



# Statewide Checklist

**Version 4.25**  
Effective:  
April 1, 2011

<b>Builder Name/Company:</b>	Sq. Ft. (conditioned):	NC Climate Zone (3-5):
<b>Project Title/Address:</b>	Score .....	11

**MINIMUM POINT REQUIREMENTS FOR EACH SECTION:**

<b>Site Opportunities:</b>	<b>10</b>	<b>Indoor Air Quality Opportunities:</b>	<b>15</b>
<b>Water Opportunities:</b>	<b>9</b>	<b>Materials Opportunities:</b>	<b>18</b>
<b>Building Envelope Opportunities:</b>	<b>14</b>	<b>Bonus Opportunities:</b>	<b>3</b>
<b>Comfort Systems Opportunities:</b>	<b>18</b>	<b>Community Checklist:</b>	<b>3</b>
<b>Appliances, Lighting &amp; Renewables:</b>	<b>8</b>	(where applicable)	

For full item and documentation descriptions, item intents, and additional item information please refer to the **HBH Reference Manual** (available online at [www.healthybuihthomes.org](http://www.healthybuihthomes.org))

**USE OF THIS CHECKLIST**

- A.** This **NC HealthyBuilt Homes Checklist** contains the following:
  - Pages 1-2 explain the use of this checklist, and contain the **PROJECT SCORE CARD** (explained in C below).
  - Page 3 lists the Prerequisites (**mandatory items**) required for certification. Columns on either side of the Prereqs. are for HBH Inspector input.
  - Pages 4-19 include the HBH Opportunities (**optional items**) and their documentation requirements. Columns on either side of the opportunities are for Builder/Developer HBH Members (referred to as the "User") and HBH Inspector input.
- B.** **Columns for the User** (pages 4 - 10) - the User begins by selecting which opportunities the project will fulfill to achieve HBH certification. To mark these opportunities, the User should enter "Y" (for Yes) in the **Y** column, or "M" (for Maybe) in the **M** column. "Y" is used for items that will be completed for the project, and "M" is used for items that are under consideration by the project team. Items not being considered may be left blank. It is important that the User select enough "Y" items in each Opportunities Section (ex: "Site Opportunities") to meet the minimum number of points for that section. The **P**, **N**, and **Notes / Dates / Initials / ESv2.5 footnotes** columns are not available electronically to the User (see D below).
- C.** **PROJECT SCORE CARD** (page 2) - The User can use the **PROJECT SCORE CARD** to track the point totals for the project. The **PROJECT SCORE CARD** automatically tallies the points of the opportunities that are complete, or marked with a "Y" or "M."
- D.** **Columns for the approved HBH Inspector** (pages 4 - 19) - the HBH Inspector completes his/her review of the project by entering "P" (for Passing) in the **P** column, or "N" (for Not passing) in the **N** column. The **Notes / Dates / Initials / ESv2.5 footnotes** column is used for HBH Inspector sign-off, and details related to that opportunity.

*Feel free to ask for clarification at any time. We are here to help you achieve a NC HealthyBuilt Home!*

To contact the NC HealthyBuilt Homes Program you can email the NC HBH Coordinator at: [hbhcoordinator@ncsu.edu](mailto:hbhcoordinator@ncsu.edu)

**Note:**

1. This version of the NC HealthyBuilt Homes checklist represents the scenario experienced by a builder who successfully achieves the minimum program requirements of the **EPA's ENERGY STAR** for Homes Version 2.5. The prerequisites and credit opportunities shaded in light blue and indicated by a PASS (P) in Column A on this checklist represent the items that are automatically passed by the HBH program in all three North Carolina climate zones (CZ3, CZ4, and CZ5) by virtue of achieving ENERGY STAR Version 2.5 qualification. Column L, titled "ESv2.5 Requirements Climate Zones 3/4/5," indicates references to the **ENERGY STAR** Version 2.5 Program Requirements common to these three climate zones. Where only the cell in column L is shaded in light blue, the HBH credit concerned will be required by **ENERGY STAR** Version 3.0. A HBH **ENERGY STAR** Version 2.5 checklist scenario for each individual NC climate zone is also available.
2. The climate zone of each NC county is referenced in Table 301.1, 2009 NC State Building Code: Energy Conservation Code and Table N1101.2, NC State Building Code: Residential Code.
3. "Climate Zone" is abbreviated as CZ, i.e CZ3.

**DOCUMENTATION REQUIRED TO RECEIVE CREDIT FOR CHECKLIST ITEMS**

**1. Basic Information**

- a. **Documentation** should be submitted to the HBH Statewide Partner unless you are served by a HBH Community Partner, in which case all documentation is submitted to the Community Partner. Refer to the "Chart Your Project" document for the HBH Statewide Partner process.
- b. All documentation should be provided in **electronic format** unless approved by HBH Statewide and Community Partner staff.
- c. All references to "HBH staff" in the HBH Reference Manual or Checklist refer to HBH Statewide Partner staff.

**2. Specific Types of Documentation - Descriptions**

- a. Providing a "**Signature**" by a Responsible Party as documentation for a checklist item indicates that the party signing is accepting responsibility that the item has been completed in full and that all reasonable care has been taken to meet the stated intent of that checklist item.  
**Photographic documentation will be accepted for signature items if the photo clearly indicates item implementation / completion.**
- b. Each completed Checklist item requiring a "**Signature**" **must be signed by the Responsible Party** (often the builder) on the "**Document Signature Sheet.**" The builder should maintain a single electronic or hard copy of this document for the collection of signatures. The builder/developer may provide all of the required signatures. The provider of a signature assumes responsibility for the credit item signed for. The original signed signature sheet will be provided to the homeowner (see Prerequisite 11).
- c. An "**Inspection**" by an HBH approved inspector indicates that the item has been verified by the inspector. **Approved HBH inspectors** are: HBH Statewide and Community partner staff, HBH Independent Inspectors (described in item 3 below), and HERs raters that have completed approved HBH training. These raters are listed on the *healthybuilt homes.org* web site. Only Statewide and Community Partner HBH staff, and HBH Independent Inspectors will perform final inspections. Completed checklists require the signature (or initials) of the inspector next to each item requiring an inspection. **Photographic documentation will be accepted for inspection items if the photo clearly indicates item implementation / completion.**
- d. "**Signature and Inspection**" indicates that **both** a signature by a Responsible Party **and** an inspection by an approved HBH inspector are required to receive credit for the item.
- e. "**Signature or Inspection**" indicates that **either** a signature by a Responsible Party **or** an inspection by an approved HBH inspector are required to receive credit for the item - **not both**.
- f. "**Final Walkthrough (FW)**" is a required inspection of the completed home by **HBH staff, Community Partner Staff, or an HBH Independent Inspector** (see item 3 below). Some items require both a **FW** verification as well as some other form of documentation.
- g. "**FW; Signature or Inspection**" indicates that a Final Walkthrough inspection **and either** a signature by a Responsible Party **or** an inspection by an approved HBH inspector are required for the item.

**HBH Independent Inspectors** are allowed to register and inspect new homes without pre-authorization from HBH staff. They may also certify that a house has met all of the requirements for receiving a certificate from the NC HealthyBuilt Homes program. For a list of approved HBH Independent Inspectors, contact the NC HBH Statewide office.

**Disclaimer:** The HealthyBuilt Homes program, its representatives, and approved inspectors (see item 2b above) are only responsible for verifying HBH Checklist requirements that have been implemented. HBH verification **should not be considered a warranty** as to the quality or appropriateness of the selected feature or installation.

**5. All final measurements and calculations** are subject to a 2% deviation allowance (5% for Blower Door and Duct Blaster measurements).

Notes:

PROJECT SCORE CARD	Completed Items	Yes ("Y") Items - Does NOT include Maybe ("M") items	Yes ("Y") Items - PLUS Maybe ("M") Items
<b>Prerequisites</b>	NOT COMPLETE	n/a	n/a
<u>Site (10 pts)</u>	0	0	0
<u>Water (9 pts)</u>	0	0	0
<b>Energy: Building Envelope (14 pts)</b>	2	0	0
<b>Energy: Comfort Systems (18 pts)</b>	5	0	0
<b>Energy: Appliances, Lighting, and Renewables (8 pts)</b>	4	0	0
<u>Indoor Air Quality (15 pts)</u>	0	0	0
<u>Materials (18 pts)</u>	0	0	0
<u>Bonus (3 pts)</u>	0	0	0
<b>Total Overall Score for Home</b>	<b>11</b>	<b>0</b>	<b>0</b>

Minimum total points needed to become a HealthyBuilt Home is 105

**RATING SCALE**

- 105 - 160 points: Certified
- 161 - 210 points: Silver certified
- 211 - 300 points: Gold certified
- 301+ points: Platinum certified

DATE OF FINAL WALKTHROUGH:

Enter "P" next to each Prerequisite that has "Passed" (Approved HBH Inspectors Only)					
Prerequisites (Required)		Points	Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
	1	Comply with all federal, state and local government requirements including but not limited to: NC Building Code, NC Energy Code, local development regulations and other local regulations.	Required	Copy of Certificate of Occupancy (CO); Plans (site and floor)	ESv2.5 <sup>1</sup>
P	2	Home qualified by the national ENERGY STAR program.	ENERGY STAR	ENERGY STAR cert.; Other info on request	ESv2.5 <sup>2</sup>
	3	Perform a blower door test and meet minimum standard of 0.35 CFM50/sf of a building envelope's surface area, or 3.5 ACH/50Pa.	Required	Signed blower door test results	ESv2.5 <sup>3</sup>
P	4	Seal all ductwork joints and penetrations with low toxic mastic (aerosolized sealant allowed for existing homes). Test all air distribution systems (at 25 Pascals) to have no more than 6% leakage to the outside (measured in CFM of leakage per conditioned square footage), and no more than 8% total duct leakage. Mastic tape is not approved for this Prerequisite.	ENERGY STAR	ENERGY STAR	ESv2.5 <sup>4</sup>
	5	All space heating and cooling equipment sized according to ANSI/ACCA Manual J, 7th Edition, or equivalent room-by-room load calculations. The total cooling capacity of each cooling system must be within 1/2 ton (6,000 BTU/h) of the Manual J cooling load for the space the system serves. See information paragraph in the <a href="#">Reference Manual</a> regarding heat pumps in cold regions of the state and mini split ductless systems. Use of other systems/equipment that deviate from the prerequisite must be reviewed and approved by HBH staff.	Required	Equipment size and signature provided by party responsible for Manual J calculations; Copy of calculations available upon request	ESv2.5 <sup>5</sup>
	6	All Combustion equipment including (but not limited to) furnaces, water heaters, and fireplaces conform with the following requirements (see <a href="#">Reference Manual</a> ): <ul style="list-style-type: none"> <li>Equipment is sealed combustion, power vented, or located outside the conditioned space, including sealed crawl space.</li> <li>Unvented fireplaces are not permitted.</li> <li>Masonry fireplaces have tight fitting doors and a sealed firebox exhausted to the outside, with dedicated outside air intake able to withstand flame exposure. Door gaskets are encouraged for best operation.</li> <li>Gas logs having a fan that blows any portion of the combustion gases into the living space are not permitted.</li> <li>Operable doors on gas fireplaces that are not tested to provided sealed combustion when closed are not allowed. Testing can be provided by manufacturer or other HBH approved source.</li> <li>One carbon monoxide (CO) detector installed per 1,000 sq. feet of living space (minimum 1 per floor) in all houses with an attached garage, or with any combustion appliance.</li> </ul>	Required	FW; If gas fireplace(s) use operable doors, a copy of the test results	ESv2.5 <sup>6</sup>
	7	A mechanical ventilation system providing fresh outside air from a clean source at a rate equivalent to a constant supply of 7.5 CFM per bedroom, plus an additional 7.5 CFM, plus .01 CFM per square foot of fully conditioned space. System must operate at least every three hours.	Required	FW and Signature; Documentation of flow rate and fresh air delivery schedule	ESv2.5 <sup>7</sup>
	8	Install exhaust fans vented to the outside with the following rated flow rate: <ul style="list-style-type: none"> <li>Baths with showers exhaust 50 CFM, minimum.</li> <li>Kitchen range hoods exhaust 100 CFM, minimum. Provide nearby make-up air for range hoods rated to exhaust 400 CFM or greater (see <a href="#">Ref. Manual</a>).</li> </ul>	Required	FW and Signature	ESv2.5 <sup>8</sup>
	9	Air in attached garage separated from conditioned air. <ul style="list-style-type: none"> <li>Provide air barrier between conditioned living space and garage; including weatherstripping at all penetrations, sealed drywall joints, and other measures as necessary.</li> <li>Air Handlers may not be installed in a garage.</li> </ul>	Required	FW and Signature	
	10	Install window and door flashings at all <u>exposed</u> exterior openings. Install as recommended by the window/door manufacturer in conjunction with recommendations by the weather resistant barrier manufacturer. Additional points may be awarded under 'Materials Opportunities' for flashing openings that are not exposed (see <a href="#">Reference Manual</a> for definition of exposed).	Required	Signature and Inspection	ESv2.5 <sup>2</sup>
	11	Builder/Developer provides the original <u>Document Signature Sheet</u> , signed by all responsible parties, to the homeowner and ensures that all implemented measures requiring "Signature" as documentation are initialed on this checklist.	Required	Copy of Document Signature Sheet	
	12	Builder/Developer enrolled in the statewide NC HealthyBuilt Homes program.	Required	Signed enrollment form and fee paid	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Site Opportunities (minimum 10 points)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
<b>Soil / Amendments</b>									
				1	Erosion control (credit available for ONE of the following):				
					Develop an erosion control site plan	1		Signature	
					Develop and implement an erosion control site plan during construction	3		Inspection	
				2	Surface stabilization (credit available for ALL of the following):				
					Plant temporary cover crops on disturbed land areas within two weeks of completing rough grading activities	2		Inspection; Installation must occur within 2 weeks of ground disturbance	
					Use redundant mulch, compost, or straw bales for erosion control	3			
				3	Stormwater control (credit available for ALL of the following):				
					Create a permanent stormwater control plan	1		Signature	
					Create a permanent stormwater control system maintenance schedule for homeowner	1			
					Install permanent rain gardens, bio-retention basins, or infiltration strips to reduce storm water impacts	3			
				4	Composting -- provide backyard compost bin or designated compost area with enclosure	1		FW	
<b>Vegetation</b>									
P	N	Y	M	5	Invasive plant species (credit available for ALL of the following)				
					No invasive plant species introduced into the landscape	2		Signature	
					Existing invasive plant species removed from the landscape	3			
				6	Nontoxic pest control/Integrated Pest Management (IPM)	2		Signature	
				7	Natural features and trees on site protected during construction (credit available for ALL of the following):				
					Fence individual trees at drip line (1 point per tree, max. 5 trees)	enter pts		Signature <u>or</u> Inspection	
					Protect undisturbed area. For every .25 acre increase in lot size (up to 2.5 acres max.), decrease % for allowable disturbance (see chart in Reference Manual)	3		Signature <u>and</u> Inspection	
				8	Tree planting (minimum 12 trees per acre of developed land)	3		FW	
				9	Tree preservation (credit available for ONE of the following):				
					Develop a tree preservation plan	1		Signature	
					Develop and implement a tree preservation plan	2		Inspection	
				10	80% of stumps and limbs ground for mulch	2		Signature <u>or</u> Inspection	
				11	80% of cleared logs milled (credit available for ONE of the following):				
					Mill logs offsite	1		Signature <u>or</u> Inspection	
					Mill, season and use logs onsite	4		FW; Signature <u>or</u> Inspection	
				12	Backyard Wildlife Habitats preserved or created using the National Wildlife Federation certification or equivalent	2		Signature	
<b>Development / Transportation</b>									
P	N	Y	M	13	Site selection (credit available for ALL of the following):				
					Do not build within 100 ft. of any water body (including wetlands)	2		Signature; Copy of FEMA Flood map showing location of property	
					Do not build at or below the 100 year floodplain elevation (as defined by FEMA)	2			
				14	Home located close to business district with 90% sidewalk access (credit available for ONE of the following):			FW	
					Home within 1 mile of 3 businesses	3			
					Home within 1 mile of 5 businesses	5			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Site Opportunities → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
				15	Alternative transportation access to business district -- Min. 3 businesses (credit available for ONE of the following):				
					Bicycle access within 2 miles of business district	1			FW
					Greenway access within 2 miles of business district	2			
					Bus access within 1/2 mile of home (bus scheduled for more than 9 transit rides per weekday)	2			
				16	Compact Development (credit available for ONE of the following):				
					Build on site within 1/2 mile of existing water and sewer infrastructure	1			FW; Other info on request
					Build on infill site	2			
					Build home on 1/10-acre (max.); or build in development with density of 10 or more homes per acre	4			
				17	B20 blend bio-diesel used for diesel fueled construction equipment (credit available for ALL of the following):				
					Use B20 for 90% of diesel fueled equipment used during land clearing phase	2			Signature <u>and</u> name of fuel provider
					Use B20 for 90% of diesel fueled equipment used during construction phase	2			
				18	Compressed Natural Gas (CNG) Residential Pump installed	2			FW
				19	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template
<b>Subtotal for Site section (min 10 pts) -----</b>						<b>0</b>	<b>0</b>		

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Water Opportunities (minimum 9 points)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
<b>Outdoor</b>									
				1	Drought resistant planting (credit available for ONE of the following):				
					Provide a site specific drought resistant planting plan for homeowner / buyer	2			Copy of plan
					Install drought resistant landscape in disturbed, non-paved area (credit available for ONE of the following):				
					50% of non-paved area	3			
					100% of non-paved area (no irrigation system installed)	6			FW <u>and</u> Signature
				2	Drought resistant soil -- apply mulch 3"- 4" deep around plants	2			FW <u>and</u> Signature
				3	Permeable materials used for hardscapes (credit available for ALL of the following):				
					Use permeable materials for 50% of walkways and patios	2			FW
					Use permeable materials for 90% of driveways (see Reference Manual)	4			
				4	Vegetated roof system to reduce impervious surface (credit available for ONE of the following):				
					25% of roof is vegetated roof system	2			FW
					50% of roof is vegetated roof system	4			
					75% of roof is vegetated roof system	6			
					100% of roof is vegetated roof system	8			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Water Opportunities → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
<b>Irrigation reduction strategies / Site water management</b>										
				5	Rainwater harvested and directed toward landscaping needs (credit available for ONE of the following):					
					Install a system of gutters along with a simple collection system such as a rain-barrel	2			FW and Signature	
					Install a system capable of collecting and storing runoff from a 3/4 inch rainfall event using at least 50% of the roof area	3				
					Install a system capable of collecting and storing runoff from a 3/4 inch rainfall event using at least 90% of the roof area	4				
				6	Irrigation system conserves water (credit available for ALL of the following):					
					Irrigation system is zoned separately for turf and bedding areas	2			FW and Signature	
					Irrigation system includes a soil moisture or rain sensor, or other irrigation efficiency device	2				
				7	Irrigation system uses non-potable water (credit available for ONE of the following -- see Ref. Manual):					
					Reclaimed water used for irrigation (where available)	2			FW	
					Greywater irrigation system installed where allowed by code	5			FW and Signature	
<b>Indoor</b>										
				8	Kitchen faucet fitted with aerator restricting flow to 2.2 gpm	1			FW; make and model # must be available	
				9	Lavatory faucets (ALL) are EPA WaterSense labeled, restricting flow to 1.5 gpm or less (credit available for ONE of the following):				FW; make and model # must be available	
					1.5 gpm flow rate	1				
					<1.5 gpm flow rate	2				
				10	Non-lavatory faucets (ALL) restrict flow to 1.5 gpm or less	1			FW; make and model # must be available	
				11	Showerheads (ALL) restrict flow to 2.25 gpm or less -- no credit given for shower stalls with multiple heads (credit available for ONE of the following):				FW; make and model # must be available	
					2.25 gpm flow rate	1				
					1.75 gpm flow rate	2				
P	N	Y	M	12	High efficiency toilets (maximum 4 points)				FW; make and model # must be available	
					Toilets are EPA WaterSense labeled (1 pt per toilet, max. 2)	enter pts				
					Toilets are dual flush: 1.6/0.8 - 1.1 gpf (2 pts per toilet, max. 4)	enter pts				
				13	Toilets with UNAR MaP rating -- 350 grams per flush (1 point per toilet, maximum 2 pts.)	enter pts			FW; make and model # must be available	
				14	Clothes washer is an ENERGY STAR labeled product	2			FW; make and model # must be available	
				15	Dishwasher is ENERGY STAR labeled, or meets or exceeds ENERGY STAR criteria	2			FW; make and model # must be available	
				16	Water filtration system installed (credit available for ONE of the following):				FW	
					Point-of-use system (1 point per system, 2 points max.)	enter pts				
					Whole house system installed (NSF certified)	4				
				17	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template	
<b>Subtotal for Water section (min 9 pts) -----</b>						<b>0</b>	<b>0</b>			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank											
P	N	Y	M	Building Envelope (minimum 14 points)				Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
								Pass	Y/M		
				1	Home HERS Index ≤ 82 (1 to 42 points) Note: 1 credit point is awarded for every 2 HERS points decrease in the HERS Index, beginning with 1 credit point for a HERS Index of 82.	enter pts				HERS report based on actual finished conditions	ESv2.5 <sup>10</sup>
				2	Energy Bill Guarantee program: Examples include, but are not limited to System Vision and Environments for Living	4				Copy of enrollment confirmation	
				3	Blower door test performed with following min. standards met (credit available for ONE of the following):					Blower door test report based on actual finished conditions	ESv2.5 <sup>11</sup>
					Minimum standard of 0.25 CFM50/sf of surface area or 2.5 ACH/50Pa	3					
					Minimum standard of 0.15 CFM50/sf of surface area or 1.5 ACH/50Pa	5					
Insulation and Framing											
				4	Slab Insulation: Horizontal (credit available for ONE of the following):					Signature <u>or</u> Inspection	
					Provide rigid insulation under slab edge (min. 2 ft.) for the entire slab perimeter: [zone = NC climate zone] zone 3 - min. R5; zone 4 - min. R8; zone 5 - min. R13	1					
					Provide rigid insulation under entire slab: zone 3 - min. R5; zone 4 - min. R8; zone 5 - min. R13	2					
				5	Slab/foundation insulation: Vertical (credit available for ONE of the following):					ENERGY STAR; <u>or</u> Signature <u>or</u> Inspection	ESv2.5 <sup>12</sup>
					Rigid insulation installed vertically at slab edge (2 foot min.) NC climate zone 3 - min. R5 (Heated slabs - min. R8)	1					
					NC climate zone 4 - min. R10; zone 5 - min. R10	1	1				
					Rigid exterior insulation installed on concrete or masonry basement walls (continuous floor to ceiling -- <i>see Ref. Manual</i> ) NC climate zone 3 - min. R5	2					
					NC climate zone 4 and zone 5 - min. R13	2					
				6	Framed floor over unconditioned space insulated (credit available for ONE of the following):					FW where visible; Signature <u>or</u> Inspection	ESv2.5 <sup>13</sup>
					R22 or greater insulation in <u>continuous</u> contact with subfloor (R30 is required in climate zone 5; where Building Code exception allows R19, points available for R22)	1					
					R22 or greater insulation in <u>continuous</u> contact with air barrier on <u>all 6 sides</u> (R30 is required in climate zone 5; where Building Code exception allows R19, points available for R22)	3					
				7	Closed crawl space as per NC Building Code - minimum 25% of building footprint (credit available for ONE of the following):					FW; Signature <u>or</u> Inspection	ESv2.5 <sup>14</sup>
					Insulated floor or walls, 25-49% of building footprint	2					
					Insulated floor or walls, ≥50% of building footprint	3					
					Insulated walls; conditioned as per Sec. R409.5 of the NC Residential Code, 25-49% of building footprint	2					
					Insulated walls; conditioned as per Sec. R409.5 of the NC Residential Code, ≥50% of building footprint	4					
				8	Framing Efficiency Package for wood stud construction with at least 3 of the following components ( <b>requires</b> a framing inspection by a third party):	3				Inspection	ESv2.5 <sup>15</sup>
					1. Insulated headers, minimum R-10						
					2. 2-stud corner with drywall clips or alternate framing detail						
					3. Insulated framing corners						
					4. Insulated T-walls with drywall clips or alt. framing detail						
					5. Window rough openings eliminate jack stud						
					6. Non-structural headers in exterior non-load bearing walls						
					7. Non-load bearing exterior wall studs @ 24 in. centers						
					8. Single top plate with stacked (in-line) framing						
					9. Reduced framing, interior partitions (24 in. O.C. studs at interior non-bearing walls)						

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Building Envelope → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
				9 Exterior wall stud cavities insulated to R19 or higher (R21 in climate zone 5)	3			Inspection	ESv2.5 <sup>16</sup>	
				10 Exterior Wall: Thermal barrier continuous on exterior - min. 75% of wall area (credit available for ONE of the following -- see <a href="#">Reference Manual</a> ):				FW; Signature <u>or</u> Inspection	ESv2.5 <sup>17</sup>	
				Insulated exterior wall sheathing (R2.5 minimum in addition to the NC Code requirement)	2					
				Use pre-cast Autoclaved Aerated Concrete (AAC) (R10 min.; R13 min. in climate zone 5)	4					
				Use Insulated Concrete Form (ICF) wall system (R20 min.)	6					
				Use other wall system (points determined by HBH staff)	enter pts					
				11 Structural Insulated Panels (SIPs) (credit available for ALL of the following -- see <a href="#">Reference Manual</a> ):				FW; Signature <u>or</u> Inspection	ESv2.5 <sup>18</sup>	
				Ext. walls - R14 min.; R21 in zone 5 (min. 75% of wall area)	3					
				or - R20 min.; R25 in zone 5 (min. 75% of wall area)	6					
				Floor - R25 min.; R30 in zone 5 (min. 75% of floor area)	4					
				Roof - R30 min.; R38 in zones 4 & 5 (min. 75% of roof area)	4					
				12 Raised heels of 6" or more on trusses to provide for complete insulation installation over top plates	2			FW; Signature <u>or</u> Inspection	ESv2.5 <sup>19</sup>	
				13 Ceiling Insulation (credit available for ALL of the following):				FW; Signature <u>or</u> Inspection	ESv2.5 <sup>20</sup>	
				Flat ceilings (R38 - zone 3; R42 - zones 4 & 5)	2					
				Vaulted and tray ceilings (R38 - zone 3; R42 - zones 4 & 5)	2					
				14 Attic kneewall stud cavities insulated with air barrier towards attic (credit available for ONE of the following -- see Ref. Manual):				FW; Signature <u>or</u> Inspection	ESv2.5 <sup>21</sup>	
				Combined insulation and sheathing R-value is R15 or greater	1					
				Combined insulation and sheathing R-value is R17 or greater	2					
				Combined insulation and sheathing R-value is R19 or greater	3					
				15 Attic roof insulated with spray foam (must meet NC Building Code requirements)	2			FW; Signature <u>or</u> Inspection		
				16 Attic ceiling radiant heat barrier; installed facing attic space	2			FW; Signature <u>or</u> Inspection		
				17 Light Reflectance Value (LRV): 0.50 or greater for roofs with a slope of: > 2:12 0.65 or greater for low slope roofs: ≤ 2:12	2			FW; Signature <u>or</u> Inspection		
				18 Water heater with insulating blanket installed to water heater manufacturer's specs (credit available for <u>renovations</u> only)	1			FW; Signature <u>or</u> Inspection		
				19 Hot water pipes insulated to R-4 (credit available for ALL of the following):				FW where visible; Signature <u>or</u> Inspection		
				All hot water pipes insulated to R-4 in conditioned spaces	1					
				All hot water pipes insulated to R-4 in <u>un</u> conditioned spaces	2					
<b>Window and Doors</b>										
				20 Low-E windows (credit available for ONE of the following):				ENERGY STAR; <u>or</u> FW; Signature <u>or</u> Inspection	ESv2.5 <sup>22</sup>	
				NFRC rated U-Factor of 0.36 or less, minimum 75% of units	1	1				
				NFRC rated U-Factor of 0.32 or less, minimum 75% of units	2					
				21 10 year warranty on all insulated glazing	1			Signature <u>or</u> Inspection		
				22 Exterior doors (includes door from house to garage) insulated to R5 or greater	2			FW; model # must be available	ESv2.5 <sup>23</sup>	
				23 Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template		
<b>Subtotal for Building Envelope section (min 14 pts)</b>						<b>2</b>	<b>0</b>			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank															
P	N	Y	M	Comfort Systems (min 18 pts)						Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
				Pass	Y/M										
<b>Passive Solar Heating and Cooling Strategies</b>															
				1	Provide one ceiling fan per 750 sf of conditioned space - each sized appropriately for the space (no more than 5 fans required)						1			FW	
				2	Home orientation allows solar heating (long dimension faces within 15 degrees East or West of solar south)						7			FW; Site plan with North arrow	
				3	Provide overhang, located between one and two feet above all south windows, with a minimum depth as follows below (may include gutter as part of the overhang; long dimension of home faces within 15 degrees East or West of solar south): Mountain region: 1'-8" Piedmont region: 2'-0" Coastal region: 2'-4"						3			FW; Site plan with North arrow	
				4	Implement strategies to reduce heat gain and/or heat loss, such as exterior-mounted sunscreens, operable insulated window coverings, or operable awnings. At minimum, implement on the southern and westernmost faces of the home.						5			FW; Site plan with North arrow	
				5	East facing glazing less than 3% of total conditioned floor area (glazing faces within 45 degrees north or south of east)						2			FW; Site plan with North arrow; Calculations	
				6	West facing glazing less than 2% of total conditioned floor area (glazing faces within 45 degrees north or south of west)						2			FW; Site plan with North arrow; Calculations	
				7	South facing glazing between 6-7% of total conditioned floor area (long dimension faces within 15 degrees E. or W. of solar south)						5			FW; Site plan with North arrow; Calculations	
				8	Passive solar heating provides 15% - 50% of home's heating needs ( <i>see Reference Manual</i> ) (6 -20 points)						enter pts			FW; Copy of passive solar calculations	
<b>Mechanical Comfort Systems</b>															
				9	Perform Duct blaster test and meet the following minimum standards when measured in CFM / 25Pa of leakage; Leakage = total duct leakage. (credit available for ONE of the following): Leakage of 5% of the home's heated square footage Leakage of < 4% of the home's heated square footage Leakage of < 3% of the home's heated square footage									Copy of duct leakage test results	ESv2.5 <sup>24</sup>
											1				
											3				
											5				
				10	Air Distribution System located within thermal envelope (credit available for ALL of the following): Air handler located within thermal envelope (all units) Ducts located within thermal envelope (min. 90%)									FW <u>or</u> Inspection	
											2				
											5				
				11	Duct system sized, designed, and installed in accordance with latest ANSI/ACCA Manual D						3			Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
				12	No building cavity used as part of forced-air distribution system (supply or return)						1			Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
				13	Airflow measured and balanced within 10% of ACCA Manual J room-by-room load calculations						3			Signature <u>or</u> Inspection	ESv2.5 <sup>25</sup>
				14	No ducts in exterior walls or vaulted ceilings						2			Signature <u>or</u> Inspection	ESv2.5 <sup>26</sup>
P				15	Airtight recessed can fixtures used between conditioned spaces ( <i>see Reference Manual</i> )						2	2		ENERGY STAR	ESv2.5 <sup>27</sup>
P				16	Insulate all ducts outside conditioned space using a minimum of R-8 (supply) and R-4 (return)						2	2		ENERGY STAR	ESv2.5 <sup>28</sup>
				17	Air transfer grills, insulated jumper ducts, or return-air ducts are provided in every bedroom						3			FW where visible; Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
				18	Rigid metal supply plenum						2			Signature <u>or</u> Inspection	
				19	Ductless Heating/Cooling system -- hydronic distribution pipes located in unconditioned spaces must be insulated ( $\geq$ R-3) ( <i>see Reference Manual</i> )						10			FW <u>and</u> Signature	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Comfort Systems → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
<b>Controls</b>										
				20	Programmable ENERGY STAR thermostat (with written instructions and demonstration given to homeowner)	1			FW <u>and</u> Signature	ESv2.5 <sup>29</sup>
				21	Single HVAC system with multiple-zone heating and/or cooling control (with written instructions and demonstration given to homeowner)	3			FW <u>and</u> Signature	
<b>Equipment</b>										
				22	Gas furnace at least 90% efficient (credit available for ONE of the following -- <a href="#">see Ref. Manual</a> ):					ESv2.5 <sup>30</sup>
					Heating system efficiency (AFUE) at least 90	3			FW <u>or</u> Inspection	
					Heating system efficiency (AFUE) at least 92	4				
					Heating system efficiency (AFUE) at least 94	5				
				23	Boiler at least 85% efficient (credit available for ONE of the following):					ESv2.5 <sup>31</sup>
P					Heating system efficiency (AFUE) at least 85	1	1		ENERGY STAR; <u>or</u> FW <u>or</u> Inspection	
					Heating system efficiency (AFUE) at least 87	3				
					Heating system efficiency (AFUE) at least 90	5				
				24	SEER 14 or higher cooling system (min 75% of conditioned space); 1 additional credit point can be earned for SEER ratings higher than 14 up to SEER 18 (1 to 5 points)	enter pts			FW <u>or</u> Inspection	ESv2.5 <sup>32</sup>
				25	HSPF 8.5 or higher heat pump -- min 75% of conditioned space (credit available for ONE of the following -- <a href="#">see Ref. Manual</a> ):					ESv2.5 <sup>33</sup>
					Heating Season Performance Factor (HSPF) at least 8.5	3			FW <u>or</u> Inspection	
					Heating Season Performance Factor (HSPF) at least 9.0	4				
				26	Ground source (geothermal) heating and cooling system	10			FW; Signature <u>or</u> Inspection	ESv2.5 <sup>34</sup>
				27	In-floor hydronic heating system (credit available for ONE of the following -- see Reference Manual):					
					System active in 40% of conditioned floor area	3			FW; Signature <u>or</u> Inspection	
					System active in 65% of conditioned floor area	5				
					System active in 90% of conditioned floor area	7				
				28	Energy efficient ventilation (credit available for ONE of the following):					
					Heat Recovery Ventilator (HRV) installed (zone 5 only)	3			FW; Signature <u>or</u> Inspection	
					Energy Recovery Ventilator (ERV) installed	6				
				29	Outdoor thermostat for heat pump	1			FW <u>or</u> cutsheet on site	
				30	Cooling equipment uses non-HCFC refrigerant	1			Signature <u>or</u> Inspection	ESv2.5 <sup>35</sup>
				31	Refrigerant charge tested (and corrected if necessary)	2			Worksheet; test results	ESv2.5 <sup>36</sup>
				32	Responsible third party performs Manual J calculations	2			FW; Signature <u>or</u> Inspection	ESv2.5 <sup>37</sup>
				33	Third party verification of proper design and installation of ERV / HRV -- ALL of the following must be completed:	2				
					Confirm balanced air flow				Signature <u>and</u> Inspection	
					No exhaust collection points in full bathrooms					
					Unit installed according to manufacturer's specs					
					Homeowner understands system operation & maintenance schedule					
				34	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template	
<b>Subtotal for Comfort Systems section (min 18 pts)-----</b>						<b>5</b>	<b>0</b>			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Appliances, Lighting, Renewables (min 8 pts)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
<b>Appliances</b>									
				1	All refrigerators are ENERGY STAR labeled (Max 4 pts.) (credit available for ONE of the following):				ESv2.5 <sup>38</sup>
					Refrigerators are ENERGY STAR labeled	2		FW; Model number should be accessible	
					1 Refrigerator (min.) is super efficient; rated to use less than 280 kWh per year	4			
				2	Gas clothes dryer with electronic ignition and moisture sensor	1		FW; Model number should be accessible	
				3	If appliances are not included, a list of energy efficient appliances is provided to homeowner	1		Signature	
				4	Water heater meets ENERGY STAR Criteria (Max. 3 pts.) (credit available for ONE of the following -- <i>see Ref. Manual</i> ):				ESv2.5 <sup>39</sup>
					Gas Storage - Energy Factor (EF) > 0.67	2		FW; Model number should be accessible	
					Gas Condensing (EF) > 0.8	3			
					Whole-Home Gas Tankless (EF) > 0.82	3			
					Heat Pump Water Heater (EF) > 2.0	3			
				5	Ground source (geothermal) water heating (credit available for ONE of the following):				
					Desuperheater provides hot water	2		FW <u>and</u> signature	
					Integrated demand system provides hot water	3			
				6	Energy-efficient hot water distribution system (credit available for ONE of the following):				
					Structured plumbing system	4		FW; Signature <u>or</u> Inspection	
					Central manifold distribution system	4			
					Compact design of conventional system	4			
				7	Shower drain waste heat recovery device	1		Signature <u>or</u> Inspection	
<b>Lighting</b>									
				8	Recessed light fixtures use compact fluorescents - 50% of fixtures must have CFLs (no partial credit allowed)	2		FW	
<b>P</b>	<b>N</b>	<b>Y</b>	<b>M</b>	9	Efficient lighting fixtures and lamps (credit available for ONE of the following; no partial credit allowed):				ESv2.5 <sup>40</sup>
					60% of light fixtures are fluorescent fixtures or use CFL/LEDs	4	<b>4</b>	ENERGY STAR; <u>or</u> FW; Model Numbers should be accessible (for fixture only)	
					60% of light fixtures are ENERGY STAR labeled	5			
					Meet ENERGY STAR Advanced Lighting Package (ALP) Guidelines	6			
					100% of light fixtures (fluorescent/LED) are ENERGY STAR labeled	7			
				10	ENERGY STAR labeled SSL (LED) Luminaire -- Max. 4 pts. Note: refer to "Fixtures Table" ( <i>see Reference Manual</i> )	enter pts		FW; Model number should be accessible	
				11	Indoor lighting controls -- Max.4 pts (credit available for ALL of the following; only 1 strategy per room):				
					Manual wall timer switch(es)	1		FW	
					Light dimming switch(es)	1			
					Occupancy or Vacancy sensor(s)	2			
				12	Switchable automatic outdoor lighting controls (e.g. motion/photo sensor)	1		FW	
				13	Reduce electrical phantom plug loads -- also known as vampire loads (credit available for ONE of the following):				
					Provide information on techniques for reducing plug loads	1		Signature	
					Install whole house 'Master Off' switch or other controls	3		FW	
				14	Whole-house automation system	4		Demonstration at FW	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Appliances, Lighting, Renewables → <u>CONT.</u>	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
<b>Renewables</b>										
				15	South roof area suitable for future solar hot water or photovoltaic collectors facing within 30° East or West of solar South	2			FW	
				16	Rough-in for future solar energy system (credit available for ALL of the following):				Signature <u>or</u> Inspection	
					Chase installed for future solar energy system(s); 1 point each for PV and/or solar hot water system (max. 2 points)	enter pts				
					Appropriate conduit installed for photovoltaic system	1				
					Insulated pipes & wiring installed for solar hot water system	2				
				17	Photovoltaic (solar electric) system contributes to home's total annual energy use (credit available for ONE of the following):				FW <u>and</u> Signature; Source Energy and Emissions report with calculations	
					PV system offsets 1% to 100% of home's total annual source energy use; To calculate points, multiply 0.6 by the percentage of total source energy use offset by the PV system, rounded to the nearest point. ( <i>see Reference Manual</i> ) (1 - 60 points)	enter pts				
					PV system offsets 100% of home's total annual source energy use, PLUS has 2.0 kW additional PV capacity for charging plug-in hybrid vehicle	75				
				18	On-site renewable electricity generation (wind turbine or micro-hydro system) provides 1% - 100% of home's total annual energy use; To calculate points, multiply 0.6 times the percentage of total annual energy use, rounded to the nearest point ( <i>see Reference Manual</i> ) (1 - 60 points)	enter pts			FW <u>and</u> Signature; Simulation software results; Source Energy and Emissions report with calculations	
				19	Photovoltaic (solar electric) powered well water pumping system	6			FW <u>and</u> signature	
				20	Battery back-up system for photovoltaic system	5			FW <u>and</u> Signature; size	
				21	Photovoltaic (solar electric) panel for powering solar hot water circulation pump	2			FW <u>and</u> Signature	
				22	Active solar domestic hot water system	12			FW; Signature <u>or</u> inspection	
				23	Active solar thermal heating system provides 2% - 100% of space heating needs; To calculate points, multiply 0.3 by the % of total space heating energy consumption met by the solar thermal heating system, rounded to the nearest point ( <i>see Reference Manual</i> ) (1 - 30 points)	enter pts			FW <u>and</u> Signature; Source Energy and Emissions report with calculations	
				24	Sealed-combustion, biomass based solid fuel burning stove designed for space heating, with outside combustion air; EPA Certified	2			FW <u>and</u> signature; EPA certification must be available	
				25	Provide information on the NC GreenPower Program	1			Signature	
				26	Buyer enrolls for one year in the NC GreenPower program for estimated energy use. Buyer purchases amounts based on the number of bedrooms in the home (Note: houses less than 1500 sf may use the 1 bedroom enrollment figure):	5			Copy of NC GreenPower enrollment form signed by the buyer	
					1 bedroom 100 kWh (1 NC GreenPower block = \$4 / mo.)					
					2 bedrooms 200 kWh					
					3 bedrooms 400 kWh					
					4 bedrooms 600 kWh					
					5 bedrooms or more 800 kWh					
				27	Utility Bill Agreement signed by homeowner (credit available for ONE of the following):				Utility Bill Agreement	
					Provide 12 months of elect. Bills & gas bills (if applicable)	3				
					Provide all the above including water utility bills	4				
				28	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template	
<b>Subtotal for Appliances, Lighting, Renewables section (min 8 pts)-----</b>						<b>4</b>	<b>0</b>			

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Indoor Air Quality (min 15 pts)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
				1	House complies with recognized Indoor Air Quality (IAQ) standard or specification	8 enter pts			Copy of documentation indicating compliance	
				House complies with the EPA Indoor airPLUS Program						
				Other program: points determined by HBH staff						
<b>Structural Air Quality</b>										
				2	Attached garage is isolated from house by extensive air-sealing; the garage-to-house pressure is at least 47 Pascals when the house is depressurized to 50 Pascals below ambient	4			Pressure test results indicating compliance	
				3	Detached garage or no garage (restrictions apply -- <a href="#">see Reference Manual</a> )	5			FW; Site layout	
				4	Capillary break between foundation and framing	1			Signature <u>or</u> Inspection	ESv2.5 <sup>41</sup>
				5	Drainage board for below grade walls	2			Signature <u>or</u> Inspection	ESv2.5 <sup>42</sup>
				6	Continuous foundation drain at outside perimeter edge of footing	2			Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
<b>Appliance Air Quality</b>										
				7	Duct protection throughout construction (credit available for ONE of the following):				FW; Signature <u>or</u> Inspection	
					Protect ALL ducts from dirt and debris	2				
					Seal ALL ducts from dust intrusion in addition to dirt & debris	4				
				8	Filters rated MERV 8 or greater installed on forced air systems; system static pressure must be designed and calculated to perform with the higher efficiency filter installed (credit available for ONE of the following):				FW <u>and</u> signature	ESv2.5 <sup>43</sup>
					MERV 8	1				
					MERV 9	2				
					MERV 11	3				
					MERV 13 or greater (includes HEPA or "HEPA-like" filters)	5				
				9	Interior relative humidity monitored and controlled (credit available for ALL of the following):				FW <u>and</u> signature	
					Install humidity monitoring system (both indoor & outdoor sensors)	1				
					Central dehumidification system installed	3				
				10	Bath exhaust fan controls (ALL baths with showers) (credit available for ONE of the following):				FW	
					Fans controlled by timer	1				
					Fans controlled by humidistat	2				
				11	Bath exhaust fan upgrades (credit available for ALL of the following):				FW; make and model # must be available	FW; test results
					Install ENERGY STAR labeled fans in all baths with showers	1				
					Field test ALL exhaust fans to meet ASHRAE 62.2 standards: Bath - 50 CFM (min.); Kitchen - 100 CFM (min.)	3				
				12	Exhaust fan in attached garage controlled by timer (100 CFM min)	2			FW	
				13	Carbon monoxide (CO) detector upgrade (credit available for ALL of the following):				FW <u>and</u> signature	
					Install CO detector in mechanical equipment area	1				
					Install CO detectors that display both high and low levels of CO; at least one detector must be installed on each floor	2				
				14	Radon detection and mitigation (credit available for ALL of the following):				Signature	FW; Signature <u>or</u> inspection
					EPA Indoor airPLUS guidelines used to test for radon	2				
					Radon-resistant gas vent system installed (does not require activation)	3				
				15	Alternative termite treatment that uses low toxicity chemicals or eliminates chemical termite treatments ( <a href="#">see Reference Manual</a> )	4			Signature	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Indoor Air Quality → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
<b>IAQ Material Use</b>									
				16	Low or zero formaldehyde insulation throughout house (credit available for ONE of the following):				
					Insulation is Greenguard certified	1			Signature <u>or</u> Inspection
					Insulation is 100% formaldehyde-free	2			
				17	Reduce formaldehyde used in bio-based materials -- add 1 additional point for each product that is formaldehyde free (credit available for ALL of the following):	enter pts below			
					All sheathing is free of added urea formaldehyde (exterior & interior) (1-2 pts)				Signature
					All subfloor is free of added urea formaldehyde (2-3 pts)				
					All kitchen/bath cabinetry/casework is free of added urea formaldehyde (2-3 pts)				
					All countertops are free of added urea formaldehyde (2-3 pts)				
					All closet shelving free of added urea formaldehyde (2-3 pts)				
				18	Low toxicity adhesives meet or exceed the Green Seal Standard for Commercial Adhesives (GS-36) (credit available for ONE of the following):				
					Use low toxicity adhesives and plasticizer-free grout on all ceramic tile	1			Signature <u>or</u> Inspection
					Use low toxicity adhesives throughout the home ( <i>see Reference Manual</i> )	3			
				19	All architectural sealants and sealant primers meet the SCAQMD Rule 1168 guidelines ( <i>see Reference Manual</i> )	2			Signature <u>or</u> Inspection
<b>P</b>	<b>N</b>	<b>Y</b>	<b>M</b>	20	All paints & coatings meet these VOC guidelines and/or toxicity guidelines (credit available for ALL of the following):				
					All paint is Green Seal certified (Standard GS-11 for paints and coatings)	1			Signature <u>or</u> Inspection
					All paints and coatings have low to zero VOC content: Flat Coatings: VOC limit: < 50 g/L Non-flat Coatings: VOC limit: < 50 g/L	2			
					All paint is non-toxic ( <i>see Reference Manual</i> )	2			
				21	Low emission stains and finishes on wood surfaces and flooring (credit available for ONE of the following):				
					Use stains with VOC content <100 g/L (SCAQMD Rule 1113) on all wood floors and wood work	2			Signature <u>or</u> Inspection
					Use clear wood finishes with VOC content <275 g/L (SCAQMD Rule 1113) on all wood floors	2			
					Use pre-finished flooring that is GreenGuard certified	2			
				22	All surfaces of any particle board product are sealed/coated with low to no VOC sealants to prevent off gassing (credit available for ALL of the following):				
					All kitchen cabinetry/casework	1			Signature <u>or</u> Inspection
					All bath cabinetry/casework	1			
					All closet shelving	1			
				23	ALL carpet is low-VOC and certified by the Carpet & Rug Institute; NO carpet in bathrooms or kitchens	1			FW <u>and</u> signature
				24	No carpeting in the home	1			FW
				25	VOC dissipation prior to dwelling occupancy; make-up air (see Prereq. 7) should be exhausted to outside for one week min.	2			Signature <u>or</u> Inspection
				26	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template
<b>Subtotal for Indoor Air Quality section (min 15 pts)-----</b>						<b>0</b>	<b>0</b>		

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Materials Opportunities (min 18 pts)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
				1 Home size: conditioned area is less than 2500 square feet (excluding crawl space) (credit available for ONE of the following):					
				2500 square feet	4			FW	
				2000 square feet	16				
				1500 square feet	28				
<b>Construction Material Waste</b>									
				2 Develop a Construction Waste Management Plan	2			Waste Mgmt. Plan	
				3 Construction waste reduction (credit available for ONE of the following):					
				Reduce construction waste (1 - 6 pts) <i>(see TABLE in Reference Manual)</i>	enter pts			Documentation from waste hauler; Calculations used for determining points	
				Increase construction waste diversion (1 - 6 pts) <i>(see TABLE in Reference Manual)</i>	enter pts				
				Reuse of existing structure; 1 point per 10% reuse (1 -10 pts) (credit available for <u>renovations</u> only)	enter pts			FW <u>and</u> Signature; Calculations used for determining points	
				4 Prohibit burying construction waste on site	1			Signature <u>or</u> Inspection	
				5 Donation of excess materials or re-use of materials (min \$500/job)	3			Signature <u>or</u> Inspection	
				6 Central, organized cutting area for project site	2			Signature <u>or</u> inspection	
				7 Framing plan with locations of wall studs, joists, and roof structure with cut list (applies to site-built and modular framing systems; modular units automatically receive these points)	3			Signature <u>or</u> Inspection; Framing plan may be requested	
<b>Exterior/Structural System Materials</b>									
P	N	Y	M	8 Concrete with fly ash or slag (min 30%) (credit available for ALL of the following):				Signature and name of supplier; Concrete composition report may be requested	
				Exterior concrete wall structure	1				
				Foundation (including slab floor)	1				
				9 Recycled concrete or glass cullet used for aggregate in concrete	2			Signature and name of supplier	
				10 Use of third party certified sustainably harvested wood (credit available for ALL of the following):				FW; Signature <u>or</u> Inspection; Documentation of the third party certification may be requested	
				Wood siding (50% or more of exterior wall area)	2				
				Dimensional or engineered lumber:					
				Wall framing members (90%)	3				
				Floor framing members (90%)	3				
				Roof framing members (90%)	4				
				11 Steel (with thermal break), or engineered wood used in place of dimensional lumber (credit available for ALL of the following):				FW where visible; Signature <u>or</u> Inspection	
				Use for 95% of all headers (doors, windows, etc.)	1				
				Use engineered lumber for 90% or greater of exterior wall framing members; Includes finger-jointed studs and top and bottom plates	2				
				Replace large dimension solid lumber (2x10 or >) in 90% or more of various structural systems (i.e. trusses, joists):					
				Roof structural system(s)	2				
				Floor structural system(s)	2				

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank										
P	N	Y	M	Materials Opportunities → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes	
						Pass	Y/M			
				12	Continuous foundation termite flashing	1			Signature <u>or</u> Inspection	
				13	Window and door flashings installed at ALL exterior openings; install as recommended by the window manufacturer, in conjunction with the weather resistant barrier manufacturer	2			Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
				14	Drainage plane integral to building envelope and behind the exterior veneer (credit available for ALL of the following):				FW; Signature <u>or</u> Inspection	ESv2.5 <sup>2</sup>
					Exterior wall (Min. 90%)	3				
					Roof (Min. 90%)	3				
				15	Indigenous stone (within 300 miles) on 50% or more of exterior wall area	4			FW: Signature <u>or</u> Inspection	
				16	Durable exterior with 50-year product life warranty (credit available for ALL of the following):				FW: Signature <u>or</u> Inspection; A copy of the warranty may be requested	
					Durable cladding (min. 65%)	2				
					Durable roofing (min. 95%)	2				
				17	Durable exterior trim (credit available for ALL of the following):				FW	
					Primed backs, edges, and ends of trim (including field cuts)	2				
					Fiber cement or composite wood exterior trim (Min. 90%):					
					Fascia	1				
					Soffit	1				
					Other exterior trims	1				
				18	Recycled and/or recovered-content siding (minimum 50% pre- or post-consumer) on 50% or more of exterior wall area	1			FW; Signature <u>or</u> Inspection	
				19	Recycled-content roofing material (Min. 90% of roof area)	2			FW	
				20	Provide roof drip edge (metal) at ALL roof edges	1			FW	
				21	Roof gutters/downspouts discharge water min. 5 feet from foundation (100%)	1			FW	ESv2.5 <sup>2</sup>
				22	Covered entryways for all doors opening into conditioned space. Overhang provides a projection factor of at least 0.375	2			FW	
				23	Recycled-content insulation (credit available for ONE of the following):				Signature <u>or</u> Inspection	
					Minimum 25% recycled content	1				
					Minimum 75% recycled content	2				
				24	HCFC-free rigid foam insulation (Min. 90% of rigid foam)	1			Signature <u>or</u> Inspection	
				25	Outdoor structures, decking and landscaping materials (credit available for ALL of the following):				FW	
					Made from recycled materials (min. 40% recycled content)	2				
					Made from 3rd-party certified sustainably harvested lumber	3				
					Made from decay resistant local wood ( <i>see Reference Manual</i> )	3				
				26	Reclaimed or refurbished materials used for 10% of structural material	5			Signature <u>or</u> Inspection	
				27	Durability Management (credit available for ONE of the following):				Durability Risk Evaluation Form (DREF)	
					Durability planning	1				
					Durability planning, implementation, and third-party verification	4			DREF (above) & Durability Inspection Checklist; Signature	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank														
P	N	Y	M	Materials Opportunities → CONTINUED						Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
											Pass	Y/M		
<b>Accessibility</b>														
				28	Accessible rooms: all habitable rooms have 34" wide doors; all hallways are 42" clear, finished					3			FW	
				29	Accessible bathroom provided on the main floor with blocking for future accessory installations					3			FW; Signature or Inspection	
				30	Accessible Kitchen features (credit available for ALL of the following):								FW	
					Cabinets and storage shelves between 18"-48" from the floor (min. 50% by volume)					1				
					Kitchen sink with knee space, and stove top with controls at the front and knee space underneath (or removable cabinet beside or below the stove top)					1				
				31	Accessible bedroom features (min. 1 bedroom) (credit available for ALL of the following):								FW	
					Storage shelves 18"- 48" from the floor (min. 50% by area)					1				
					Clothes closet with 32" clear opening (min.) and adjustable hanging rod					1				
					5' turning radius around the bed					1				
				32	Universal design features for home operation (credit available for ALL of the following):								FW	
					Doors and faucets use lever handles; cabinet handles are 'C' or 'D' style					1				
					Electrical panels, thermostats, breaker boxes, and any control panels are located on the main floor (max. 54" to top)					1				
					Elevator planned for (if home has second floor). Vertically align one closet on the 2nd floor with one closet on the 1st floor to allow for future installation					1				
				33	Elevator installed for accessibility					3			FW	
<b>Interior Materials</b>														
				34	Regionally obtained (within 300 miles), salvaged or reclaimed materials (credit available for ALL of the following):								FW; Signature or Inspection	
					Doors (90%)					1				
					Floors (25%)					1				
					Floors (75%)					2				
					Interior trim (90%)					2				
					Kitchen Casework (90%)					2				
					Bathroom Casework (90%)					2				
				35	Use natural cork / 100% recycled or recovered content underlayment					3			FW; Signature or Inspection	
				36	Natural fiber carpet and/or carpet pad (credit available for ALL of the following):								FW and Signature	
					Carpet pad made of natural fiber or 50-100% recycled content (Min. 90% of pad)					1				
					Carpet made of natural fiber with natural latex rather than SB latex backing (Min. 90% of carpeting)					2				
				37	Natural linoleum in place of any vinyl sheet flooring or vinyl composition tile, with low toxic adhesives or backing					3			FW and Signature	

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Materials Opportunities → CONTINUED	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
				38	Rapidly renewable material (credit available for ALL of the following -- <a href="#">see Reference Manual</a> ):				
					Doors (Min. 90%)	1			
					Closet shelving (Min. 90%)	1		FW; Signature <u>or</u> Inspection	
					Kitchen casework shelving (Min. 90%)	1			
					Kitchen casework (Min. 90%)	1			
					Flooring -- engineered product is acceptable (Min. 25%)	1			
					Flooring -- engineered product is acceptable (Min. 75%)	2			
				39	Use of third party certified sustainably harvested wood (credit available for ALL of the following)				
					Wood flooring (75% or more)	3			
					Interior trim (75% or more)	3		FW; Signature <u>or</u> Inspection; Documentation of the third party certification may be requested	
					Doors (90% or more)	2			
				40	Engineered wood used in wall framing members and interior trim (credit available for ALL of the following):				
					Used in wall framing: includes finger-jointed studs (Min. 90%)	1		Signature <u>or</u> Inspection	
					Used in interior trim: includes finger-jointed and/or MDF trim (Min. 90%)	1			
P	N	Y	M	41	Limited tropical hardwood use (credit available for ONE of the following)				
					No Lauan doors, underlayment, or sheathing	1		Signature <u>or</u> Inspection	
					Project uses no tropical hardwood	2			
				42	Recycled and/or recovered content components (credit available for ALL of the following)				
					Doors (Min. 50%)	1		Signature <u>or</u> Inspection: A copy of the recycled content may be requested	
					Closet shelving (Min. 90%)	1			
					Kitchen casework (Min. 90%)	1			
					Flooring -- engineered product is acceptable (Min. 25%)	1			
					Flooring -- engineered product is acceptable (Min. 75%)	2			
				43	All gypsum wallboard is recycled and/or recovered content	2		Signature <u>or</u> Inspection	
				44	Interior paints or finishes with recycled-content (Min. 50%)	1		Signature <u>or</u> Inspection	
				45	Environmentally preferable countertops -- Min. 75% of all countertops (credit available for ALL of the following -- <a href="#">see Reference Manual</a> ):				
					Kitchen	1		FW; Signature <u>or</u> Inspection	
					Bath	1			
				46	No vapor barrier on interior surfaces of building envelope walls	1		FW <u>and</u> Signature; Perm ratings	
				47	Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts		Letter template	
<b>Subtotal of points for Materials section (18 pts min)</b>						<b>0</b>	<b>0</b>		

Notes:

Enter "Y" (for Yes) or "M" (for Maybe) in the appropriate column; items not attempted can be left blank									
P	N	Y	M	Bonus Opportunities (min 3 pts)	Pts	Score		Documentation	Notes / Dates / Initials / ESv2.5 footnotes
						Pass	Y/M		
				1 Provide a Homeowner's Binder that includes some or all of the following items (1 point awarded for every 2 items provided -- 5 points max.): 1. List of high performance building features (can include the HBH checklist). 2. Provide local recycling and household hazardous waste contacts. 3. List of common hazardous materials often used around the home, and instructions for their proper handling and disposal. 4. Information about native landscape materials and/or those that are drought resistant. 5. Information about organic pest control, fertilizers, de-icers, and cleaning products. 6. Product manufacturer's manuals or product data sheet for installed major equipment, appliances, and fixtures. 7. A diagram showing the location of safety valves and controls for major home systems. Minimum systems include HVAC and water distribution. 8. Methods of maintaining the building's relative humidity in the range of 30-60%. 9. A list of practices to conserve energy and water usage. 10. A copy of the Document Signature Sheet from Prereq. 11	enter pts			Signature; Copy of binder inserts available on request	
				2 Kitchen Waste Handling (credit available for ALL of the following): Built-in kitchen waste center (two or more bins used for recycling) Indoor composting system, demonstrated to homeowner	1 2			FW and Signature; Name of composting system	
				3 Integrated Project Management (credit available for ALL of the following): Project Meeting: conduct a preliminary meeting with the key members of the project team as early as practical. Complete an HBH Checklist indicating the credit items being targeted, and listing the team member responsible for providing the required documentation for each credit. "Environmental Responsibility Checklist" provided to the following subcontractors, as applicable to the project: Mechanical (and associated subs), Electrical (and associated subs), Plumbing, Controls, Solar/renewables, Landscaping, Site, Concrete/Floor System, Framing/Wall System, Siding, Masonry, Insulation, Roofing/Roof System, Drywall, Paint/Sealants, Casework, Flooring.	1 4			Copy of HBH Checklist; date and attendance list from the project meeting Copy of Environmental Responsibility Checklist	
				4 Market NC HealthyBuilt Homes program (Max. 3 points) HBH pamphlets provided on-site Company website or brochure displays HBH logo Ad or yard sign displays HBH logo Publish newspaper or mag. article on HBH-registered home Make presentation on NC HBH to group of 10 or more	1 1 2 2 2			Description of marketing activities	
				5 Builder is enrolled in Community HealthyBuilt Homes Program (see Reference Manual)	2			Completed enrollment form	
				6 Held for: Hazardous construction certification program				Copy of certificate	
				7 Held for: Accessibility certification program				Copy of certificate	
				8 Innovation Points - Builder submits specifications for innovative products or design (max. 7 innovation pts awarded per category)	enter pts			Letter template	
<b>Subtotal of points for Bonus section (min 3 pts) -----</b>						<b>0</b>	<b>0</b>		

Notes:

## **ENERGY STAR Footnotes**

- 1 Defers to local codes if a conflict
- 2 Equivalent
- 3 Ref. Design: 5 ACH50 in CZ 3,4; 4 ACH50 in CZ 5
- 4 Ref. Design: 4 % leakage to outside; 6 % total leakage
- 5 Manual J 8th Ed specified; also Manual S. Total cooling capacity within 95-125% of design for HPs in CZ 4,5; otherwise 95-115% for AC and HP or next nominal size
- 6 Atmospheric venting allowed for combustion devices in CZ 3, otherwise power vented or sealed combustion required
- 7 Rate is the same (based on ASHRAE 62.2) System must operate at least once/day for 2.4 hours (per ASHRAE)
- 8 Fan rates are the same for intermittent ventilation; lower rates allowed for continuous vent. No make-up air requirements.
- 9 Equivalent, if home has dishwasher
- 10 HERS Index Target < 85 based on Ref. Design and home size/BR number.
- 11 Ref. Design: < 5 ACH50 in CZ 3,4; < 4 ACH50 in CZ 5
- 12 R-5 in CZ 3; R-10 in CZ 4,5.
- 13 Ref. Design: R-19 in CZ 3,4; R-30 in CZ 5 over unconditioned space
- 14 Crawl space may be closed or open (vented). If closed (unvented), wall insulated to R-5 in CZ 3, R-10 in CZ 4,5 if continuous or R-13 for framed wall
- 15 Items 1-7 required as an alternative to rigid insulated sheathing, or SIPs, or ICFs, or double walls to minimize thermal bridging. For insulated headers, R-3 in CZ 3,4; R-5 in CZ 5
- 16 Ref. Design: R-13 in CZ 3,4; R-20 or R13+5 in CZ 5
- 17 For exterior wall sheathing, R-3 in CZ 3,4; R-5 in CZ 5. This is just one option among several for reduced thermal bridging.
- 18 Option for reduced thermal bridging.
- 19 Raised heel required to a height that allows insulation to 75 % of attic insulation level
- 20 Ref. Design: R-30 in CZ 3; R-38 in CZ 4,5
- 21 Air barrier required with insulation to same level as exterior walls
- 22 Ref. Design U-Factors: 0.35 in CZ 3; 0.32 in CZ 4; 0.30 in CZ5. SHGC factors also specified
- 23 Opaque doors insulated to R-5; R-4 if < 1.2 lite; R-3 if > 1/2 lite
- 24 Total duct leakage < 6 % for all homes

- 25 Supply air flows within 20 % or 25 CFM of Man. J design
- 26 Equivalent, unless insulation level maintained
- 27 Equivalent, if home has recessed can fixtures
- 28 R-8 in attic; R-6 elsewhere
- 29 Only programmable thermostat required
- 30 Ref. Design: > 80 in CZ 3; > 90 in CZ 4,5
- 31 Ref. Design: . 80 in CZ 3; 85 in CZ 4,5. Depending on type of HVAC a house uses, it would earn min.f 1 point by meeting ES.
- 32 Ref. Design AC: > 14.5 SEER in CZ 3; > 13 SEER in CZ 4,5
- 33 Ref. Design HPs: 8.2 HSPF, 14.5 SEER in CZ 3; 8.5 HSPF, 14.5 SEER in CZ 4; 9.25 HSPF, 14.5 SEER in CZ 5
- 34 Energy Star qualified system
- 35 Equivalent, if home has cooling system
- 36 Equivalent, if home has refrigerant loop
- 37 Man. J calcs check by Rater
- 38 Energy Star refrigerator required
- 39 ENERGY STAR criteria for individual water heaters are different from ENERGY STAR for Homes requirements
- 40 ENERGY STAR lighting requirements are equivalent to a minimum of 4 points
- 41 Capillary break under slab or crawl space floor
- 42 Below grade exterior wall surfaces finished with damp proofing or water proofing coating
- 43 MERV 6 or better filters