



Revised Draft Inspection Guidelines for WaterSense®
Labeled New Homes

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I. Background

The WaterSense new homes program is a national, voluntary labeling program sponsored by the U.S. Environmental Protection Agency (EPA) that promotes the design and construction of water-efficient single-family new homes. Homes built to EPA's specification will be designed to be about 20 percent more efficient than similar new homes being built today. With WaterSense, homebuilders can differentiate their homes as meeting the only national water-efficient home specification and homebuyers can readily identify water-efficient homes.

The *Water-Efficient Single-Family New Home Specification* has three topic areas:

1. Indoor water use, including plumbing, plumbing fixtures and fittings, appliances, and other water-using equipment;
2. Outdoor water use, including landscape design and irrigation systems, if installed; and
3. Homeowner education.

New homes must be built by a WaterSense builder partner, be certified by an EPA-licensed provider, and meet all of the applicable criteria in the specification to become a WaterSense labeled new home.

The third-party verification of WaterSense labeled new homes is intended to confirm that the builder has met the criteria of EPA's specification for water-efficient new homes. This document explains how inspectors shall verify that the criteria have been met and must be followed in conjunction with the specification. All definitions and applicable criteria in the specification apply to this document.

II. General Site and Inspection Information

At the beginning of each inspection the inspector shall:

- Confirm the address of the house on the *WaterSense Labeled New Home Inspection Checklist* with the address of the house to be inspected.
- Take a digital photograph that shows the front of the home being inspected and its landscape.
- Fill in the inspection date and start time on the inspection checklist.

At the end of each inspection the inspector shall:

- Fill in the time the inspection was completed.
- Sign the inspection checklist.
- Provide a copy of the inspection checklist to the builder.
- Submit the completed signed inspection checklist, required documentation, and digital photograph to their provider.

Every home submitted to the EPA-licensed provider by the builder for certification must be inspected unless the provider offers sampling. Providers may offer builder partners the opportunity to participate in a sampling protocol if they intend to certify multiple homes within the same subdivision or planned community. If the provider offers sampling, the inspector must directly inspect and the provider must certify the builder partner's first seven homes within the

subdivision or planned community. After the first seven homes are inspected and certified, the inspector shall institute the following process:

- Randomly select one home for sampling from every batch of seven homes that are scheduled for completion within 30 days of one another;
- Inspect the sample home in accordance with the procedures described in this document; and
- For every home with an irrigation system installed, the inspector shall verify that the builder partner has had the irrigation system audited by a WaterSense irrigation partner, regardless of whether the home is being directly inspected or certified as part of the sampling protocol.

The builder is expected to make certain documentation (listed in this guidance) available to the inspector. This can be done onsite during the inspection or at another mutually agreeable time.

If there are issues associated with compliance with the specification, notify the builder and allow for the issue(s) to be corrected. The home can then be reinspected at the builder's expense. Any nonconformities should be noted on the inspection checklist along with the corrective actions that were taken.

Provide this completed checklist (or other similar method of documentation) and any supporting documents to the provider upon completion of the inspection. The provider will use the documentation to certify qualified homes and issue the WaterSense label to the builder.

III. Required Equipment

The following pieces of equipment will be needed to conduct the inspection:

- Watch with second hand or stop watch
- Digital thermometer such as a digital food thermometer
- Bucket or flow bag with volume measures marked
- Dye tablets for toilets
- Flashlight
- Digital camera
- Tape measure
- Equipment for determining slope such as clinometer or laser level

IV. Indoor Water Efficiency Criteria

Pre-Inspection

Verify that both the water for the home and the water heater are turned on prior to the inspection. It is common for builders to turn off the gas and reduce the temperature setting to “vacation” on a gas water heater or to trip the breaker.

Testing of the hot water delivery system must be conducted prior to testing the faucets and showerheads or any other indoor water draws to obtain the most accurate response time on the delivery of hot water.

Leaks (Section 3.1)

Requirements

There shall be no visible leaks from any water-using fixtures, appliances, or equipment.

Inspector Instructions

- Check for leaks at all visible water supply connections and valves for water-using fixtures, appliances, and equipment. Notify the builder if leaks are detected. Some of the specific inspection requirements included below will provide additional instructions for checking for leaks.

Service Pressure (Section 3.2)

Requirements

The static service pressure shall be a maximum of 60 pounds per square inch (psi) (414 kilopascal [kPa]). Compliance for homes with publicly supplied water shall be achieved by the use of a pressure-regulating valve (PRV) downstream of the water meter. All fixture connections shall be downstream of the PRV. Compliance for homes supplied by groundwater wells shall be achieved by use of a pressure tank.

Inspector Instructions

- Verify installation of the PRV(s) or pressure tank and that pressure is at or lower than 60 psi. Be aware that separate PRVs may have been installed for indoor and outdoor water usage.

Hot Water Delivery System (Section 3.3)

Requirements

The hot water distribution system shall store no more than 0.6 gallons (2.3 liters) of water in any piping/manifold between the hot water source and any hot water fixture. Timer- and temperature-based recirculating systems shall not be used to meet the criteria.

Inspector Instructions

- *Testing of the hot water delivery system must be conducted prior to testing the faucets and showerheads or any other indoor water draws to obtain the most accurate response time on the delivery of hot water.*
- Testing must be conducted at the fixture that is located the farthest distance from the hot water source.
- Verify that the water heater is on.
- Check to see that connection points in the hot water delivery system do not leak.
- Check the type of hot water distribution system installed to ensure it is not a timer- or temperature-based recirculating system. For demand-initiated hot water recirculating systems, turn on the applicable switch or hit the control button for the hot water in the room where you are conducting the inspection and wait about 40 seconds.
- Use a bucket or attach a flow measuring bag pre-marked for 0.6 gallons (2.3 liters) to the hot water fixture.
- Turn on the hot water completely and place a digital thermometer in the stream of water. Note the starting temperature.
- Once the water meets the pre-marked line (approximately 24 seconds for a bathroom sink faucet), turn off the water and record the ending temperature.
- The temperature must increase by 10 degrees Fahrenheit.

Toilets (Section 3.4)

Requirements

All toilets shall be WaterSense labeled high-efficiency tank-type toilets.

Inspector Instructions

- Obtain the make and model name and number of all toilets installed in the house from the builder.
- Verify that the toilets installed match the builder's list and are on EPA's list of [WaterSense labeled high-efficiency toilets](#) . If the builder provides separate model numbers for the bowl and tank, verify that the bowl and tank combination is included on EPA's list of WaterSense labeled high-efficiency toilets.
- Check the angle valve and connections for visible leaks.
- Conduct a dye tablet test to ensure the flapper is not leaking:
 - Drop dye tablets into the toilet tank and wait four minutes (while waiting you may want to test the faucets and/or showerheads).

- Check the toilet bowl for tablet color. If color flows into the toilet, the flapper valve is leaking and needs to be replaced.
- Flush the toilet within 10 minutes after inserting the dye tablets to avoid staining the toilet.
- Check the water level setting:
 - Remove the tank lid.
 - Flush toilet.
 - Ensure water level is properly set so that water does not overflow from the overflow tube.

Bathroom Faucets (Section 3.5.1)

Requirements

All bathroom faucets shall be WaterSense labeled high-efficiency bathroom sink faucets or faucet accessories (e.g., aerators).

Inspector Instructions

- Obtain the make(s) and model number(s) of all bathroom faucets or faucet accessories installed in the house from the builder.
- Verify that the bathroom faucets or accessories are on EPA's list of [WaterSense labeled high-efficiency lavatory faucets](#). On EPA's list, the "Type" indicates whether the product is a faucet or an attachable accessory (i.e., aerator, laminar flow device, or spray device).
- Check the maximum flow rate from each bathroom faucet:
 - Use a small bucket or attach a flow-measuring bag pre-marked for 0.25 gallons (1 liter) to the faucet spout.
 - Turn on the water completely while depressing a stopwatch. If the faucet has two handles, turn on both handles completely.
 - After ten seconds on the stopwatch, turn off the water.
 - The volume of water collected should be 0.25 gallons (1 liter) or less.
- Check the faucet, hot/cold water connection hoses, and valves for leaks.

Kitchen Faucets (Section 3.5.2)

Requirements

Kitchen faucets shall comply with federal standards for maximum flow rate of 2.2 gallons per minute (gpm) @ 60 psi (8.3 liters per minute [lpm] @ 414 kPa).¹

Inspector Instructions

- Check the maximum flow rate from the kitchen sink faucet:
 - Use a small bucket or attach a flow-measuring bag pre-marked for 0.4 gallons (1.5 liters) to the faucet spout.

¹ Note: Faucets with maximum flow rates of less than 2.2 gpm at 60 psi are acceptable.

- Turn on the water completely while depressing a stopwatch. If the faucet has two handles, turn on both handles completely.
- After ten seconds on the stopwatch, turn off the water.
- The volume of water collected should be 0.4 gallons (1.5 liters) or less.
- Check the faucet, valves, and/or connection hoses for leaks.

Showerheads (Section 3.6)

Requirements

Showerheads shall comply with the Energy Policy Act of 1992, which sets a maximum flow rate of 2.5 gpm @ 80 psi (9.5 lpm @ 552 kPa)², when certified in accordance with ASME A112.18.1/CSA B125.1. Showers shall also be equipped with automatic compensating valves certified to ASSE 1016 or ASME A112.18.1/CSA B125.1 and specifically be designed to provide thermal shock and scald protection for the rated flow rate of the installed showerhead.

The total allowable flow rate of potable water from all showerheads flowing at any given time, including rain systems, waterfalls, bodysprays, and jets, shall be limited to 2.5 gpm per shower compartment, where the floor area of the shower compartment is less than 2,600 inches² (in.²) (1.7 meters² [m²]). For each increment of 2,600 in.² (1.7 m²) of floor area thereafter or part thereof, additional showerheads are allowed, provided the total flow rate of potable water from all flowing devices is equal to or less than 2.5 gpm per shower compartment.

Inspector Instructions

- Verify that all showers are equipped with an automatic compensating valve. Obtain documentation (e.g., valve specification sheet) from the builder and verify that each valve is certified to ASSE 1016 or ASME A112.18.1/CSA B125 for the flow rate of the showerhead installed in the shower.
- Check each showerhead for leaks at the shower arm and showerhead threaded connection. Also, if it is a bath/shower combination, check the shower diverter for minimum water seepage.
- Check the maximum flow from each showerhead:
 - For a single showerhead in a shower compartment:
 - Use a bucket or attach a flow measuring bag pre-marked for 0.4 gallons (1.5 liters) over the showerhead.
 - Turn on the water completely while depressing a stopwatch. If the shower has two handles, turn on both handles completely.
 - After ten seconds on the stopwatch, turn off the water.
 - The volume of water collected should be 0.4 gallons (1.5 liters) or less.
 - For multiple showerheads in a single shower compartment:
 - Use a bucket, attach a flow measuring bag, or use another method to capture all of the water flowing from each showerhead, either together or individually. Measuring devices should be pre-marked in increments of 0.4 gallons (1.5 liters).

² Note: Showerheads with maximum flow rates of less than 2.5 gpm at 80 psi are acceptable.

- Turn on the water completely while depressing a stopwatch. If the shower has two handles, turn on both handles completely.
- After ten seconds on the stopwatch, turn off the water.
- Add the maximum flow rates of potable water from each showerhead to determine the total flow rate.
- Measure the area of the shower compartment.
 - If smaller than 2,600 in.² (1.7 m²), then the total allowable volume of water collected from all showerheads during the flow test should be 0.4 gallons (1.5 liters) or less.
 - If between 2,601 in.² (1.7 m²) and 5,200 in.² (3.4 m²) then the total allowable volume of water collected from all showerheads during the flow test should be no more than 0.8 gallons (3.0 liters) or less.
 - If recycled water is used, then the total allowable volume of water collected from all showerheads during the flow test can be more than 0.4 gallons (1.5 liters).

The following indoor water-efficiency criteria only apply if the builder has financed, installed, or sold the appliance or other equipment listed below as an upgrade.

Dishwashers (Section 3.7.1)

Requirements

If a dishwasher is installed, it shall be ENERGY STAR[®] qualified.

Inspector Instructions

- Verify that the installed dishwasher has an ENERGY STAR label. If no label is present, verify that the dishwasher is on the list of [ENERGY STAR qualified dishwashers](#).
- Check for leaks from all visible connections and valves.

Clothes Washers (Section 3.7.2)

Requirements

If a clothes washer is installed, it shall be ENERGY STAR qualified with a water factor (WF) of less than or equal to 6.0 gallons of water per cycle per cubic foot capacity.

Inspector Instructions

- Verify that the installed clothes washer is ENERGY STAR qualified and has a WF of 6.0 gallons or less by checking the list of [ENERGY STAR' qualified clothes washers](#).
- Check for leaks from all visible connections and valves.

Evaporative Cooling Systems (Section 3.8.1)

Requirements

Evaporative cooling systems shall use a maximum of 3.5 gallons (13.3 liters) of water per ton-hour of cooling when adjusted to maximum water use. Blowdown shall be based on time of operation, not to exceed three times in a 24 hour period of operating (every eight hours). Blowdown shall be mediated by conductivity or basin water temperature-based controllers. The reservoir discharge outlet should be easily visible so the user can see if the refill valve is leaking. Once-through or single-pass cooling systems, systems with continuous blowdown/bleedoff, and systems with timer-only mediated blowdown management shall not be used to meet these criteria.

Inspector Instructions

- Verify that the evaporative cooling system meets the maximum of 3.5 gallons of water per ton-hour and that the blowdown does not exceed three times in a 24 hour period by reviewing the manufacturer's product literature or visiting the manufacturer's Web site. Obtain a copy of the documentation as part of the inspection records.
- Verify that the evaporative cooling system controls blowdown through conductivity or a basin temperature-based controller by reviewing the manufacturer's product literature or visiting the manufacturer's Web site. Obtain a copy of the documentation as part of the inspection records.
- Verify that the reservoir discharge outlet is visible.
- Check for leaks from all visible connections and valves.

Water Softeners (Section 3.8.2)

Requirements

All self-regenerating water softeners shall be certified to meet NSF/ANSI Standard 44, including the voluntary efficiency rating standards in Section 7 – *Mandatory testing for elective claims* for efficiency rated systems, which states that water softeners shall:

- Be a demand-initiated regeneration system (i.e., it must use a flow meter or water hardness sensor to initiate regeneration; devices that use time clock-initiated regeneration [fixed time schedule] do not qualify for the efficiency rating).
- Have a rated salt efficiency of not less than 3,350 grains of total hardness exchange per pound of salt, based on sodium chloride (NaCl) equivalency (477 grams of total hardness exchange per kilogram of salt).
- Not generate more than 5 gallons of water per 1,000 grains of hardness removed during the service cycle (18.9 liters per 64.8 grams of total hardness removed).

Inspector Instructions

- Verify through the manufacturer's product specification sheet or product manual that the softener has been certified to meet NSF/ANSI Standard 44, including the voluntary efficiency rating standards in Section 7. Obtain a copy of the documentation as part of the inspection records.
- Check for leaks from all visible connections and valves.

Drinking Water Treatment Systems (Section 3.8.3)

Requirements

Drinking water treatment systems must be certified to meet applicable NSF/ANSI standards. Such systems shall have an efficiency rating of not less than 85 percent.

Inspector Instructions

- Verify through manufacturer product literature that the drinking water treatment system meets the applicable NSF/ANSI standard and has a minimum efficiency rating of 85 percent.
- Check for leaks from all visible connections and valves.

V. Outdoor Water-Efficiency Criteria

Landscape Design (Section 4.1)

Requirements

- At a minimum, the front yard shall be landscaped to meet criteria in either Option 1 or Option 2. The front yard is defined as the area from the front of the house to the street, curb, and/or property lines. The entire yard shall be landscaped to meet the criteria in either option where landscaping of the entire yard is financed, installed, or sold as an upgrade by or through the homebuilder.
- The entire yard shall also be landscaped to meet the criteria in either option when irrigation system, pools, spas, or water features have been financed, installed, or sold by the homebuilder.

Lots with landscapable areas equal to or less than 1,000 square feet are exempt from these landscape criteria.

Option 1 (Section 4.1.1.1)

Requirements

Turfgrass shall not exceed 40 percent of the landscapable area.

Inspector Instructions

Verify that turfgrass does not exceed 40 percent of the landscapable area of the front yard or entire yard if the entire yard is subject to the landscape design criteria. Landscapable area is defined as the buildable lot area excluding the area under the roof. Buildable land excludes public streets and other public rights-of-way, land occupied by nonresidential structures, public parks, and land excluded from residential development by law. Septic field drainage areas, right-of-ways, and set-backs are excluded from the definition.

1. Determine the total landscapable area through measurement or documentation from the builder (e.g. total lot size minus area of house).
2. Measure the turf area and surface area of any pools, spas, and/or water features installed.
3. Divide the turf area measured in step 2 by the total landscapable area measured in step 1.
4. The value obtained in step 3 should be 0.40 or less.

Option 2 (Section 4.1.1.2)

Requirements

Landscape design shall be developed using the water budget tool based on a 70 percent evapotranspiration adjustment factor.

Inspector Instructions

- Obtain a complete copy of the water budget tool from the builder.
 1. Verify the peak watering month, precipitation value and ET value using the sources stated in the water budget approach.
 2. Verify the areas stated for each hydrozone/landscape feature area in the water budget tool through measurement or documentation from the builder.
 3. Determine the total landscapable area through measurement or documentation from the builder (e.g. total lot size minus area of house).
 4. Measure the turf area and surface area of any pools, spas, and/or water features.
 5. Divide the turf area measured in step 4 by the total landscapable area measured in step 3.
 6. Multiply the value obtained in step 5 by 100.
 7. The value calculated in step 6 should not exceed the percentage of turfgrass identified in the water budget tool.

Turfgrass (Section 4.1.2)

Requirements

Turfgrass shall not be installed in strips less than 4 feet wide.

Inspector Instructions

- Verify that turfgrass is not installed in strips less than 4 feet wide.

Slopes (Section 4.1.3)

Requirements

Plantings other than turfgrass shall be installed on slopes in excess of 4 feet of horizontal run per 1 foot vertical rise (4:1).

Inspector Instructions

- Use a laser level, clinometer, or other method to determine if slopes are 25 percent or greater (i.e., 4:1 slope).
- Verify that slopes of 25 percent or greater have plantings other than turfgrass.

Mulching (Section 4.1.4)

Requirements

Non-vegetative, softscape parts of the landscapable area shall include a 2- to 3-inch layer of mulching material. Mulch shall be organic or inorganic, permeable materials that will retain soil moisture, suppress weeds, and allow free movement of oxygen into and out of the soil.

Softscape is defined as the natural elements of a landscape, such as plant materials and soil. Softscapes can include hard elements such as rocks.

Inspector Instructions

- Verify that appropriate areas are mulched with 2 to 3 inches (in depth) of allowable mulching material.

Pools/Spas (Section 4.1.5)

Requirements

If financed, installed, or sold as an upgrade through the homebuilder, the water surface area shall be deducted from the turf allowance under Landscape Design Option 1 and included as landscapable area under Landscape Design Option 2. If installed, the entire yard must meet the landscape design criteria of either Option 1 or Option 2. All pools must have a cover.

Inspector Instructions

- Verify that the entire yard has been landscaped appropriately.
- Verify that the surface area of the pool is included as landscapable area in the landscape design calculations and water budget calculations, if applicable. Also, verify that the pool's surface area is included as turfgrass in the turfgrass area calculations.
- Verify that the pool has a cover.

Ornamental Water Features (Section 4.1.6)

Requirements

Water features financed, installed, or sold as upgrades by the homebuilder must recirculate water and serve a beneficial use. The water surface area shall be deducted from the turfgrass allowance under Landscape Design Option 1 and included as landscapable area under Landscape Design Option 2. If installed, the entire yard must meet the landscape design criteria of either Option 1 or Option 2. Ornamental water features are defined as fountains, ponds, waterfalls, man-made streams, and other decorative water-related constructions.

Inspector Instructions

- Verify that the entire yard has been landscaped appropriately.
- Verify that ornamental water features recirculate water and have a beneficial use (e.g., habitat for wildlife, stormwater management, cooling properties).
- Verify that the surface area of the water feature is included as landscapable area in the landscape design calculations and water budget calculations, if applicable. Also, verify that the water feature's surface area is included as turfgrass in the turfgrass area calculations.

Irrigation System Design and Installation (Section 4.2)

Requirements

All irrigation systems shall be audited by a WaterSense irrigation partner. Irrigation systems shall be designed to sustain the landscape without creating runoff or direct overspray of the property during a minimum continuous operating duration, achieve a distribution uniformity of 70 percent or greater, be equipped with technology that inhibits or interrupts operation during periods of rainfall, and be equipped with controllers with specified features. Sprinkler irrigation shall not be used to water plantings other than maintained turfgrass. Two water schedules, developed by the WaterSense irrigation partner, shall be posted at the controller and shall be seasonal in nature. One schedule shall be designed to address the initial grow-in phase of the landscape and the second schedule shall be designed to address an established landscape.

Inspector Instructions

- Confirm that the irrigation system was audited, and verify that the professional who completed the audit is on EPA's list of [WaterSense irrigation partners](#).
- Obtain a copy of the Irrigation System Design and Installation Checklist completed by the WaterSense irrigation partner from the builder. Verify that the WaterSense irrigation partner completed the WaterSense Labeled New Home Irrigation Audit Checklist and that all of the components used in the irrigation system meet the minimum criteria contained in the specification.

VI. Homeowner Education Criteria

Operating Manual (Section 5.1)

Requirements

The builder shall develop and provide to the homebuyer a written operating and maintenance manual for all water-using equipment or controls installed in the house and yard, including all relevant WaterSense materials on indoor and outdoor water use. This may be a chapter or folder in an existing manual. If clothes washers or dishwashers are not provided, general information about water-efficient appliances shall be included. If an irrigation system is installed, the builder shall provide the homebuyer with a drawing record (schematic) of the system and copies of the irrigation schedules.

Inspector Instructions

- Verify that the operating manual includes operation and maintenance information on the following items:
 - Pressure regulating valve(s)/pressure tank
 - Hot water delivery system(s)
 - Toilets
 - Faucets
 - Showerheads
 - WaterSense educational materials on indoor and outdoor water use
 - If installed:
 - Dishwasher(s)
 - Clothes washer(s)
 - Evaporative air conditioner
 - Water softener(s)
 - Drinking water treatment system(s)
 - Irrigation system including the irrigation controller, drawing record (schematic) of the system, and irrigation schedules
 - General information on water-efficient dishwashers and clothes washers if they are not installed

VII. Definitions

Builder partner – A homebuilder who has committed to building new homes in accordance with the Water-Efficient Single-Family New Home Specification. The builder must signify such commitment by signing a WaterSense partnership agreement with EPA.

EPA-licensed provider – An organization licensed by EPA to hire or contract with inspectors, oversee new home inspections, and provide builder partners of certified new homes with the WaterSense label. More information concerning the provider's roles and responsibilities can be found in the [WaterSense new homes certification system](#).

Evaporative cooling system – System that cools the air using water evaporation. There are two types of evaporative cooling systems: direct and indirect (all called "two-stage"). In a direct evaporative cooling system, a blower forces air through a permeable, water-soaked pad. As the air passes through the pad, it is filtered, cooled, and humidified. An indirect evaporative cooling system has a secondary heat exchanger that prevents humidity from being added to the airstream that enters the home. Cooling systems are defined by the temperatures they can "hold" either in the space and/or the process or equipment, and the amount of heat they can remove at full capacity. This heat removal is normally expressed in tons of cooling (or refrigeration) capacity. One ton of cooling equals precisely 12,000 British thermal units of heat removal per hour (Btu/h).

Evapotranspiration adjustment factor – An adjustment factor used in the water budget tool to limit the allotment of water a landscape can be designed to use. For the purposes of this specification, EPA has set this level at 70 percent of reference evapotranspiration (ET_o). This means that the landscape must be designed to require a maximum of 70 percent of the amount of water required by an equally sized landscape composed entirely of turfgrass.

Front yard – The area from the front of the house to the street, curb, and/or property lines.

Irrigation system audit – Procedure to collect and present information concerning the uniformity of application, precipitation rate, and general condition of an irrigation system and its components.³

Landscapable area – Buildable lot area excluding area under roof. Buildable lot area is the portion of a site where construction can occur. Buildable land excludes public streets and other public rights-of-way, land occupied by nonresidential structures, public parks, and land excluded from residential development by law. Septic field drainage areas are also excluded from the definition of landscapable area.

Lower quarter distribution uniformity (DU_{LQ}) – Distribution uniformity is the measure of uniformity of applied irrigation water over an area. DU_{LQ} is the ratio of the average of the lowest 25 percent of measurements to the overall average measurement, often determined through the use of catch cans or soil moisture probes that evaluate the coverage of one or more sprinklers or drip systems.⁴

Microirrigation system – Method where water is applied at or below the soil surface at low pressure and low volume.⁵

Mulching material – Organic and/or inorganic permeable materials that will retain soil moisture, suppress weeds, and allow free movement of oxygen into and out of the soil.

Ornamental water feature – Includes fountains, ponds, waterfalls, man-made streams, and other decorative water-related constructions. To meet the criteria, these features shall recirculate water and serve a beneficial use (e.g., habitat for wildlife, stormwater management, cooling properties).

Rated flow rate – The flow rate of the showerhead when tested in accordance with ASME A112.18.1/CSA B125.1.

³ Irrigation Association. 2005. *Landscape Irrigation Scheduling and Water Management*.

⁴ Irrigation Association. 2005. *Landscape Irrigation Scheduling and Water Management*.

⁵ Irrigation Association. 2005. *Landscape Irrigation Scheduling and Water Management*.

Softscape – The natural elements of a landscape, such as plant materials and soil. Softscapes can include hard elements such as rocks.⁶

Sprinkler irrigation – Type of irrigation using mechanical devices with nozzles (sprinklers) to distribute the water by converting water pressure to a high velocity discharge stream or streams.⁷

Static service pressure – The pipeline or municipal water supply pressure when water is not flowing.

Water budget – A water budget is used to calculate the amount of water a landscape needs, taking into account the inputs and outputs of water to and from the root zone. Inputs, such as precipitation, are subtracted from outputs, such as evapotranspiration, to calculate the water needs of the landscape. Many factors are taken into consideration when calculating a water budget, such as plant type and irrigation system efficiencies.

Water factor – The quotient of the total weighted per-cycle water consumption divided by the capacity of the clothes washer.

WaterSense labeled bathroom sink faucet – These faucets have a flow rate that does not exceed 1.5 gallons per minute (gpm) (5.7 lpm) at a pressure of 60 psi (414 kPa) at the inlet when water is flowing, and is not less than 0.8 gpm (3.0 lpm) at a pressure of 20 psi (1.38 kPa) at the inlet when water is flowing. The WaterSense high-efficiency bathroom sink faucet specification can be found at www.epa.gov/watersense/specs/faucet_final.htm and a list of labeled faucets and faucet accessories can be found at http://www.epa.gov/watersense/pp/lists/find_faucet.htm.

WaterSense labeled tank-type high-efficiency toilet – These toilets have a flush volume that does not exceed 1.28 gallons (4.8 liters), have a solid waste removal of 350 grams or greater, and conform to the adjustability and other supplementary requirements included in the WaterSense high-efficiency tank-type toilet specification. This specification can be found at www.epa.gov/watersense/specs/het.htm and a list of labeled toilet models can be found at www.epa.gov/watersense/pp/find_het.htm.

⁶ U.S. Green Building Council. *LEED for Homes Reference Guide*, First Edition, Washington, D.C. 2008.

⁷ Irrigation Association. 2005. *Landscape Irrigation Scheduling and Water Management*.

WaterSense irrigation partner – These professionals are certified through WaterSense labeled programs for their expertise in water-efficient irrigation technology and techniques. The specifications for professional certification programs can be found at http://www.epa.gov/watersense/pp/cert_programs.htm and a listing of irrigation partners by state can be found at www.epa.gov/watersense/pp/irrprof.htm.

Revised Draft WaterSense Labeled New Home Inspection Checklist

Site Information
Builder Name:
Lot Number/Street Address:
City:
State:
Zip:

Inspection Information
Date:
Time Started:
Time Ended:

Sampling Protocol Information	Yes	No
Is this home being submitted as part of a sampling protocol for multiple homes in a planned community or subdivision?		
Were the first 7 homes in this planned community or subdivision all directly inspected and certified?		
Was this home randomly selected for sampling from a batch of 7 homes that are scheduled for completion within 30 days of one another?		

By affixing my signature below, I do hereby declare that I have inspected the home in accordance with the <i>Water-Efficient Single-Family New Home Specification</i> , the <i>Inspection Guidelines for WaterSense Labeled New Homes</i> , and the <i>WaterSense New Home Certification System</i> . If requested, I will provide the necessary supporting documents.	
Inspector Name:	Company:
Signature:	Date:

Item		Criteria	Yes	No	NI*	Doc†
Indoor Water-Efficiency Criteria						
Leaks	3.1	No leaks from hot water delivery system				
		No leaks from toilets				
		No leaks from bathroom faucets				
		No leaks from kitchen faucets				
		No leaks from showerheads				
		No leaks from other fixtures or appliances				
Service pressure	3.2	Installation of PRV or pressure tank upstream of fixtures; pressure reading \leq 60 psi				
Hot water delivery system	3.3	Acceptable system type – no timer- or temperature-based recirculating systems				
		Measured volume \leq 0.6 gallons with 10°F temp. change				
Toilets	3.4	WaterSense labeled				Req.
Bathroom faucets	3.5.1	WaterSense labeled Measured flow rate – max. 1.5 gpm @ 60 psi (0.25 gal in 10 sec)				Req.
Kitchen faucets	3.5.2	Measured flow rate – max. 2.2 gpm @ 60 psi (0.40 gal in 10 sec)				
Showerheads	3.6	Measured flow rate – max. 2.5 gpm potable water per shower compartment \leq 2,600 in. ² (0.40 gal in 10 sec)				
		All showers equipped with automatic compensating valve that is certified for rated flow rate of installed showerhead				Req.
Dishwashers	3.7.1	ENERGY STAR qualified				Req.
Clothes washers	3.7.2	ENERGY STAR qualified				Req.
		Water factor \leq 6.0				Req.
Evaporative cooling system	3.8.1	Acceptable system type – no once-through, single pass, continuous blowdown/bleedoff or timer-only mediated blowdown systems				Req.
		Max. 3.5 gal/water/ton hour cooling, max. 3 blow-downs in 24 hours				Req.
		Controls blowdown through conductivity or a basin temperature-based controller				Req.
		Visible discharge outlet				
Water softeners	3.8.2	Certified to NSF/ANSI Standard 44, including voluntary efficiency rating standards in Section 7				Req.
Drinking water treatment systems	3.8.3	NSF/ANSI certified, min. efficiency rating 85%				Req.
Notes on indoor water-efficiency criteria						

* Not installed

† Documentation to be provided by the builder

Item		Criteria	Yes	No	NI*	Doc†
Outdoor Water-Efficiency Criteria						
Landscape design	4.1	Minimum of front yard landscaped				
Landscape design option 1	4.1.1.1	Turfgrass ≤ 40% landscapable area				Req.
Landscape design option 2	4.1.1.2	Water budget tool calculations provided & accurate				Req.
		Landscape complies with water budget design				Req.
Turfgrass	4.1.2	Not installed in strips less than 4 feet wide				
Slopes ≥ 4:1	4.1.3	Plantings other than turfgrass				
Mulching	4.1.4	Non-vegetated softscape areas have a 2- to 3-inch deep layer of mulch				
Pools/spas	4.1.5	Entire yard is landscaped				
		Cover is provided				
		Water surface area deducted from turfgrass allowance for landscape design option 1 or included as landscapable area under landscape design option 2				
Ornamental water feature	4.1.6	Entire yard is landscaped				
		Recirculates water				
		Serves beneficial use				
		Water surface area deducted from turfgrass allowance for landscape design option 1 or included as landscapable area under landscape design option 2				
Irrigation system design*	4.2.1	System audited by WaterSense irrigation partner				Req.
		Irrigation System Design and Installation Checklist completed by WaterSense irrigation partner				Req.
Notes on outdoor water- efficiency criteria						
<p>* Criterion 4.2.1 must be verified for all homes, regardless of sampling protocol. If sampling is applied, attach a separate irrigation audit checklist for each home.</p>						
Homeowner Education Criteria						
Operating manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house and yard				
		WaterSense information on efficient water use				
		General information on water-efficient dishwashers and clothes washers if they are not installed				
Notes on homeowner education criteria						