



Rev. 08 is Great

ENERGY STAR Certified Homes Stakeholder Meeting

October 14th, 2015





Audience Poll

- How familiar are you with Revision 08?
 - Very familiar: I review it every night before I go to sleep.
 - Somewhat familiar: I've seen the Rev. 08 orientation videos.
 - Not at all familiar: I like Rev. 04 and I'm sticking with it.


Value vs Cost



OR



Value vs Cost

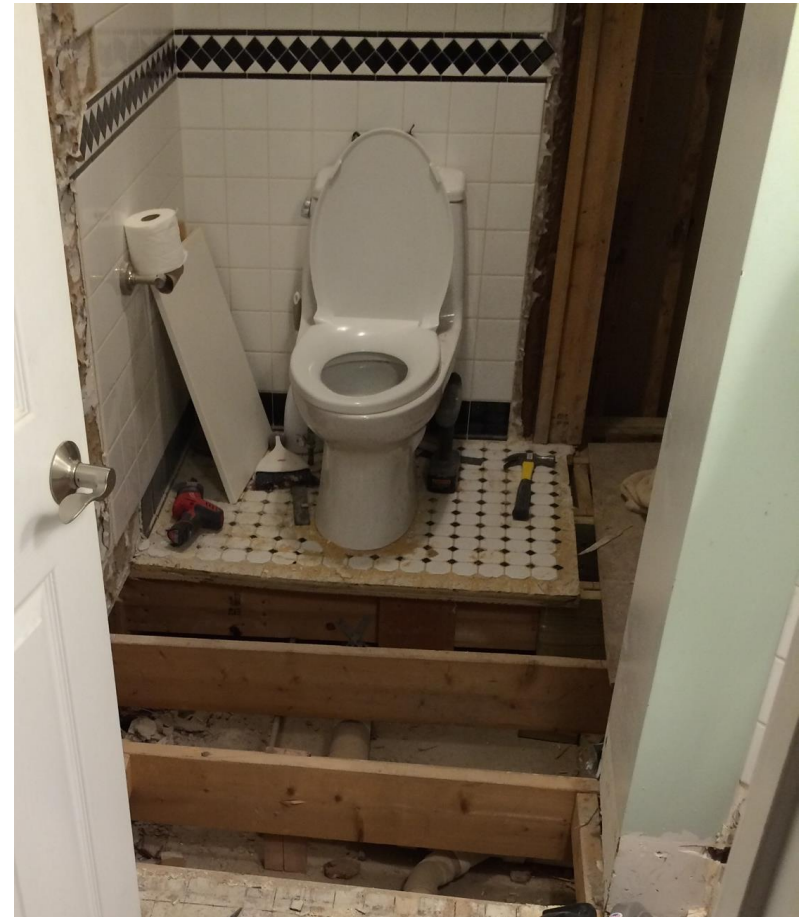


AGENDA
October 14–15, 2015
Portland, Oregon

2015 ENERGY STAR®
Certified Homes Stakeholder Meeting

UTILITY SPONSORS | BUILDERS | HOME ENERGY RATERS

OR



Value vs Cost



OR

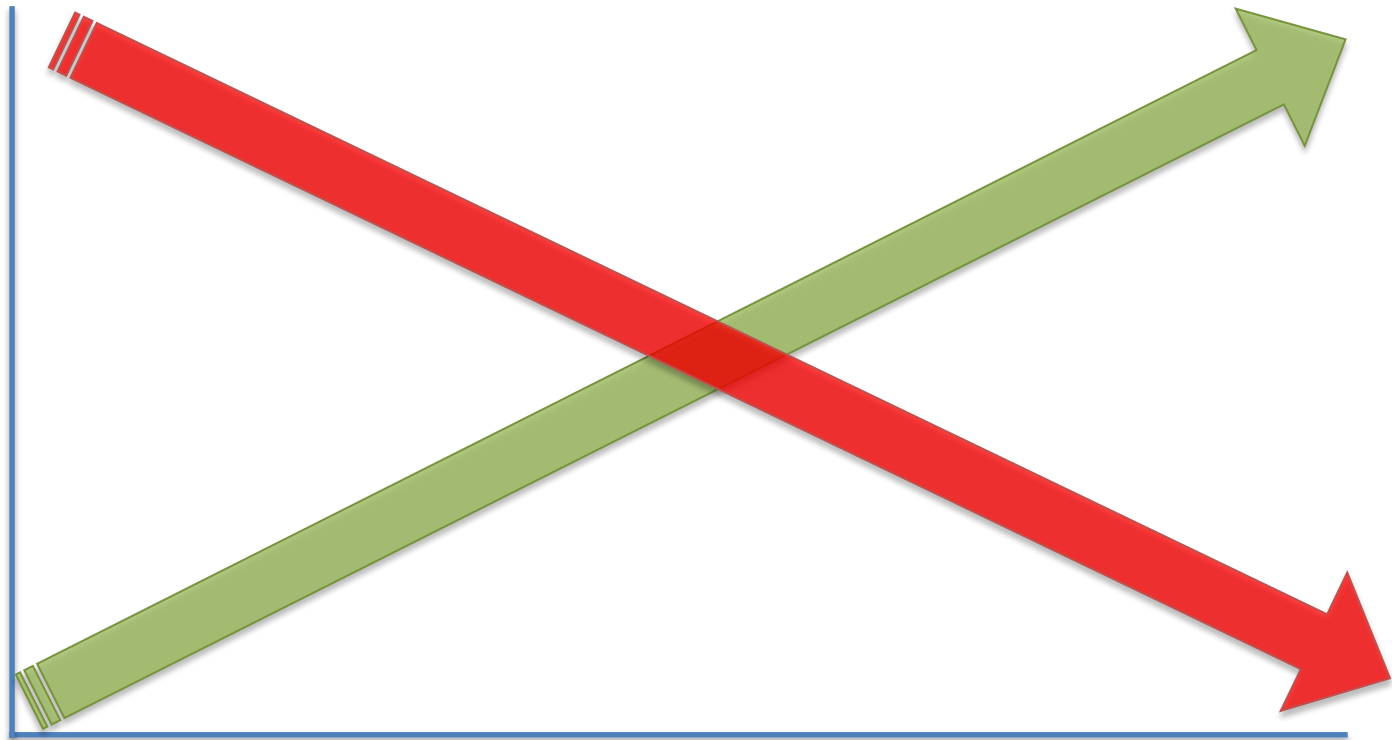


OR





Value vs Cost





What is a Revision?

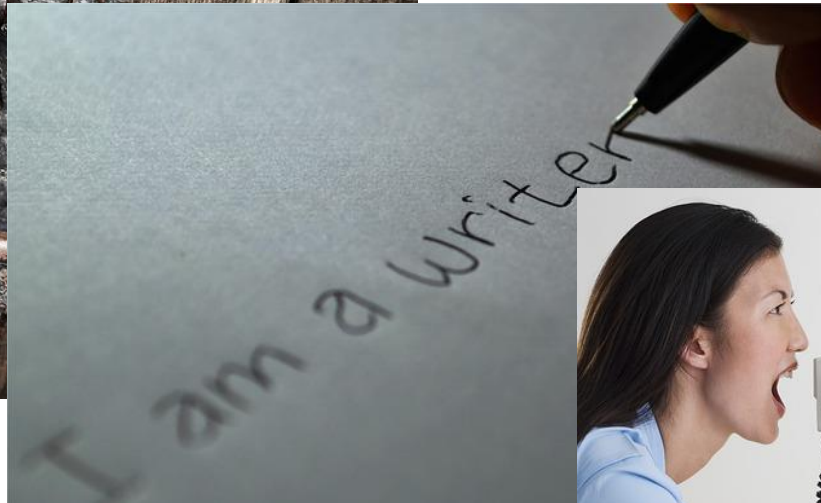
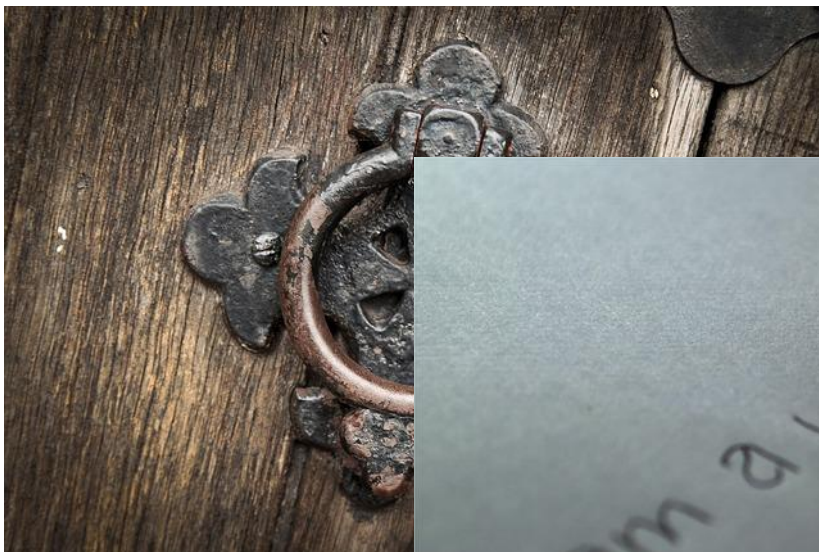
1 It clarifies

2 It simplifies

3 It improves

What is a Revision?

It's driven entirely by your feedback



Partner feedback: Too much paperwork



Solution: Reduce paperwork collection to a single-page

Partner feedback: Challenging workflow



Solution: Front-load req.'s to design stage & simplify final inspection

Partner feedback: More HVAC training & resources needed



Solution: Front-load req.'s to design stage & streamline final inspection



The three stages of certification

1

Design
Review

2

Pre-drywall
Inspection

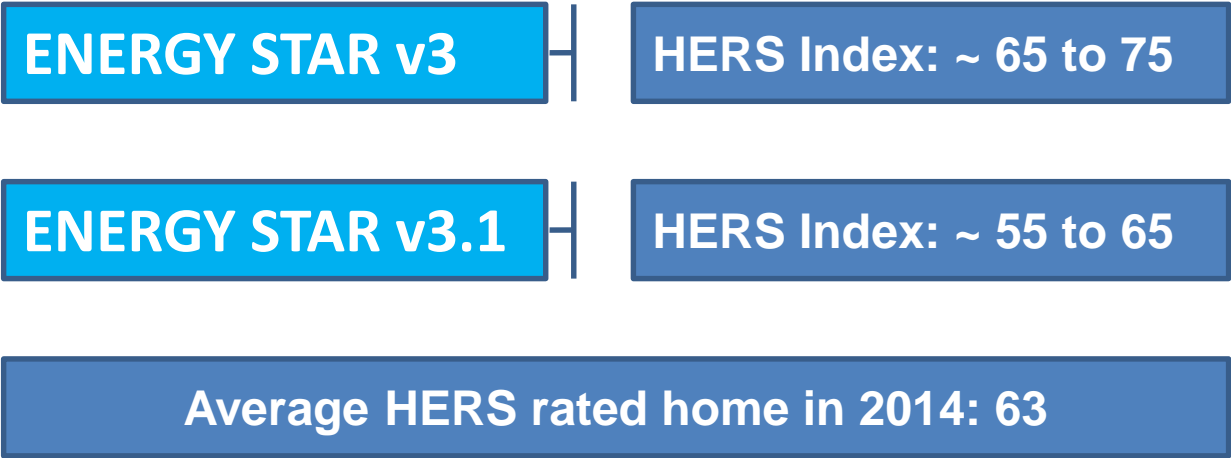
3

Final
Inspection



1 Design Review

Measure	Cost over HERS
Efficiency measures to hit ENERGY STAR HERS index target	\$0





1

Design Review

Audience Poll

- What is the average HERS Index of homes you rated in the last year?
 - Above 70
 - 66 to 70
 - 61 to 65
 - 60 or below
 - I'm not sure, or I didn't rate any homes



1 Design Review

Measure	Cost over HERS
Credentialed HVAC Contractor	+\$25

ACCA QA



Advanced Energy QAP

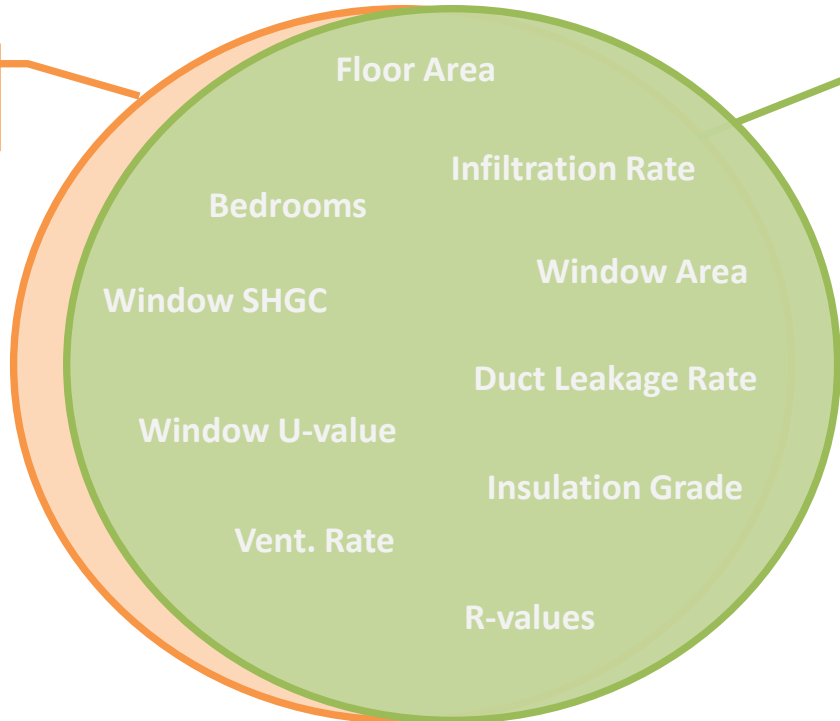




1 Design Review

Measure	Cost over HERS
HVAC designer completes <u>HVAC Design Report</u>	+\$15

HERS Rating



HVAC Load Calc

1

Design Review

Measure	Cost over HERS
Whole-house ventilation system	+\$100 to 375



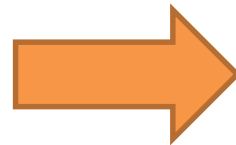


1 Design Review

Measure	Cost over HERS
Reduction in cooling system size	-\$275 to 325



3.5 tons



3.0 tons



1 Design Review

Measure	Cost over HERS
Rater completes <u>Rater Design Review Checklist</u>	+\$25



Rater Design Review Checklist ENERGY STAR Certified Homes, Version 3 / 3.1 (Rev. 08)

Home Address: _____ City: _____ State: _____ Permit Date: _____

	Must Correct	Rater ¹ Verified
1. Partnership Status		
1.1 Rater has verified that builder is an ENERGY STAR partner using energystar.gov/partnerlocator	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Rater has verified that HVAC contractor holds credential required to complete the HVAC Commissioning Checklist, unless all equipment to be installed in home to be certified is an exempted type, in which case check "N/A" ² <input type="checkbox"/> N/A HVAC Contractor Company Name: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. High-Performance Fenestration		
2.1 Specified fenestration meets or exceeds 2009 IECC requirements ³	<input type="checkbox"/>	<input type="checkbox"/>
3. High-Performance Insulation		
3.1 Specified ceiling, wall, floor, and slab insulation levels comply with one of the following options:	<input type="checkbox"/>	<input type="checkbox"/>
3.1.1 Meets or exceeds 2009 IECC levels ^{4,5,6} OR;	-	-
3.1.2 Achieves ≤ 133% of the total UA resulting from the U-factors in 2009 IECC Table 402.1.3, per guidance in <i>Footnote 4d</i> , AND specified home infiltration does not exceed the following: ^{5,6}	-	-



1 Design Review

Measure	Cost over HERS
Efficiency measures to hit ENERGY STAR HERS index target	\$0
Credentialed HVAC contractor	+\$25
HVAC designer completes <u>ENERGY STAR HVAC Design Report</u>	+\$15
Whole-house ventilation system	+\$100 to \$375
Reduction in cooling system size	-\$275 to \$325
Rater completes <u>Rater Design Review Checklist</u>	+\$25
Total	-\$160 to +\$165

2 Pre-Drywall Inspection

Measure	Cost over HERS
Reduced thermal bridging	-\$125 to \$175



2

Pre-Drywall Inspection

Measure	Cost over HERS
Rater completes pre-drywall tasks on the Rater Field Checklist	+\$75





2

Pre-Drywall Inspection

Measure	Cost over HERS
Reduced thermal bridging	-\$125 to \$175
Rater completes pre-drywall tasks on the Rater Field Checklist	+\$75
Total	-\$50 to \$100

3

Final Inspection

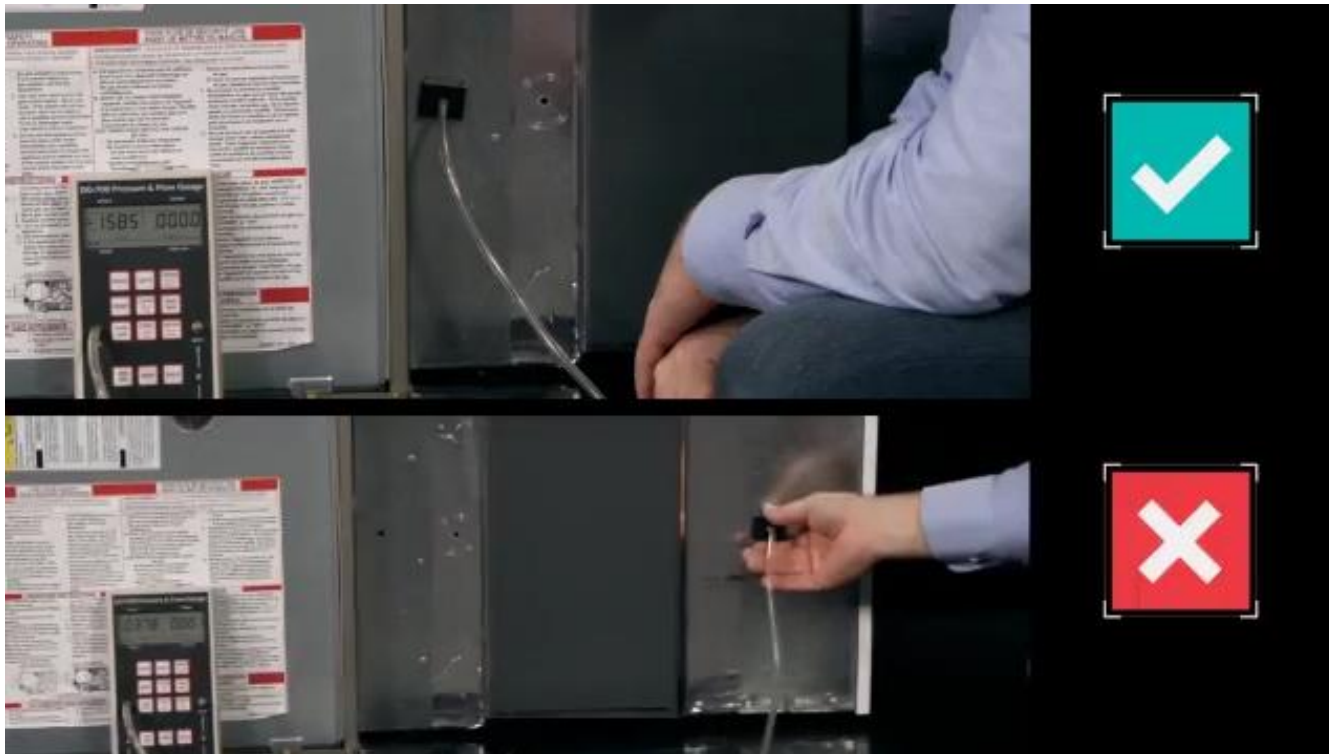
Measure	Cost over HERS
Rater performs duct leakage test	\$0
Rater performs blower door test	\$0



3

Final Inspection

Measure	Cost over HERS
Contractor & Rater conduct static pressure test	-\$25



3

Final Inspection


Measure	Cost over HERS
Contractor conducts refrigerant charge test	-\$25





3 Final Inspection

Measure	Cost over HERS
Contractor fills out <u>HVAC Commissioning Checklist</u>	-\$25



HVAC Commissioning Checklist ^{1, 2} ENERGY STAR Certified Homes, Version 3 / 3.1 (Rev. 08)

HVAC Commissioning Contractor Responsibilities:

- The commissioning contractor must be credentialed by an HVAC oversight organization to complete this checklist. One checklist must be completed and signed by the commissioning contractor for each HVAC system that is commissioned.
- The completed checklist for each commissioned system, along with the corresponding HVAC Design Report, shall be retained by the contractor for quality assurance purposes. Furthermore, the contractor shall provide the completed checklist to the builder, the Home Energy Rater responsible for certifying the home, and the HVAC oversight organization upon request.
- Visit www.energystar.gov/newhomeshvac for information about the credential requirement and this checklist.

1. Commissioning Overview

1.1 Contractor name _____ Contractor company _____ Date _____

1.2 Organization that your company is credentialed with: ACCA Advanced Energy NYSERDA

1.3 Builder client name: _____

1.4 Home address: _____ City: _____ State: _____ Zip code: _____

1.5 HVAC Design Report corresponding to this system has been collected from designer or builder. Contractor-verified

1.6 Area that system serves, per Item 1.4 of HVAC Design Report: Whole-house Upper-level Lower-level Other _____

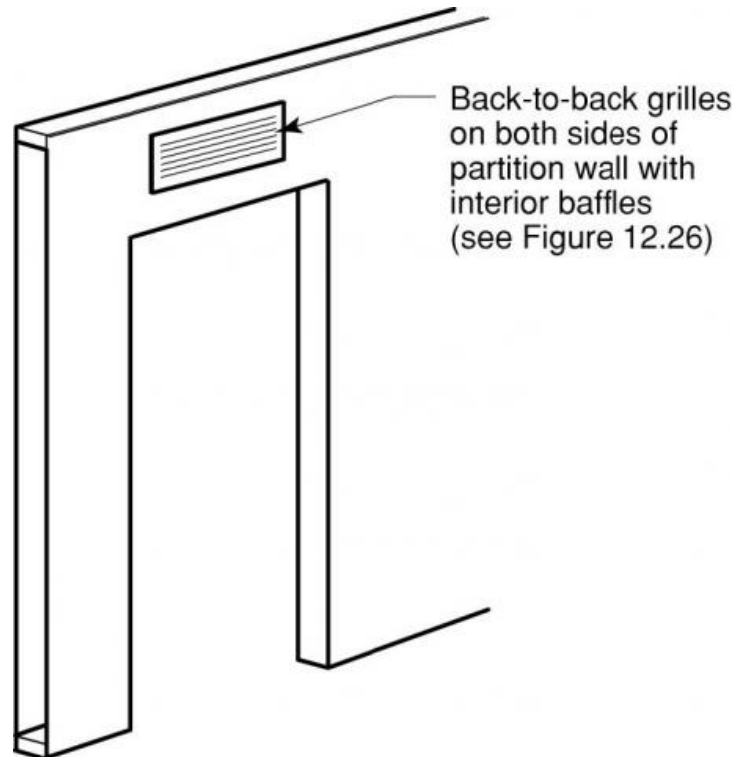
1.7 House plan, per Item 1.6 of HVAC Design Report: _____ Site-specific design Group design #: _____

2. Refrigerant Charge - Run system for 15 minutes before testing. If outdoor ambient temperature at the condenser is ≤ 55°F or, Contractor _____

3

Final Inspection

Measure	Cost over HERS
Bedroom comfort vents & verification	-\$200



3

Final Inspection

Measure	Cost over HERS
Rater verifies vent. system, exhaust fans, & filter; completes remaining Rater Field Checklist	-\$50



3 Final Inspection

Cost and paperwork for Water Management System eliminated

ENERGY STAR Certified Homes, Version 3 (Rev. 07)
Water Management System Builder Checklist^{1,2}

Home Address:	City:	Must Correct	Builder Verified	Rater Verified	N/A
1. Water-Managed Site and Foundation					
1.1 Patio slabs, porch slabs, walks, 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"/>	<input type="checkbox"/>
1.2 Back-fill has been tamped and final grade sloped ≥ 0.5 in. per ft. away from home for ≥ 10 ft. See Footnote for alternatives. ³		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Capillary break beneath all slabs (e.g., slab on grade, basement slab) except crawspace slabs using either: ≥ 6 mil polyethylene sheeting, lapped 6-12 in., or ≥ 1 in. extruded polystyrene insulation with tape joints. ^{4,5,6}		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4 Capillary break at all crawspace floors using ≥ 6 mil polyethylene sheeting, lapped 6-12 in., & installed		Using one	How	<input type="checkbox"/>	<input type="checkbox"/>
1.4.1 Placed beneath a concrete slab; OR,		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4.2 Lapped up each wall or pier and fastened with furring strips or equivalent; OR,		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4.3 Secured in the ground at the perimeter using stakes.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Exterior surface of below-grade walls of basements & unvented crawlspaces finished as follows: a) For poured concrete, masonry, & insulated concrete forms, finish with damp-proofing coating. ⁷ b) For wood framed walls, finish with polyethylene and adhesive or other equivalent waterproofing.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Class 1 vapor retarder not installed on interior side of air permeable insulation in ext. below-grade walls		<input type="checkbox"/>	<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"/>	<input type="checkbox"/>
1.8 Drain tile installed at the exterior side of footings of basement and crawspace walls, with the top of the drain tile pipe below the bottom of the concrete slab or crawspace floor. Drain tile surrounded with ≥ 6 of $\frac{1}{4}$ to $\frac{1}{2}$ in. washed or clean gravel and with gravel layer fully wrapped with fabric cloth. Drain tile level or sloped to discharge to outside grade (daylight) or to a sump pump. ⁹		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Water-Managed Wall Assembly					
2.1 Flashing at bottom of exterior walls with weep holes included for masonry veneer and weep screed for stucco cladding systems, or equivalent drainage system. ¹⁰		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 Fully sealed continuous drainage plane behind exterior cladding that laps over flashing in Item 2.1 and fully sealed at all penetrations. Additional bond-break drainage plane layer provided behind all stucco and non-structural masonry cladding wall assemblies. ^{10,11}		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 Window and door openings fully flashed. ¹²		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Water-Managed Roof Assembly					
3.1 Step and kick-out flashing at all roof-wall intersections, extending $\geq 4"$ on wall surface above roof deck and integrated shingle-style with drainage plane above; boot / collar flashing at all roof penetrations. ¹³		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 For homes that don't have a slab-on-grade foundation and do have expansive or collapsible soils, gutters & downspouts provided that empty to lateral piping that discharges water on sloping final grade ≥ 5 ft. from foundation, or to underground catchment system not connected to the foundation drain system that discharges water ≥ 10 ft. from foundation. See Footnote for alternatives & exemptions. ^{4,14}		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Self-sealing bituminous membrane or equivalent at all valleys & roof deck penetrations. ⁴		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4 In 2009 IECC Climate Zones 5 & higher, self-sealing bituminous membrane or equivalent over sheathing at eaves from the edge of the roof line to > 2 ft. up roof deck from the interior plane of the exterior wall.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Water-Managed Building Materials					



3

Final Inspection

Measure	Cost over HERS
Rater performs duct leakage test	\$0
Rater performs blower door test	\$0
Contractor & Rater conduct static pressure test	-\$25
Contractor conducts refrigerant charge test	-\$25
Contractor fills out <u>HVAC Commissioning Checklist</u>	-\$25
Bedroom comfort vents & verification	-\$200
Rater verifies vent. system, exhaust fans, & filter; completes remaining Rater Field Checklist	-\$50
Total	-\$325



Cost & Value Summary

Stage	Cost over HERS
1: Design Review	-\$160 to +\$165
2: Pre-Drywall Inspection	-\$50 to \$100
3: Final Inspection	+\$325
Total	~\$75 to 450



Summary: Why Rev. 08 is Great

For Raters:

- Reduces all paperwork collection to a one-page report per HVAC design.
- Greatly improves predictability at final inspection.
- Easier than ever to include ENERGY STAR certification in your offerings.

For Builders:

- Estimated to reduce costs from Revision 07.
- Less hassle-factor for them and their trades.
- Continues to help improve performance and reduce cost of HVAC system.

For Utilities:

- Improves cost-effectiveness.
- Makes participation in ENERGY STAR even easier.
- Continues to provide turn-key solution with great brand.



ENERGY STAR Certified Homes

Web:

Main: www.energystar.gov/newhomespartners
Technical: www.energystar.gov/newhomesguidelines
Training: www.energystar.gov/newhomestraining
HVAC: www.energystar.gov/newhomesHVAC

Email:

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