



# ENERGY STAR Qualified Homes

## Water-Managed Construction Checklist

Home Address:		City:	State:		
Assembly	Inspection Guidelines <sup>1</sup>	Must Correct	Builder Approved	Verifier Approved	N/A
1. Water-Managed Foundation	1.1 Patio slabs, walks, and driveways sloped $\geq 0.25$ in. per ft. away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.2 Final grade sloped $\geq 0.5$ in. per ft. away from home for $\geq 10$ ft. and back-fill tamped to prevent settling <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.3 Capillary break beneath all concrete slabs using either: <sup>3</sup> <ul style="list-style-type: none"> <li>4 in. bed of <math>\geq 0.5</math> in. clean aggregate covered with sheeting in direct contact with the concrete slab above, OR;</li> <li>4 in. uniform layer of sand overlaid with geotextile drainage matting and covered with sheeting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.4 Capillary break for all crawlspace floors using either: <sup>4</sup> <ul style="list-style-type: none"> <li>Concrete slab over lapped polyethylene sheeting, OR;</li> <li>6 mil polyethylene sheeting, lapped 6-12 in. and sealed at seams, attached to walls and piers with adhesive and furring strips</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.5 Exterior surface of below-grade walls finished as follows: <ul style="list-style-type: none"> <li>For poured concrete, concrete masonry, and insulated concrete forms, finish with damp-proofing coating</li> <li>For wood framed walls, finish with trowel-on mastic and polyethylene or other equivalent waterproofing</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.6 Interior surface of below-grade walls <u>not</u> finished with continuous vapor barrier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.7 Sump pump covers shall be air-sealed (i.e., mechanically attached with full gasket seal or equivalent) <sup>5</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1.8 Protected drain tile surrounded with clean gravel and fabric filter <sup>6</sup>	<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 <sup>7</sup>	<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 2.1 <sup>8</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.3 Window and door openings fully flashed <sup>9</sup>	<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 with drainage plane above <sup>10</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.2 Guttering and downspouts empty to lateral piping that deposits water on sloping finish grade $\geq 5$ ft. from foundation or to underground catchment system $\geq 10$ ft. from foundation <sup>11, 12</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.3 Self-sealing bituminous membrane or equivalent at all valleys and roof decking penetrations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.4 In IECC 2006 Climate Zones 5 and higher, self-sealing bituminous membrane or equivalent over sheathing at eaves, extending $\geq 2$ ft. up roof deck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Building Materials	4.1 Wall-to-wall carpet <u>not</u> installed adjacent to toilets and bathing fixtures (e.g., tubs and showers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.2 Cement board or equivalent moisture-resistant backing material installed behind tub and shower enclosures <sup>13</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.3 Piping in exterior walls installed with insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.4 In Humid-Hot and Humid-Mixed climates, permeability rating of finishes used on interior side of exterior walls is $> 1$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.5 Building materials with visible signs of water damage or mold <u>not</u> installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.6 Interior walls <u>not</u> enclosed (e.g., with drywall) if either the framing members or insulation products have high moisture content <sup>14</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verifier: _____		Verifier Inspection Date: _____		Verifier Initials: _____	
Builder Employee: _____		Builder Inspection Date: _____		Builder Initials: _____	



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## Water-Managed Construction Notes

1. In the event that an item cannot be inspected by the verifier, the builder may assume responsibility for verifying that the item has met the requirements of the checklist. This option is available at the discretion of the verifier but may not be used to verify more than three (3) items on the checklist. This responsibility will be formally acknowledged by the builder signing off on the checklist for the item(s) that they verified.
2. Where setbacks limit space to less than 10 ft., provide swales or drains designed to carry water from foundation. Backfill tamping is not required if proper drainage can be achieved using non-settling compact soils, as determined by a certified hydrologist, soil scientist, or engineer.
3. Sheeting shall be  $\geq 6$  mil polyethylene sheeting overlapped 6-12 in. at joints. Polyethylene sheeting is not required in Dry (B) climates as defined by IECC 2004 Figure 301.1, except in U.S. EPA Zone 1 Radon areas. In areas with free-draining soils, identified as Group 1 in the IRC by a certified hydrologist, soil scientist, or engineer through a site visit, a gravel layer or geotextile matting is not required.
4. It is recommended, but not required, that sheeting be  $\geq 10$  mil polyethylene. Polyethylene sheeting is not required for raised-pier foundation with no walls, in Dry (B) climates as defined by IECC 2004 Figure 301.1, or in Marine climates as defined by IECC 2004 Figure 301.1 and Table 301.1 if no air handler or return ducts are installed in the crawlspace.
5. Sump pump covers shall be mechanically attached with full gasket seal or equivalent.
6. Protected drain tile shall be installed at the footings of basement and crawlspace walls, level or sloped to discharge to outside grade (daylight) or to a sump pump. The top of each drain tile pipe shall always be below the bottom of the concrete slab or crawlspace floor. Each pipe shall be surrounded with at least 6 inches of  $\frac{1}{2}$  to  $\frac{3}{4}$  inc. washed or clean gravel. The gravel layer shall be fully wrapped with fabric cloth to prevent fouling of the drain tile.
7. Drainage systems equivalent to flashing are also allowed.
8. Any of the following systems may be used: a monolithic weather-resistant barrier (i.e., house wrap) sealed or taped at all joints; weather resistant sheathings (e.g., faced rigid insulation) fully taped at all "butt" joints; or lapped shingle-style building paper or felts.
9. Include pan flashing at sills, side flashing that extends over pan flashing, and top flashing that extends over side flashing.
10. Intersecting wall siding shall terminate 1 in. above the roof, or higher per manufacturer's recommendations. Continuous flashing shall be installed in place of step flashing for metal and rubber membrane roofs.
11. Not required in dry climates as shown in IECC 2004 Figure 301.1 and Table 301.1.
12. Roof design without gutters is also acceptable if it deposits rainwater to a grade-level rock bed with a waterproof liner and a drain pipe that deposits water on a sloping finish grade  $\geq 5$  ft. from foundation. Rainwater harvesting systems may also be used to meet this requirement when designed to properly drain overflow, meeting the discharge-distance requirements above.
13. Paper-faced wall board does not meet this requirement.
14. For wet-applied insulation products, follow manufacturer's drying recommendations. As guidance, note that lumber should not exceed 18% moisture content.