15 CFM or $\pm 15\%$ of dwelling unit design values (2.7), and meets or exceeds rates required by ASHRAE 62.2-2010. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 Measured ventilation rate is within either ± 15 CFM or $\pm 15\%$ of common space design values (2.9), and meets or exceeds rates required by ASHRAE 62.1-2010. ^{2,6}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4 A ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment). Townhouses only: A readily-accessible ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5 For any outdoor air inlet connected to a ducted return of the dwelling unit HVAC system (Complete if present; otherwise check "N/A"): ²	-	-	-	<input type="checkbox"/>
7.5.1 Controls automatically restrict airflow using a motorized damper during vent, off-cycle and occupant override. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5.2 Measured vent. Rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.9 If central exhaust fans, ≤ 1 HP, are installed as part of the dwelling-unit mechanical ventilation system, the lesser of 5 or 20% of the installed fans are verified as direct-drive, ECM, with variable speed controllers. If > 1 HP, the lesser of 5 or 20% of the fans are installed with NEMA™ Premium Motors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.10 Air inlet locations (Complete if air inlet locations were installed (2.22, 2.23); otherwise check "N/A"): ²	-	-	-	<input type="checkbox"/>
7.10.1 Inlet(s) pull ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.10.2 Inlet(s) are ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
7.10.3 Inlet(s) are provided with rodent / insect screen with ≤ 0.5 inch mesh.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-

6. For Items 7.3 and 8.3, while the QA Reviewer is not required to verify compliance with the ventilation requirements in each common space, the QA Reviewer is required to review the Rater-provided common space ventilation test results for compliance. The QA Reviewer is then required to directly measure ventilation airflows for the lesser of 5 or 20% of the reported values.

Rater Field Checklist – MFNC Common Spaces

7.10.3 filter(s) are provided with rodent / insect screen with ≥ 0.5 inch mesh.				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Local Mechanical Exhaust (National HVAC Design Report Item # indicated in parenthesis)							
Dwelling Unit Mechanical Exhaust – In each dwelling unit kitchen and bathroom, a system is installed that exhausts directly to the outdoors and meets one of the following measured airflow standards: ²							
Location		Continuous Rate		Intermittent Rate ²			
8.1 Kitchen	Airflow	≥ 5 ACH, based on kitchen volume ²		≥ 100 CFM and, if not integrated with range, also ≥ 5 ACH based on kitchen volume ²		<input type="checkbox"/>	<input type="checkbox"/>
8.2 Bathroom	Airflow	≥ 20 CFM		≥ 50 CFM		<input type="checkbox"/>	<input type="checkbox"/>
Mechanical Exhaust for Common Spaces and Shared Garages							
8.3 Measured exhaust rates are ≥ ASHRAE 62.1 rates (2c). ^{2,6}						<input type="checkbox"/>	<input type="checkbox"/>
8.4 Where a garage exhaust ventilation system is installed, it is equipped with controls that sense CO and NO ₂ .						<input type="checkbox"/>	<input type="checkbox"/>
9. Filtration							
9.1 In the dwelling unit being reviewed, MERV 6+ filter(s) installed in each ducted mechanical system, serving an individual dwelling unit and located to facilitate access & regular service by the occupant or building owner. ²						<input type="checkbox"/>	<input type="checkbox"/>
9.1.1 Filter access panel includes gasket and fits snugly against the edge of filter when closed to prevent bypass. ²						<input type="checkbox"/>	<input type="checkbox"/>
9.1.2 All return air and mechanically supplied outdoor air passes through filter prior to conditioning.						<input type="checkbox"/>	<input type="checkbox"/>

Rater Field Checklist – MFNC Common Spaces

9.1.2 All return air and mechanically supplied outdoor air passes through filter prior to conditioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Combustion Appliances				
10.1 Furnaces, boilers, and water heaters located within the building's pressure boundary are mechanically drafted or direct-vented. If mechanically drafted, the minimum volume of combustion air required for safe operation by the manufacturer and/or code shall be met or exceeded and make-up air sources must be mechanically closed when the combustion appliance is not in operation. ^{2, 5}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2 In the dwelling unit being reviewed and all applicable common spaces, fireplaces located within the building's pressure boundary are direct-vented. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3 In the dwelling unit being reviewed and all applicable common spaces, no unvented combustion appliances other than cooking ranges or ovens are located inside the building's pressure boundary. For cooking ranges and ovens, local mechanical exhaust per Rater Field Checklist Item 8.1 requirements must be met. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Domestic Hot Water				
11.2 For hot water equipment serving common spaces but not dwelling units nor shared laundry: where rated in EF or UEF, meet the efficiency levels specified in the ENERGY STAR Multifamily Reference Design. Otherwise, meet or exceed 85% Et. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3 For in-unit storage water heaters, AHRI Certificate confirms the presence of a heat trap.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4 Where visible in the dwelling unit, DHW piping is insulated with a minimum of R-3. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
11.5 Measured delivery temperatures at faucets and showerheads do not exceed 125°F. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-

Revised 3/02/2021

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Rater Field Checklist – MFNC Common Spaces



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

12. Lighting	Yes	No	Not Verified	N/A
12.1 Common Space Lighting Controls:				
12.1.1 At least 50% of common spaces (including shared garages), except the building lobby and where automatic shutoff would endanger the safety of occupants, have occupancy sensors or automatic bi-level lighting controls installed and operation has been verified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2 Common Space Lighting Power Density Maximum (except garages): ²				
12.2.1 Rater-provided lighting power density calculations for the combined common spaces do not exceed ASHRAE 90.1-2007 allowances for those combined spaces, using the Space-by-Space or Building Area Method. For at least 50% of common spaces, the fixture counts, wattage, and approximate square footage are confirmed. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3 Shared garages: Rater-provided lighting power density calculations do not exceed 0.24 W/ft ² . The fixture counts, fixture wattage, and approximate square footage are confirmed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4 Exterior lighting controls: Fixtures, including parking lot fixtures, must include automatic switching on timers or photocell controls except fixtures intended for 24-hour operation, required for security, or located on dwelling unit balconies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.5 In at least 50% of all exterior and common spaces, lighting fixtures meet the efficiency requirements in the ENERGY STAR Multifamily Reference Design, except fixtures located on dwelling unit balconies. ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Appliances, Ceiling Fans, and Plumbing Fixtures				
13.2 Where installed in common spaces, refrigerators and dishwashers are ENERGY STAR certified and showerheads are WaterSense labeled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Whole Building Energy Consumption Data Acquisition Strategy				
14.1 For buildings 50,000 ft ² and larger, if the strategy involves a meter or other item installed at the location, this device has been confirmed as a strategy that enables the collection of monthly or annual building-level energy consumption data (electricity, natural gas, chilled water, steam, fuel oil, propane, etc.). ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instructions for Performing Quality Assurance Review



Final Page QA Checklist – SFNH + MFNC



ENERGY STAR Multifamily New Construction

Quality Assurance Checklist (ERI Path), v1 / 1.1 / OR-WA 1.2 (Rev. 02)

Additional Checklist Items and Exemptions

Additional Checklist Items - Use this space to list additional Items reviewed (attach additional pages, if needed)						
Checklist/Section Name	Item #	Notes	Yes	No	Not Verified	N/A
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



QA Checklist Summary

- Used for field and file review
- **Single-Family Timeline:** If a SFNH was certified using Rev. 11, QA should use this Rev. 11 SFNH QA Checklist. Homes permitted on or after **1/1/2022** must use Rev. 11.
- **Multifamily Timeline:** If an MFNC building was certified using Rev. 02, QA should use this Rev. 02 MFNC QA Checklist. Buildings with permit applications on or after **7/1/2021** must use Rev. 02.

Your Next Step: Review and start using the 'new' QA checklists.



Questions?



Part 2: ENERGY STAR Certification Review



ENERGY STAR Homeowner Complaints Context

- Historically, RESNET and EPA review ~5-10 complaints per year related to ENERGY STAR certified homes.
- Beginning Jan. 2021, Homeowner complaints that raise issues with the ENERGY STAR certification of a home are being addressed through a new process called **Certification Review**.
- EPA designed the Certification Review policy, RESNET is implementing it as an HCO (Home Certification Organization). QADs will play a key role.
- Certification Reviews are specific to the ENERGY STAR program and run on a separate track from the ethics complaints process available for any RESNET HERS-rated home.

Certification Review Process

- RESNET-hosted complaint form
- Eligibility Screening
- QAD from original provider completes Certification Review within 60 days
 - Based on **ENERGY STAR QA/CR checklist**
 - Includes documentation review and site-visit
- Two possible outcomes:

Home **keeps**
ENERGY STAR certification

ENERGY STAR certification
is **revoked**

Step 1: Prior to Formal Complaint/Inquiry

For Homeowner and builders: The opportunity to fix a mistake or find a mutually-agreeable resolution is *before* Certification Review request is filed.

For Providers and QADs: Opportunity to check paperwork or update rating is *before* Certification Review request is filed. QADs can complete CR paperwork and inspection before a CR is officially requested.

Step 2: Homeowner Complaint Form

Homeowners may submit an official request for Certification Review (CR) directly to the Home Certification Organization [*e.g. RESNET*] that originally certified the home.

RESNET's Resources:

RESNET Complaint Resolution Process:

<https://www.hersindex.com/about-resnet/complaint-resolution-process/>

RESNET Complaint Form:

<https://www.hersindex.com/file-complaint-resolution/>

Step 2: Homeowner Complaint Form



RESNET COMPLAINT RESOLUTION PROCESS

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The HERS Index | Know Your HERS Score | Benefits | About Us

Complaint Resolution Process

RESNET members are held to a higher standard.

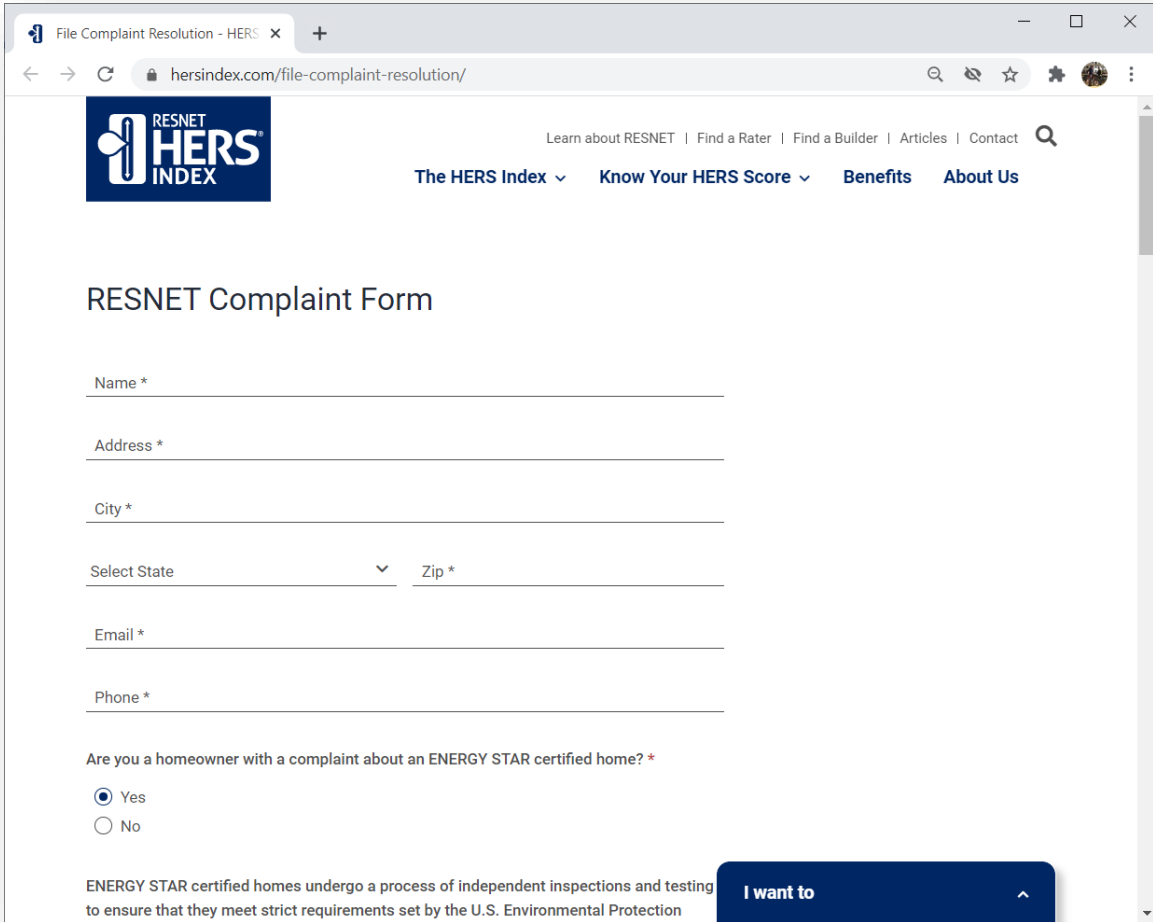


RESNET Complaint Resolution Process

RESNET's rater members subscribe to high standards of quality and ethics in their rating and auditor services. RESNET has adopted a [complaint resolution process](#) to address compliance complaints of a rater's services. RESNET has also developed a formal Certification Review process in conjunction with the U.S. Environmental Protection Agency (EPA) to respond to situations in which homeowners have concerns about the ENERGY STAR certification of their home.

The RESNET complaint resolution process only covers activities specified in the RESNET

I want to



File Complaint Resolution - HERS

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RESNET Complaint Form

Name *

Address *

City *

Select State | Zip *

Email *

Phone *

Are you a homeowner with a complaint about an ENERGY STAR certified home? *

Yes

No

ENERGY STAR certified homes undergo a process of independent inspections and testing to ensure that they meet strict requirements set by the U.S. Environmental Protection

I want to

Step 3: Eligibility Screening

To be eligible for Certification Review, the following five conditions must be met:

- The homeowner must have attempted to resolve the complaint with the builder.
- The home must have been built and/or certified within the last two years and be owned by the original owner.
- The home must have been ENERGY STAR certified or sold as such.
- There must have been no significant structural changes to the home since it was built.
- There must be evidence that the home is not in compliance with one or more applicable ENERGY STAR program requirements.

Step 4: Certification Review Assignment

After determining a homeowner inquiry is eligible, RESNET will assign a Quality Assurance Designee (QAD) from the home's original Accredited Provider to complete the Certification Review.

EPA and RESNET will be available for a **kickoff call** to discuss responsibilities and questions.

Step 5: QAD Performs Review

- 1. Collect Documentation:** Collect all pertinent documentation. Inability to collect a required documentation item constitutes a failure.
- 2. Perform Home Inspection:** Completing the full *ENERGY STAR Quality Assurance Checklist*, and the *Certification Review Supplement Checklist* based on observations of the current state of the home.
- 3. Prepare Certification Review Report:** Prepare a report that includes the completed checklists, documented observations of the home's current state, and a determination of whether the Certification Review passes or fails.
 - **Due date = 60 days.**

Certification Review =

Quality Assurance Checklist (pages 1-3)

**ENERGY STAR Single-Family New Homes
Quality Assurance & Certification Review Checklists,
Version 3 / 3.1 (Rev. 11)**

An ENERGY STAR Quality Assurance Checklist shall be completed during each quality assurance file review and field review (QA review) of homes being certified through the ENERGY STAR Single-Family New Homes program in accordance with the policies and procedures of the Home Certification Organization (HCO). This revision of the QA checklist is mandatory for homes certified under Version 3 / 3.1, Revision 11. QA reviews for homes certified under Revision 10 may continue to use the prior revision of this document titled "2020 Rater Quality Assurance Checklist." Review complete instructions on page 4.

ENERGY STAR Quality Assurance Checklist

Home Address: _____ City: _____ State: _____ Zip Code: _____

Action Items / Summary of QA

If any items are marked "No" or "Not Verified," an action/explanation summary document shall be attached. Yes No N/A

Documentation Collection – Collected these items as part of the QA data file

A) Energy Rating File collected. Yes No N/A

B) National Rater Design Review Checklist collected, with no items left blank. Yes No N/A

C) Documentation that builder has an ENERGY STAR partnership agreement at the time of certification, if documentation of active partnership cannot be verified, contact energyathomes@energystar.gov. Yes No N/A

If Track A – HVAC Credential was pursued:

D) HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, with the ENERGY STAR equipment collected, with no items left blank. Yes No N/A

E) ANSI / RESNET / ACCA Std. 310 Rater Design Review – Checklist collected, completed for applicable housing type and with all items marked "Rater Verified." Yes No N/A

If Track B – HVAC Credential was pursued:

D) ENERGY STAR National HVAC Design Report collected, with no items left blank. Yes No N/A

E) Documentation that HVAC contractor had required credential at the time of certification, unless all equipment is an exempted type, in which case check: Exempted If documentation of active credential cannot be verified, contact energyathomes@energystar.gov. Yes No N/A

F) National Rater Field Checklist collected, with no items left blank or marked "Must Contact." Yes No N/A

List of any exemptions or alternatives used by the Rater: _____

Per 6b.1, written approval from designer collected if installed models do not match National HVAC Design Report. Yes No N/A

Per 7.7, if smaller distance is used for inlet and outlet of balanced ventilation system per footnote, manufacturer's instructions collected indicating that the smaller distance may be used. Yes No N/A

Rater name, user inspection dates and rater initials are recorded. Yes No N/A

If any Builder Verified items are used, builder employee, builder inspection date and builder initials are recorded. Yes No N/A

Energy Rating File – File is consistent with program requirements, Rater's documentation, and field observations. Yes No N/A

Energy Rating File passes the Home Certification Organization's (HCO's) quality assurance review checklist.¹ Yes No N/A

EQ of the home meets or exceeds the ENERGY STAR (ER) Target for the program version applicable at the time of certification. Yes No N/A

Energy Rating file is consistent with the Rater Design Review Checklist

2.1. Modeled fenestration meets or exceeds 2009 IECC requirements. Yes No N/A

3.1. Modeled ceiling, wall, floor, and slab insulation levels comply with one of the following options: Yes No N/A

3.1.1. Meets or exceeds 2009 IECC levels OR:² Yes No N/A

3.1.2. Achieves ≥ 13% of the total UA resulting from the UA-factors in the 2009 IECC Table 402.1.3 and modeled infiltration does not exceed: Yes No N/A

3 ACH50 in C2a 1.2 2.5 ACH50 in C2a 3.4 2 ACH50 in C2b 5.6.7 1.5 ACH50 in C2.8 Yes No N/A

Energy Rating file is consistent with the Rater Field Checklist

1.3. Modeled insulation achieves Grade I installation per ANSI / RESNET / ICC Std. 301.³ Yes No N/A

3.1.3.3.4.10. Modeled attic insulation meets minimum R-value at perimeter, platforms and attic covers.³ Yes No N/A

3.2. For floors on grade (C2.4.6), slab edge insulation with R-4.0 insulation at depth specified by the 2009 IECC.³ Yes No N/A

3.4. Modeled above grade walls are consistent with documented thermal bridging strategy (3.4.1, 3.4.2 or 3.4.3).³ Yes No N/A

6.3. Modeled supply and return ducts in unconditioned space are insulated to R-6.³ Yes No N/A

6.4 & 6.5. Modeled duct leakage is consistent with items 6.4 (total leakage) and 6.5 (leakage to outdoors). Yes No N/A

7.1. Modeled ventilation rate is within ± 15 CFM or a ± 10% of design value (2.3).³ Yes No N/A

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Certification Review Supplement Checklist (pages 5-6)

**ENERGY STAR Single-Family New Homes
Quality Assurance & Certification Review Checklists,
Version 3 / 3.1 (Rev. 11)**

Certification Review Supplement Checklist

Certification Review

EPA has developed a process, called Certification Review, to address cases where a homeowner has concerns about the ENERGY STAR certification of their home. The purpose of a Certification Review is to determine whether a home should maintain its ENERGY STAR certification. There are two possible outcomes: (1) the home will maintain its ENERGY STAR certification or (2) the home's ENERGY STAR certification will be withdrawn. Learn more at energy.gov/partner_resources/residential_new_certification_review.

Certification Review Process

When a Home Certification Organization (HCO) receives an eligible homeowner inquiry, the HCO will initiate a Certification Review of the home and assign it to an appropriate individual according to the HCO's policies. The assigned reviewer shall complete the Certification Review within 60 days by performing the following steps:

- Collect Documentation.** Collect all pertinent documentation using the Documentation Collection sections of the Quality Assurance Checklist and Certification Review Supplement Checklist. Inability to collect a required documentation item constitutes a failure, in which case proceed directly to Step 3; preparing the certification review report.
- Perform Home Inspection.** Coordinate a time with the homeowner to inspect the home. During that inspection, complete the remainder of the Quality Assurance Checklist and Certification Review Supplement Checklist based on observations of the current state of the home.
- Prepare Certification Review Report.** Prepare a report that includes the completed Quality Assurance Checklist and Certification Review Supplement Checklist, documented observations of the home's current state, and a determination of whether the Certification Review passes or fails. Share a copy of the report with the HCO, which will in turn provide a copy to the homeowner.

If the assigned reviewer determines that the Certification Review fails, the ENERGY STAR certification of the home shall be withdrawn. If the assigned reviewer determines that the Certification Review passes, the ENERGY STAR certification of the home shall be maintained. In that case, the homeowner has the opportunity to appeal the determination. Refer to the HCO's policies for details on the appeals process.

Instructions for Performing Certification Review

This document should be used in conjunction with the applicable ENERGY STAR Certified Homes Program Requirements, Rater Design Review Checklist, Rater Field Checklist, HVAC Design Report, HVAC Commissioning Checklist, and Water Management System Builder Requirements. Additional program requirements may be inspected and included in the Additional Checklist items and Exemptions table above. Alternatives and exceptions to those documents, including those in the footnotes, should be considered where applicable. Where a program review or policy record entry has lowered the stringency of a requirement, the most recent policy may be used, even if it was not in place at the time of original certification.

In general, the benefit of doubt should be given to the original rating unless it is definitively clear that a requirement was not met at time of certification. The assigned reviewer should apply judgment in accounting for normal aging of construction materials over time, such as the settling of blown insulation. For example, for item 8.9 of the National Rater Field Checklist, the focus should be on the presence of moldwaterproofing on doors rather than the current efficiency of the weatherstripping. The Certification Review Supplement Checklist modifies performance thresholds for certain checklist items to account for these types of aging effects.

Homes are eligible for Certification Review only if there have been no significant structural changes to the home since it was built. If such modifications are observed, the assigned reviewer has the prerogative to suspend the inspection and share documentation of the observed modifications with the HCO in lieu of the Certification Review Report.

If any individual item on the Rater Quality Assurance Checklist or Certification Review Supplement Checklist is marked as "No," the Certification Review is considered to have failed.

Guidance on Destructive Testing

At the behest of the homeowner, destructive testing may be used to inspect items that would otherwise not be visible. For example, if it were suspected that no insulation was installed in an exterior wall, observation holes could be drilled in the interior gypsum board. The homeowner bears complete responsibility for arranging all demolition and repair for destructive testing that they elect to undertake. Before undertaking destructive testing, it is recommended that homeowners consult with a qualified expert who can use non-invasive methods like infrared imaging to prioritize areas of concern. Demolition work, such as drilling observation holes, must occur in the presence of the assigned reviewer performing the Certification Review. Areas that are exposed outside the presence of the assigned reviewer shall be protected for the purpose of the Certification Review.

Documentation Collection

Documentation Collection	Yes	No	N/A
If Path B – HVAC Credential was pursued, HVAC Commissioning Checklist collected, with no items left blank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy Rating File – File is consistent with program requirements, Rater's documentation, and field observations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy Rating File passes the Home Certification Organization's (HCO's) Certification Review checklist. ¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rater Field Checklist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 If item 3.1 of the Rater Design Review Checklist was not using item 3.1.2, infiltration is permitted to meet the following levels: ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 ACH50 in C2a 1.2 3.5 ACH50 in C2a 3.4 3 ACH50 in C2b 5.6.7 2.5 ACH50 in C2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Duct Quality Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Measured pressure differential meets ≥ 5 Pa or, for bedrooms with a design airflow ≥ 150 CFM, ≥ 8 Pa. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4 Measured total duct leakage is permitted to meet ≤ 12 CFM25 per 100 sq. ft. of CFA or ≤ 120 CFM for a duct system with three or more returns, ≤ 18 CFM25 per 100 sq. ft. of CFA or ≤ 180 CFM. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Measured duct leakage to outdoors is permitted to meet ≤ 6 CFM25 per 100 sq. ft. of CFA or ≤ 60 CFM25. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Whole-House Mechanical Ventilation System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.1. Measured ventilation rate is permitted to be within ± 25 CFM or a 25% of design value (2.3). ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 If outdoor intakes are connected to return side of the HVAC system, controls must be installed which are capable of operating intermittently & automatically based on a timer and restricting intake when not in use. As long as the controls are capable of meeting these criteria, it is permissible for the controls' settings to differ at the time of certification review. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Local Mechanical Exhaust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kitchen & bathroom exhausts systems are permitted to meet one of the following measured airflow standards: ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Location	Continuous Rate	Intermittent Rate	
8.1 Kitchen	≥ 3 ACH, based on kitchen volume ²	≥ 60 CFM and, if not integrated with range, also ≥ 3 ACH based on kitchen volume ²	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.2 Bathroom	≥ 30 CFM	≥ 30 CFM	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Water Management System Builder Requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Water-Managed Site and Foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.1 Floor slabs, porch slabs, walls, and driveways sloped ≥ 0.25 in. per ft. away from home to edge of surface or 10 ft., whichever is less. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Final grade sloped ≥ 0.25 in. per ft. away from home for ≥ 10 ft. ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7 Sump pump covers mechanically attached with full gasket seal or equivalent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Water-Managed Wall Assembly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1 Flashing at bottom of exterior walls with weep holes included for masonry veneer, or equivalent drainage system. See footnote on the Water Management System Builder Requirements for exemptions. ⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Water-Managed Roof Assembly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 For homes that don't have a sub-on-grade foundation and do have expansive or collapsible soils, girders & downpipes provided for energy gaging that discharges water on sloping final grade ≥ 5 ft. from foundation, or to underground catchment system. ⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Water-Managed Building Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1 Walk-to-wall carpet not installed within 2.5 ft. of toilets, tubs, and showers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6 For each condensate-producing HVAC component, corrosion-resistant drain pan (e.g., galvanized steel, plastic) included that drains to a conspicuous point of disposal in case of leakage. ⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Footnotes

- Home Certification Organizations (HCOs) are independent organizations recognized by EPA to implement an ENERGY STAR certification program for single-family and multifamily homes and apartments using an Energy Rating Index (ERI) compliance path. Learn more and find a current list of HCOs at energy.gov/partner_resources/residential_new_certification_review.
- Where the checklist item cannot be verified because it is not visible, not accessible, cannot be tested, or there are other extenuating circumstances, mark the item in the column "Not Verified," and include an explanation in an attached document.
- This item has been added for space or has a footnote with an exemption or alternative. Refer to referenced program document for full details. When an item is properly met using an exemption or alternative, mark the item as "Yes" and record a description in the Additional Checklist items and Exemptions table.
- This requirement is modified from the original program requirement in order to be applicable in the context of a finished home.

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Step 5: QAD Performs Review

Prepare Certification Review Report: Prepare a report that includes the completed checklists, documented observations of the home's current state, and a determination of whether the Certification Review passes or fails.

- **Due date = 60 days.**

Home **keeps**
ENERGY STAR certification

ENERGY STAR certification
is **revoked**

Step 6: Appeals

- A homeowner has the right to appeal the determination by hiring a [Qualified RESNET QAD](#) to complete their own Certification Review Report.
- Only reports completed by Qualified RESNET QADs will be accepted.
- If the results of the reviews differ, RESNET will work with EPA to make a final determination.

Benefits and Tradeoffs

Benefits

- Sets realistic expectations of possible outcomes
- Creates repeatable, predictable standard of review
- Review is comprehensive, foreclosing second bites at the apple
- Time-limited

Tradeoffs

- It is black and white: if a program requirement isn't met, the certification is revoked.

Certification Review Summary

- In effect as of **January 30, 2021** (i.e. now).
- There is an opportunity to review process with EPA & RESNET if inquiry arises.

Your Next Step: Review the Certification Review portion (pages 5-6) of the QA Checklist.

Key takeaway: the time to find and fix any issues with ENERGY STAR requirements is before a formal request is filed.

Resources

QA/CR Checklist available for download for SFNH and MFNC:

EPA: www.energystar.gov/newhomesrequirements (under Additional Resources for SFNH/MFNC tab)

RESNET: www.resnet.us/about/quality-assurance/resnet-quality-assurance-resources/

Certification Review Policy Pages:

EPA: https://www.energystar.gov/partner_resources/residential_new/certification_review

RESNET : <https://www.hersindex.com/about-resnet/complaint-resolution-process/>

ENERGY STAR Certified Homes

Web:

Main: www.energystar.gov/newhomespartners

Technical: www.energystar.gov/newhomesrequirements

Training: www.energystar.gov/newhomestraining

HVAC: www.energystar.gov/newhomesHVAC



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