

# How to Leverage the Flexibility of the WaterSense® Labeled Homes Program

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**Holly Cannon, ERG, Contractor to U.S. EPA's WaterSense program**

EEBA Summit 2024: Wednesday, October 2, 2024, 1:30-2:30pm

# Agenda

- What is WaterSense?
- The WaterSense labeled homes program
  - Structure
  - Version 2 objectives
- Why should you build WaterSense labeled homes
  - Allows for home growth in water-stressed regions
  - Water efficiency saves energy and reduces carbon emissions
  - Achieve Zero Energy Ready Home (ZERH) water heating efficiency requirement
- Available WaterSense resources



**What is WaterSense** ✨

# What Is WaterSense?

- WaterSense is a voluntary partnership program launched by EPA in 2006 that provides a simple way to identify water-efficient:
  - Products
  - Programs
  - Practices
  - **Homes**
- Products are independently certified for water efficiency **and** performance



# WaterSense Labeled Products



More than **45,000** product models have earned the label. Water factors are included in many ENERGY STAR® certified products.

## Indoor products



Showerheads



Lavatory  
Faucets



Tank-Type  
Toilets



Flushometer  
Valve Toilets



Flushing  
Urinals

## Outdoor products



Spray Sprinkler  
Bodies



Weather-based



Soil Moisture-based

Irrigation Controllers

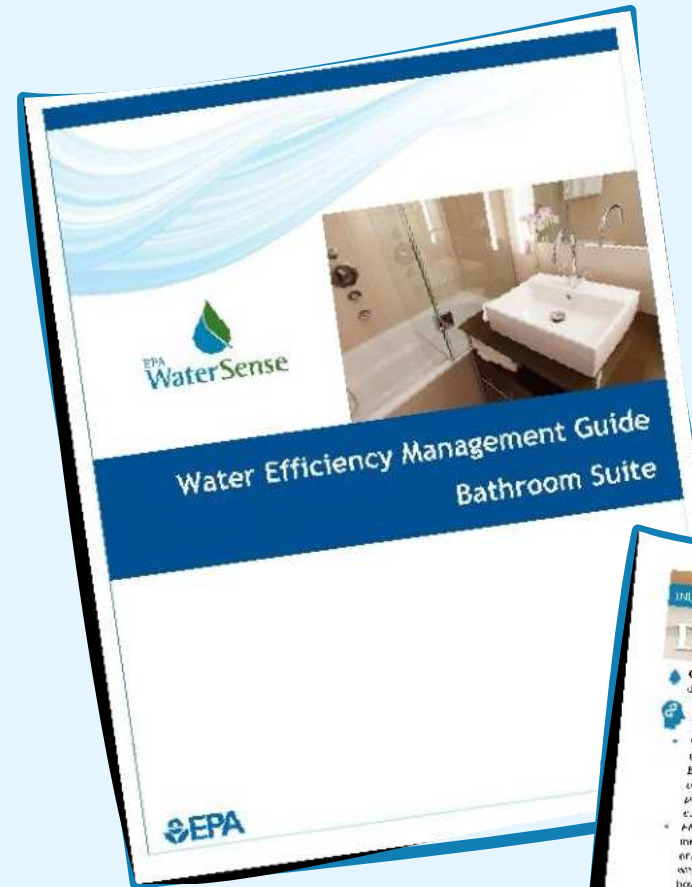
# WaterSense Labeled Programs

- WaterSense labels certification programs that train irrigation professionals in water-efficient technologies and techniques, including programs for certified:
    - Irrigation system designers
    - Irrigation system installation and maintenance professionals
- [www.epa.gov/watersense/find-pro](http://www.epa.gov/watersense/find-pro)
- Irrigation system auditors



# WaterSense Best Practices & Guides

- WaterSense develops various resources, best practices, and guides to share with interested parties. Examples include, but are not limited to:
  - A series of water efficiency guides for multifamily buildings ([www.epa.gov/watersense/water-science-multifamily-housing](http://www.epa.gov/watersense/water-science-multifamily-housing))
  - Technical fact sheets on specific water-efficient fixtures, systems, or practices that could be included in homes (also included in the *Technical Reference Manual for WaterSense Labeled Homes*, [www.epa.gov/watersense/homes-technical-reference-manual](http://www.epa.gov/watersense/homes-technical-reference-manual))
  - Much, much more



# The WaterSense Labeled Homes Program ✨



# WaterSense Labeled Homes

- First national home certification for water efficiency
- Provides a consistent and comprehensive approach to water efficient homes
- Version 2.0 became effective in 2022:
  - Reduces water use in homes by **at least** 30% compared to code-built homes
  - Are third-party certified using HCOs and home verifiers, overseen by EPA
  - Offers more flexibility relative to V1 while maintaining or increasing efficiency
  - Responds to market and climate changes

[www.epa.gov/watersense/homes](http://www.epa.gov/watersense/homes)

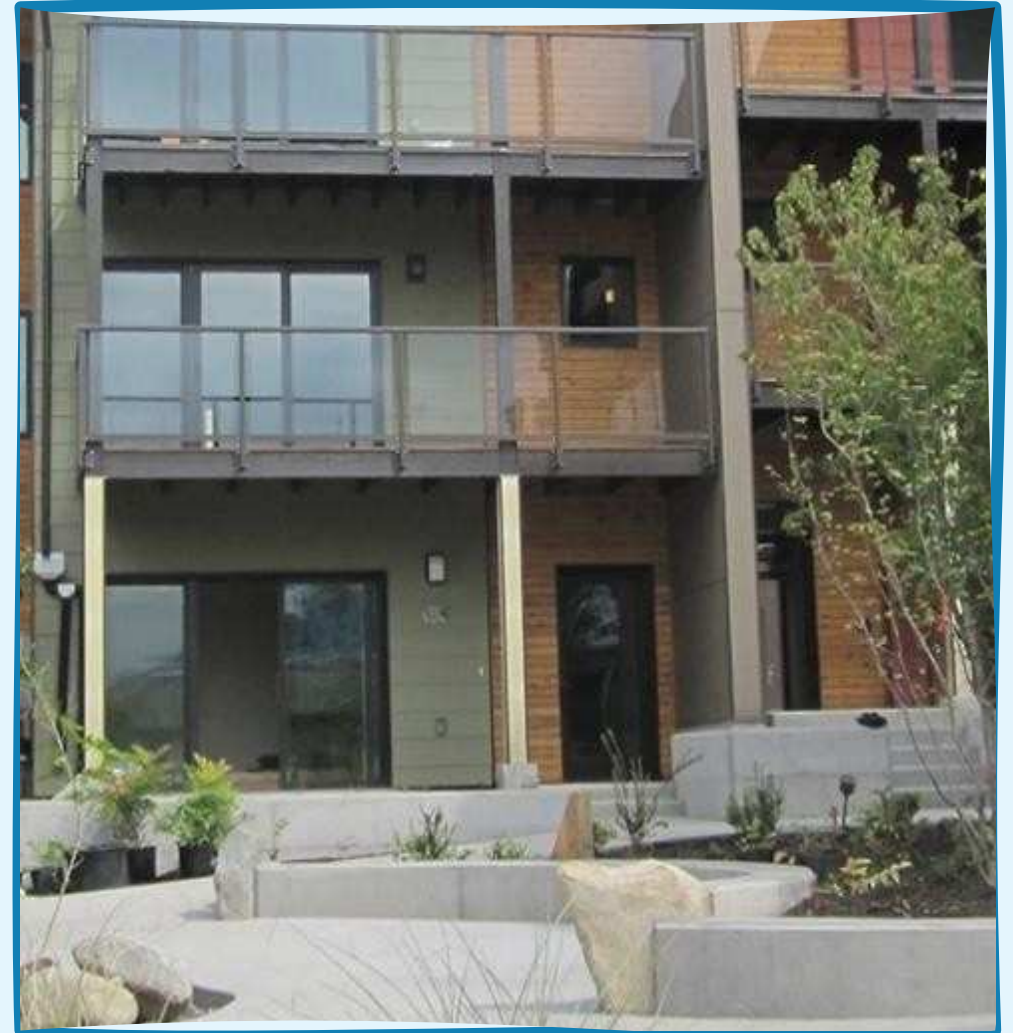


Photo: First community of all WaterSense labeled homes in Issaquah, WA



# Technical Requirements



## MANDATORY CHECKLIST TO ENSURE QUALITY PERFORMANCE

### LEAKS

- Pressure-loss test on all water supplies detects no leaks
- Free of visible leaks from all fixtures and appliances at point of use or point of connection to water distribution system
  - Toilets
  - Bathroom faucets
  - Showerheads
  - Bathroom tub faucets, i.e., tub spouts
  - Kitchen and other sink faucets
  - Other fixtures or appliances (e.g., water heaters, clothes washers, dishwashers)

### WATERSENSE LABELED PLUMBING FIXTURES

- Toilets
- Bathroom sink faucets
- Showerheads



## EFFICIENCY REQUIREMENT

### VERIFIED EFFICIENCY

- At least **30 percent** more water-efficient than a typical new home (based on national standards and common design and landscape practices).

All homes **MUST** have **NO** leaks and include all WaterSense labeled plumbing products

**30 percent efficiency requirement** allows flexibility for specific regional needs and market specific practices


















# Outdoor Features and Hot Water Distribution Choices are Optional Under Version 2.0!



- Version 1 had many mandatory requirements. Builders may remember that Version 1 required:
  - Hot water delivery system requirements ( $\leq 0.5$  gallons of water between the hot water source and any hot water using fixture)
  - Use of the Water Budget Tool for landscape design and/or a turfgrass limitation
  - Use of an irrigation professional certified by a WaterSense labeled program and specific irrigation system requirements
  - ENERGY STAR certified dishwashers and clothes washers
  - Specific features for evaporative cooling systems, water softeners, and drinking water treatment systems
  - Specific materials for homeowner education
- **Under Version 2.0 everything listed above is OPTIONAL**, and the builder can choose which features allow the home to achieve the 30 percent efficiency requirement!
  - **No hot water distribution system requirements!**
  - **No specific landscape and irrigation requirements!**
  - The only requirements are WaterSense labeled toilets, faucets, and showerheads and that the home is free of leaks.

# EPA Approved HCOs

- Builders have flexibility in choosing which water efficiency features to include in their homes
- Four approved HCOs
- Each HCO requires either
  - a maximum performance threshold
  - a prescriptive set of requirements
- Home verifiers are trained through individual HCOs and can work with more than one HCO

HCO	Scope			Method for Labeling Homes
	Regionality	Building Types	Construction Type	
 CHEERS	 CA	Single-Family 	New Construction 	Achieve a score of 70 or less under CHEERS WaterSense
 Green Builder Coalition	 NATIONWIDE	Single-Family 	New and Existing Construction 	Achieve a score of 66 or less under the Water Efficiency Rating Score (WERS) with WaterSense Baselines
 Home Innovation Research Labs	 NATIONWIDE	Single-Family and Multifamily 	New and Existing Construction 	Complete a set of selected practices from the National Green Building Standard (NGBS)
			New Construction 	Achieve a score of 64 or less under the Water Rating Index
 RESNET	 NATIONWIDE	Single-Family 	New and Existing Construction 	Achieve a score of 70 or less under HERSH2O



# Indoor Water Efficiency Features



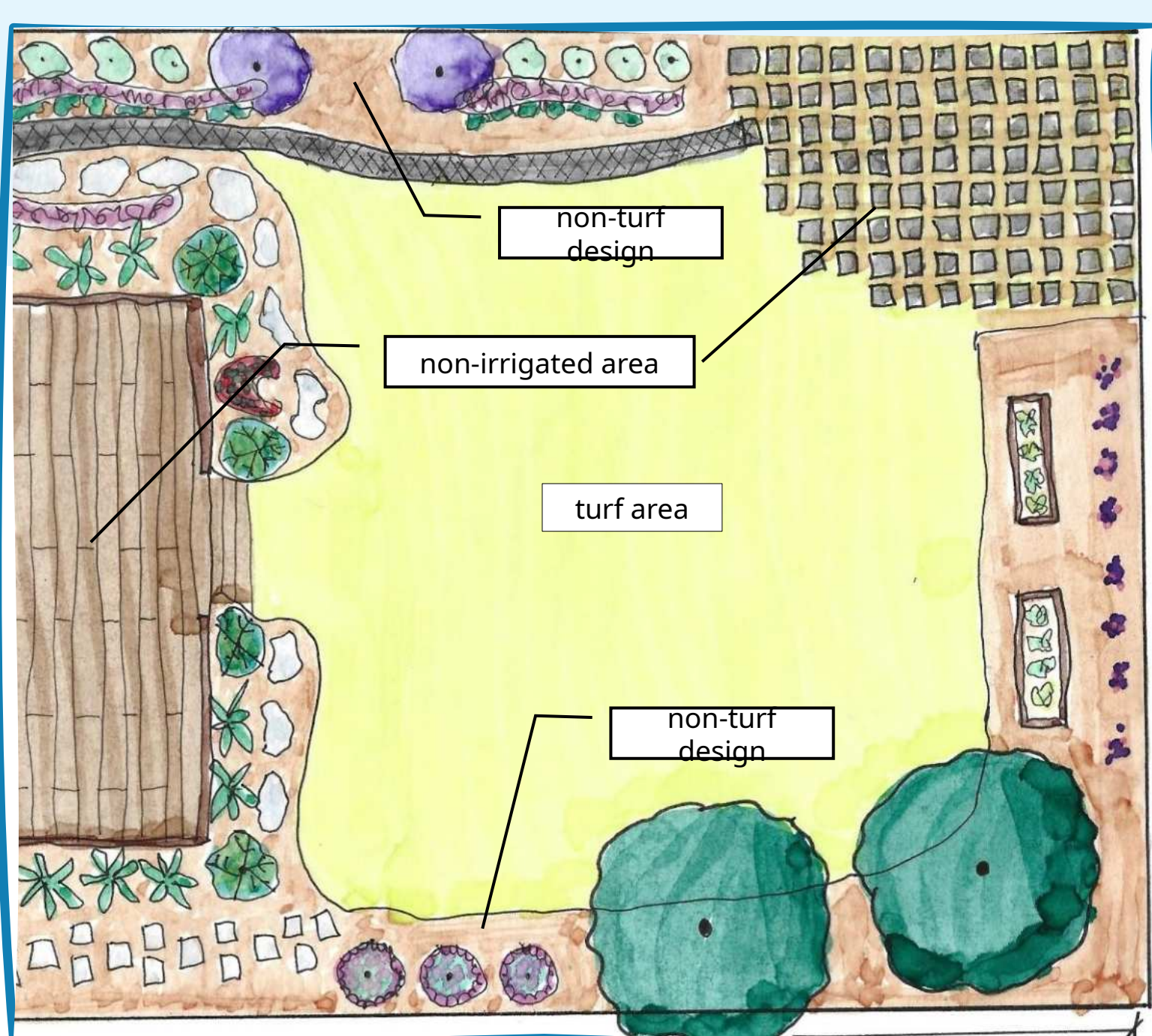
- WaterSense labeled homes must include WaterSense labeled toilets, faucets, and showerheads
- Additional water efficiency features indoors can contribute to the 30 percent efficiency requirement, such as:
  - More efficient WaterSense fixtures
  - High-efficiency kitchen faucets
  - ENERGY STAR certified dishwashers
  - ENERGY STAR certified clothes washers
  - Leak detection and flow monitoring systems
  - Water reuse
  - Efficient hot water design



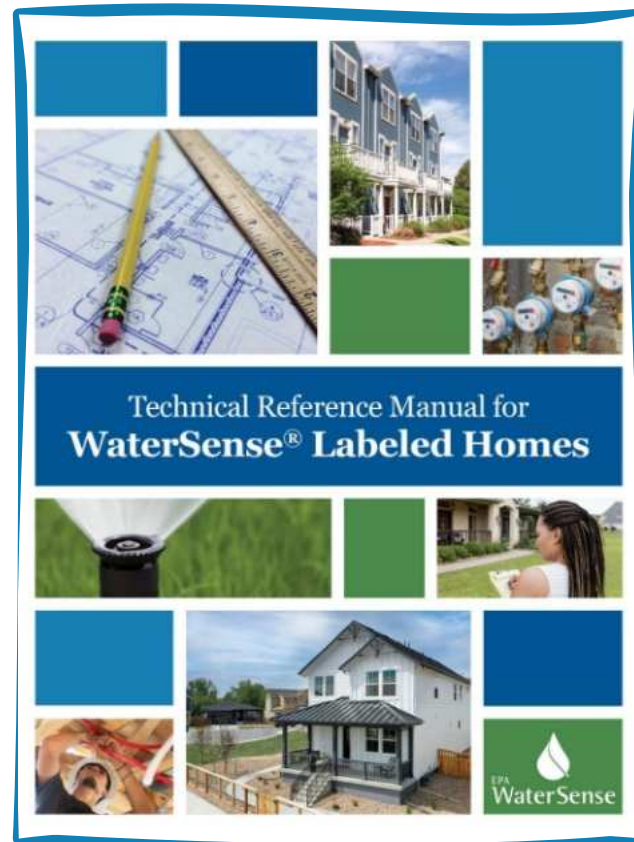
# Outdoor Water Efficiency Features

- There are no mandatory requirements from WaterSense for landscape and irrigation
- Water efficiency features outdoors are typically necessary meet the 30 percent efficiency requirement. Ideas include:
  - Reducing irrigated area with any ground cover not requiring irrigation or outdoor entertainment spaces
  - Installing high-efficiency irrigation like pressure-compensating drip
  - Using a WaterSense labeled irrigation controller and WaterSense labeled spray sprinkler bodies
  - Using an irrigation professional certified by a WaterSense labeled program for system installation and/or audit





# Intro Guide & Technical Reference Manual



**OUTDOOR FEATURES**

## Using a Certified Professional for Irrigation Systems Design, Installation, and Auditing

**Optional Water Efficiency Measure:** May contribute to the 30 percent water efficiency requirement, depending on the chosen WaterSense® Approved Certification Method (WACM).

**UNDERSTAND**

- It is essential to properly design and install a landscape irrigation system for optimal water efficiency.
- WaterSense has labeled certification programs for irrigation professionals in three categories: system designers; installation and maintenance professionals; and auditors. These individuals have passed a comprehensive exam covering general irrigation subjects, as well as specialized areas related to water efficiency.
- Certified irrigation professionals can address the following topics:
  - Design:** Customize the irrigation system to suit the landscape and local climate conditions.
  - Installation, maintenance, and repair:** Select and service the appropriate equipment and site layout. Schedule the irrigation system to optimize performance.
  - Audit:** Examine the irrigation system to ensure that it performs efficiently.

**BUILD**

- CONTRACT** with an irrigation professional certified by a WaterSense labeled program to design and install the irrigation system. Identify certified professionals using WaterSense's Find a Pro tool at [www.epa.gov/watersense/find\\_a\\_pro](http://www.epa.gov/watersense/find_a_pro), or, if one is not available in your area, look for a professional who has other training or professional certifications that address water efficiency or sustainable landscaping.
- ASK** potential irrigation professionals questions to evaluate their knowledge of water-efficient irrigation, referencing WaterSense's list of suggested questions to ask an irrigation contractor at [www.epa.gov/watersense/default2017/01/documents/water-outdoor-questions-for-landscape-contractors.pdf](http://www.epa.gov/watersense/default2017/01/documents/water-outdoor-questions-for-landscape-contractors.pdf) when engaging in these conversations. For example, ask contractors about minimizing water waste in the landscape and listen for some of the following suggestions:

**Benefits and Real-World Results**

Irrigation professionals certified by WaterSense labeled programs help save water and maintain healthy and beautiful landscapes across the country by maximizing the efficiency of an irrigation system. WaterSense's Certified Professionals in Action web page at [www.epa.gov/watersense/certified-professionals-in-action](http://www.epa.gov/watersense/certified-professionals-in-action) showcases these professionals and describes the benefits of their expertise. Check out the stories to learn how a certified professional can help your property save water.



# Checking in on Objectives for Version 2

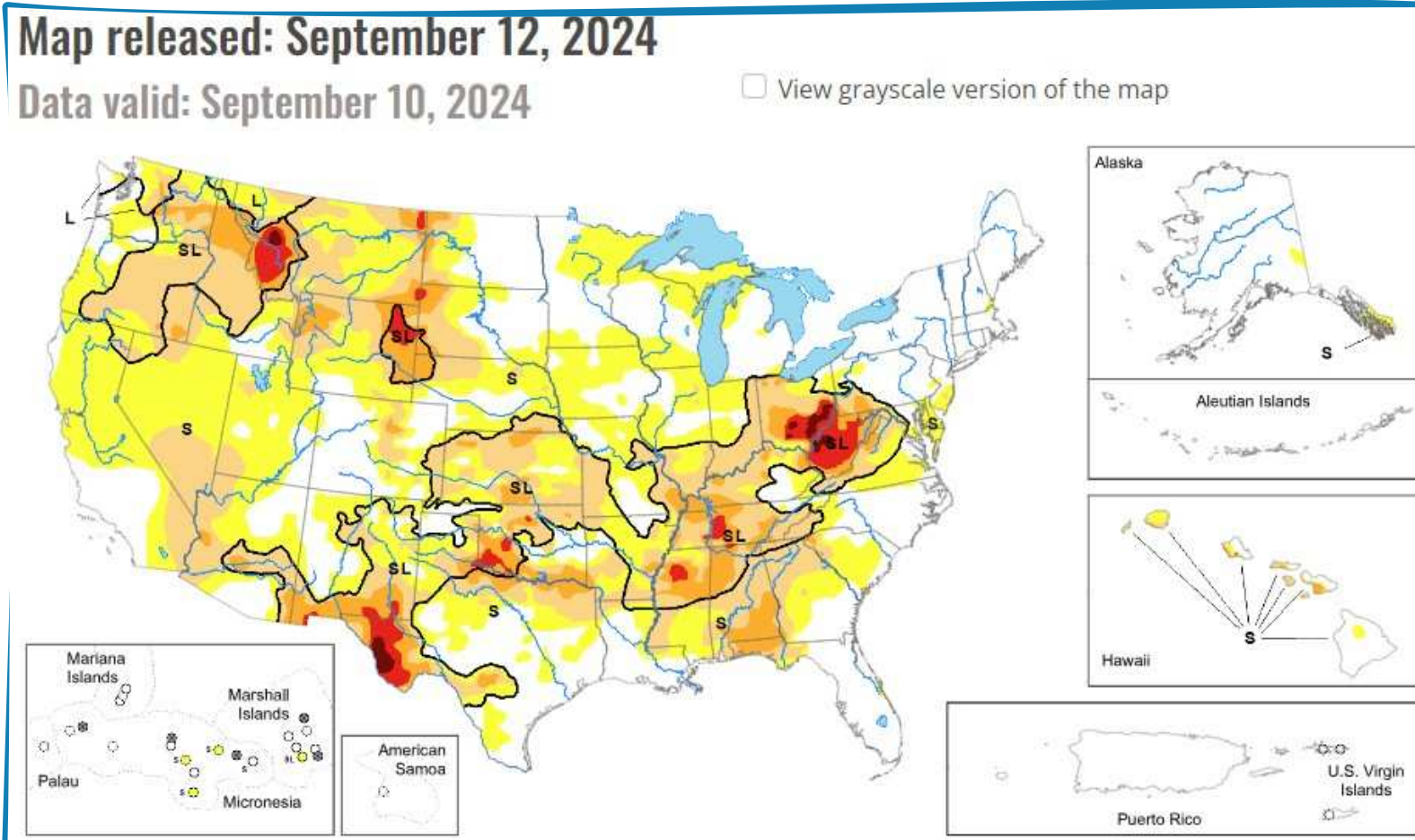


- Increase the number of WaterSense labeled homes
  - Results: Number of labeled homes have increased despite decrease in new home starts.
- Provide flexibility in technical requirements, while maintaining an equal (or greater) level of water efficiency
  - Results: The majority of labeled homes since 2022 have used rating systems to meet the efficiency requirement.
- Maintain quality performance measures
  - Results: All homes must meet the mandatory checklist, including WaterSense labeled plumbing products third-party certified for efficiency and performance; All homes verified by a home verifier and certified by an HCO.
- Encourage broader participation in the certification process & in the green building industry
  - Results: HCOs have increased to four from a single Program Administrator in V1.
- Better quantify the savings and value of a WaterSense labeled home
  - Results: Pilot field study in Las Vegas confirmed a median water use of 44 kgal/year in WaterSense labeled homes vs. a baseline of 97 kgal/year in typical new construction. Continued case studies show water savings and user satisfaction.

# Why Build WaterSense

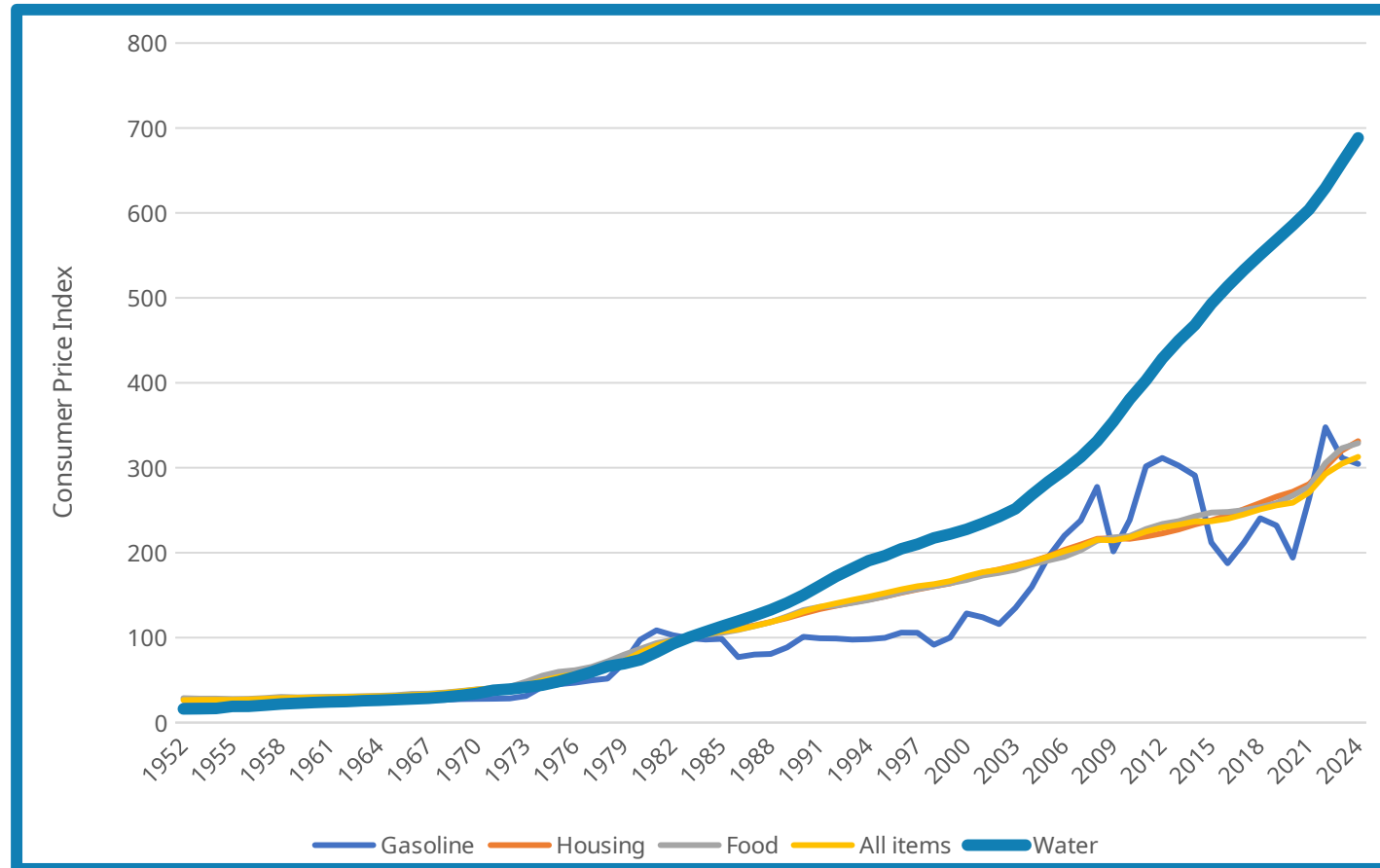


# Ongoing Droughts



<https://droughtmonitor.unl.edu/>

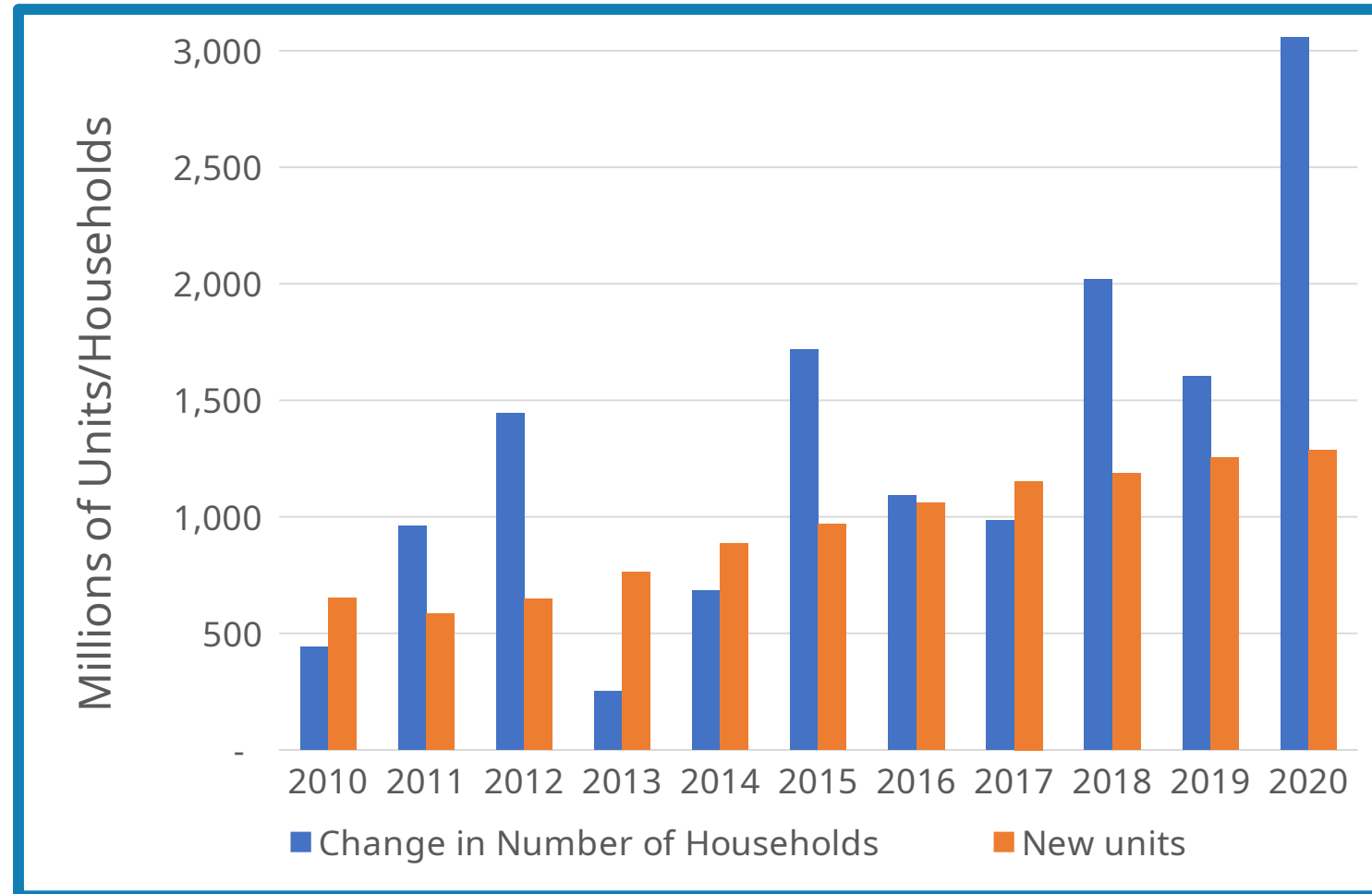
# Rising Water & Sewer Rates



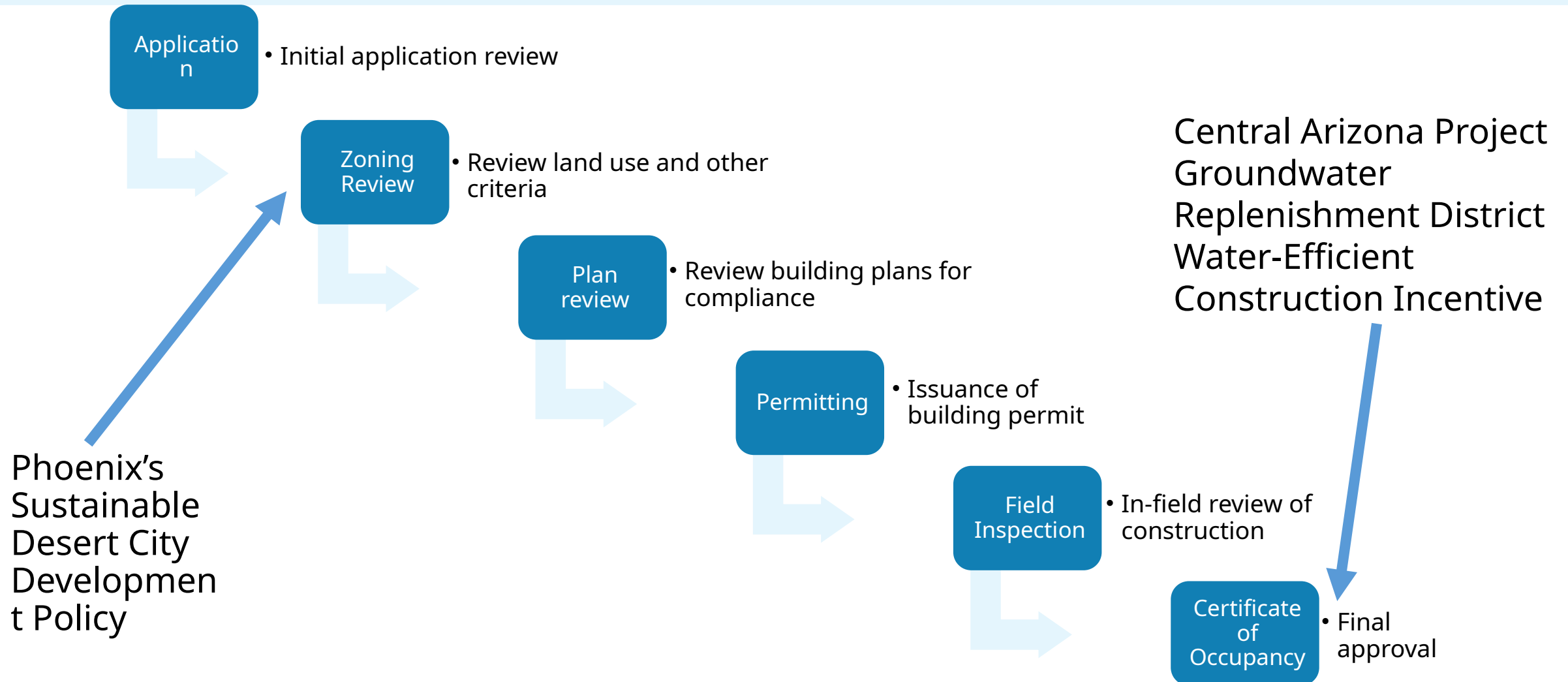
Source: Bureau of Labor and Statistics – Consumer Price Index



# Not Enough New Housing



# How Communities Are Responding

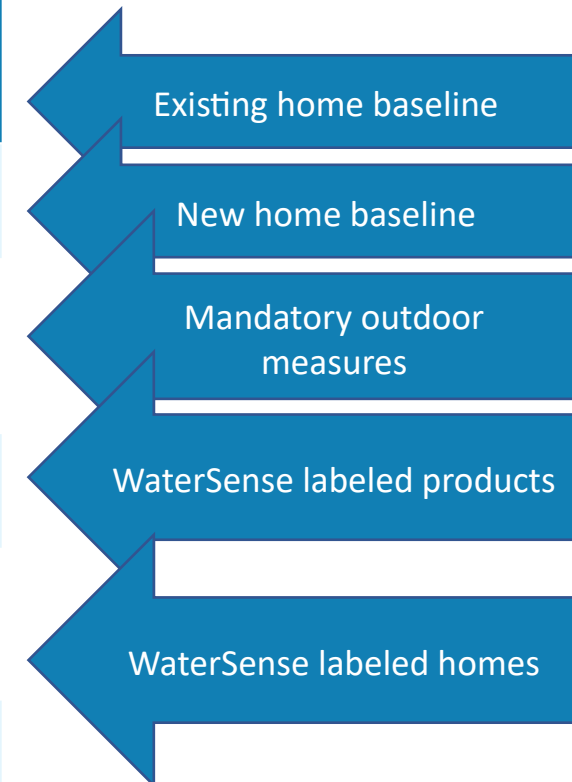


# Whole-House Approach Shows the Most Savings



Observed Water Consumption from Residential Field Studies

Source	Scope	Study Period and Home Type	Average Water Use (kgal/household/year)
<i>Residential End Uses of Water, Version 2</i>	Henderson, NV	Existing homes monitored 2010-2013	141
Southern Nevada Water Authority (SNWA)	Greater Las Vegas Area	New homes built 2000-2003	129
SNWA	Greater Las Vegas Area	New homes built 2008-2009	97
SNWA	Greater Las Vegas Area	New Water Smart Homes built 2008-2009	94
WaterSense Labeled	Greater Las Vegas Area	New WaterSense labeled homes	76



# Regional Fact Sheets Show WSLH Savings Nationwide



The U.S. Environmental Protection Agency established WaterSense as the nation's water supply efficiency program. WaterSense labeled products, home designs, and services are simple, easy to identify, and allow for comfortable home while energy and saving money.

To earn the WaterSense label, a product must meet EPA's specification criteria, which are 30 percent more water-efficient than typical home construction, including plumbing products, and WaterSense labeled home designs such as: new, faster ENERGY STAR® efficient irrigation equipment, landscapes that minimize irrigation.

## Why Water Efficient Communities and

Water supplies are an important part of the life of every community. In the West, water is often scarce, and the recent drought has made it even more so. In the East, water is often abundant, but the recent drought has made it even more so. In the Midwest, water is often abundant, but the recent drought has made it even more so. In the South, water is often abundant, but the recent drought has made it even more so.

such as Salt Lake City, improvements limited to indoor water efficiency will not be sufficient to achieve the 30 percent threshold. The home will generally need to focus on maximizing outdoor water savings (e.g., by reducing turf and using a WaterSense labeled irrigation controller to ensure it is at least 30 percent more water efficient than typical new construction).

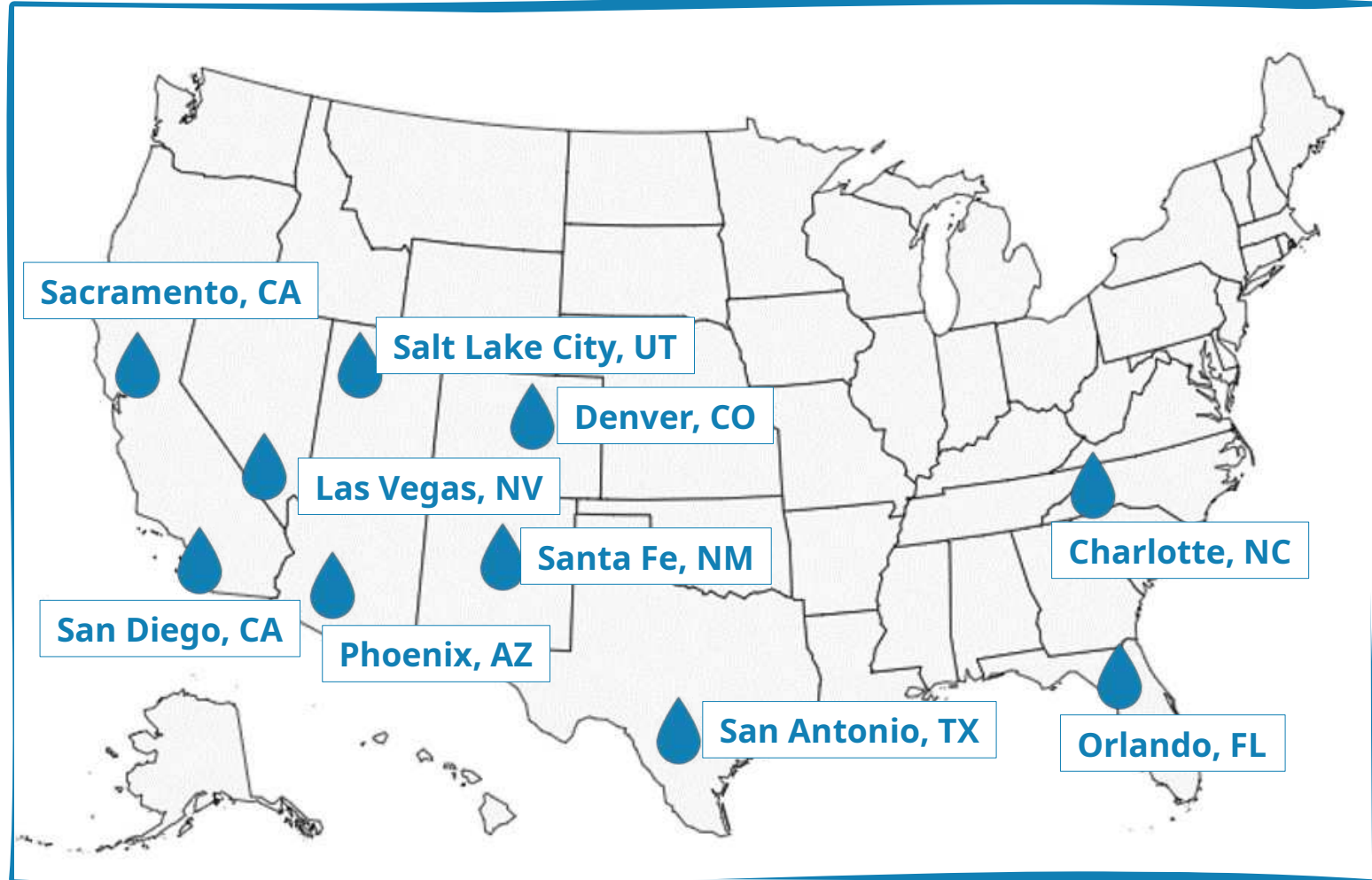
Feature	Baseline Home	Home Meeting WaterSense Mandatory Checklist	Home Meeting Utah New Construction Standards	Example WaterSense Labeled Home in Salt Lake City
Toilets	1.6 gpf	1.28 gpf	1.6 gpf	1.28 gpf
Showerheads	2.5 gpm	2.0 gpm	2.0 gpm	1.0 gpm
Kitchen Faucets	2.2 gpm	1.0 gpm	1.5 gpm	1.0 gpm
Kitchen Faucets	2.2 gpm	2.2 gpm	2.5 gpm	2.0 gpm
Dishwashers	3.0 gpc	3.0 gpc	1.8 gpc	3.5 gpc (ENERGY STAR) 4.0 gpc (ENERGY STAR)
Clothes Washers	6.5 WFF	6.0 WFF	6.5 WFF	More efficient hot water delivery 20% less lintable (landscape, left of remaining landscape is not turf design with pressure-compensating, 0.5 gpm) turf irrigated with WaterSense labeled spray sprinkler bottles. WaterSense labeled smart controller
Hot Water Delivery	Standard	Standard	Standard	
Landscape and Irrigation	Turf irrigated with standard fixed spray sprinklers and timer-based controller	Turf irrigated with standard fixed spray sprinklers and timer-based controller	Turf irrigated with standard fixed spray sprinklers and timer-based controller	
Total Estimated Annual Water Use	159,000 gallons	145,000 gallons	146,000 gallons	111,000 gallons
Total Estimated Annual Water and Percent Savings From Baseline	0 gallons 0% savings	14,000 gallons 5 to 13% savings	13,000 gallons 4 to 12% savings	48,000 gallons 30% savings

Legend:   
Feature meets federal, state, or common construction provisions   
Feature meets WaterSense or ENERGY STAR criteria   
Feature achieves greater efficiency level than WaterSense product specification criteria

gpf = gallons per flush; gpm = gallons per minute; gpc = gallons per cycle; WFF = integrated water factor   
 \* For example purposes only. Home size, quality with a different combination of features, and a different home with these features is not guaranteed to achieve WaterSense certification.

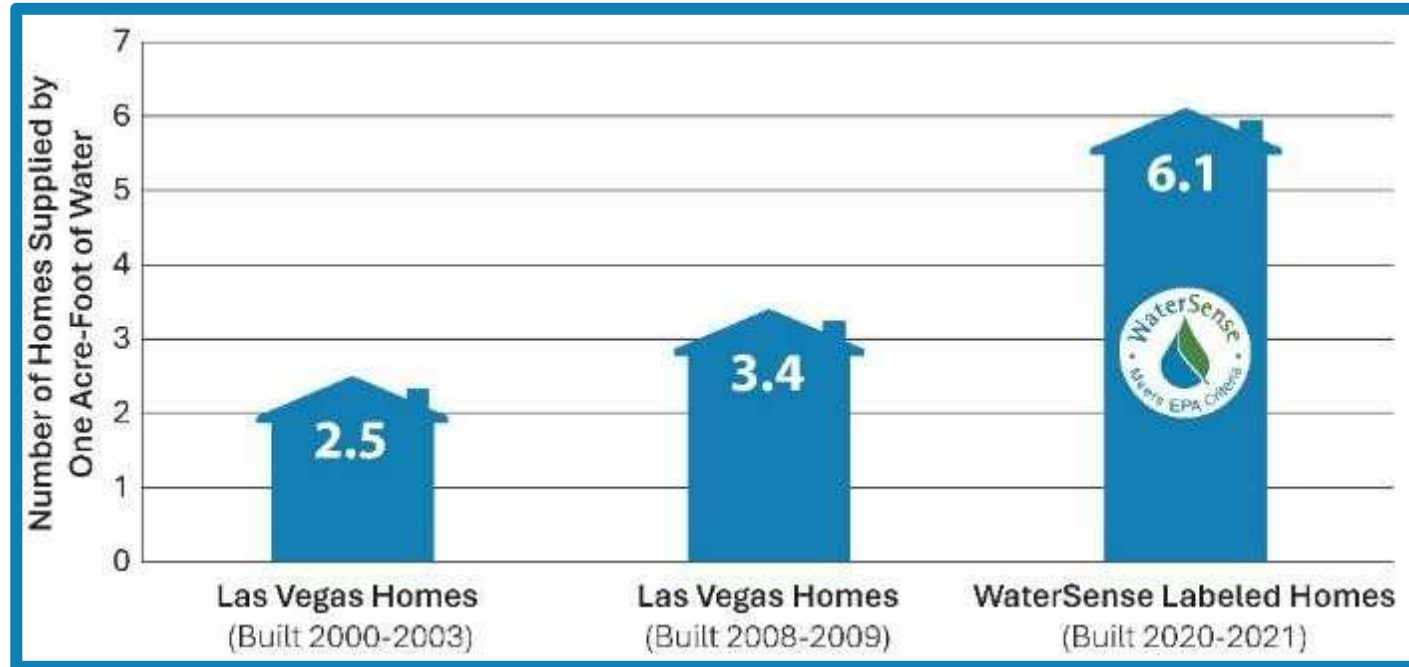
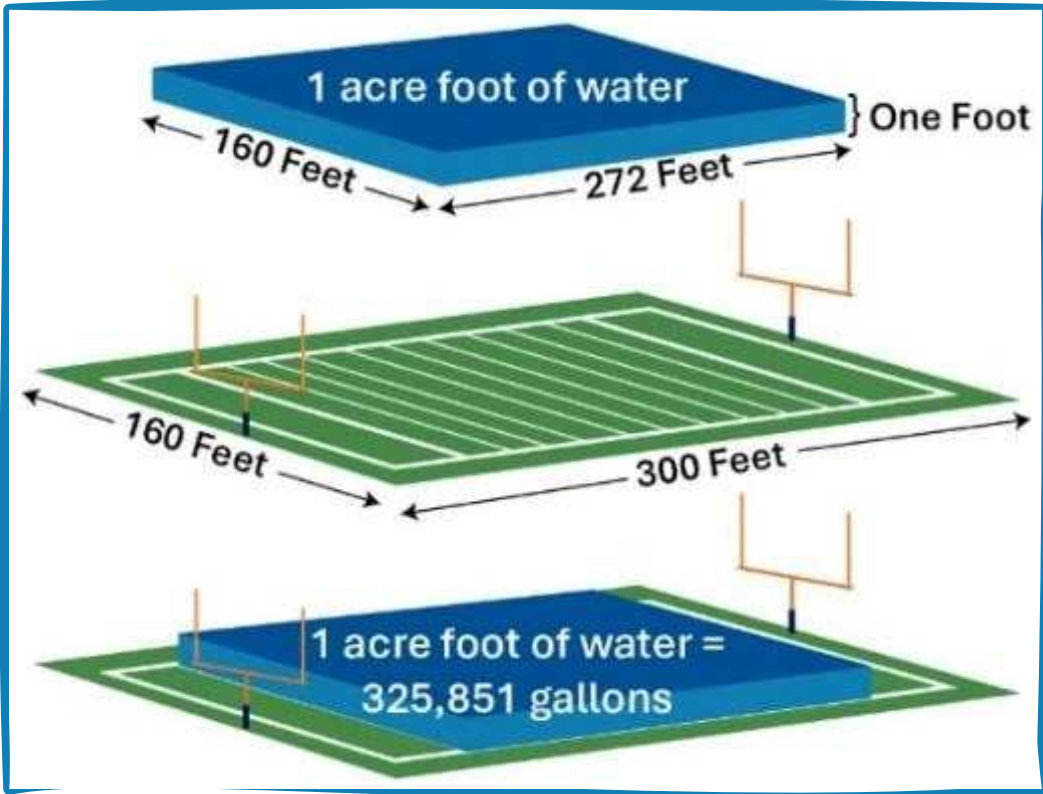
## Learn More

Interested in learning more about WaterSense and how it can benefit your community? Visit [www.epa.gov/watersense](http://www.epa.gov/watersense)





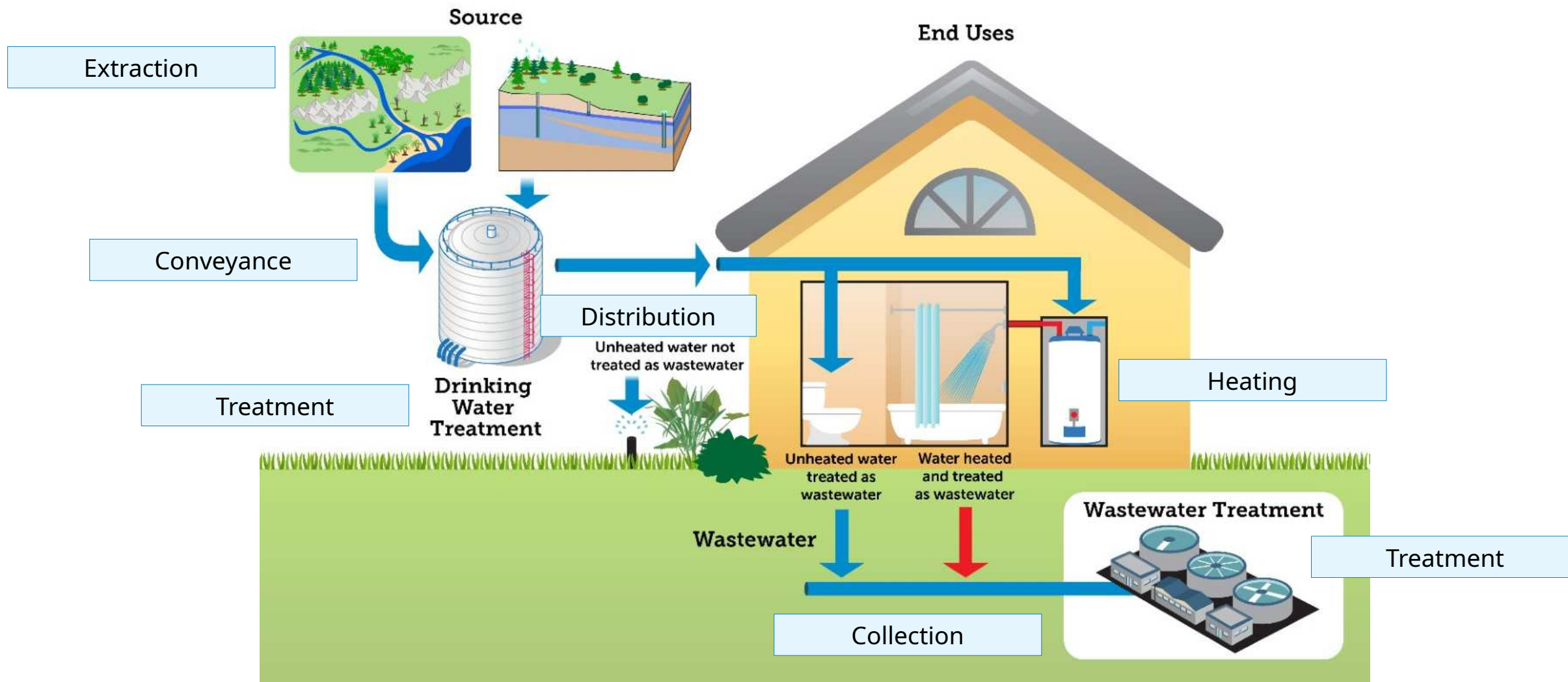
# A Tool for Water and Land Use Planning



[www.epa.gov/watersense/watersense-labeled-homes#den-sity](http://www.epa.gov/watersense/watersense-labeled-homes#den-sity)



# The Energy Profile of Water



# The Relationship Between Water, Energy, and Carbon: A Case Study

- KB Home's Oak Shade & Durango Communities in Menifee, CA
- All 219 homes are
  - Energy-efficient with high-efficiency heat pump water heaters, solar panels, and onsite electric battery storage
  - Connected to a community microgrid
  - Water-efficient and have earned the WaterSense label (average HERS<sub>H<sub>2</sub>O</sub> score of ~59; average annual water use of 87,000 gallons/home)
- Average home
  - 4 bedrooms
  - 2,261 ft<sup>2</sup>
  - 6,800 ft<sup>2</sup> lots
- Case study highlights the energy savings and decarbonization potential of water efficiency

## What Makes This a WaterSense® Labeled Home?

This home achieved a HERS<sub>H<sub>2</sub>O</sub> score of 58, saving an estimated 73,000 gallons of water per year. Highlighted below are the features that contributed to reducing its score.

**we build**  
WaterSense  
Labeled EPA Certified

[www.epa.gov/watersense/watersense-labeled-homes](http://www.epa.gov/watersense/watersense-labeled-homes)

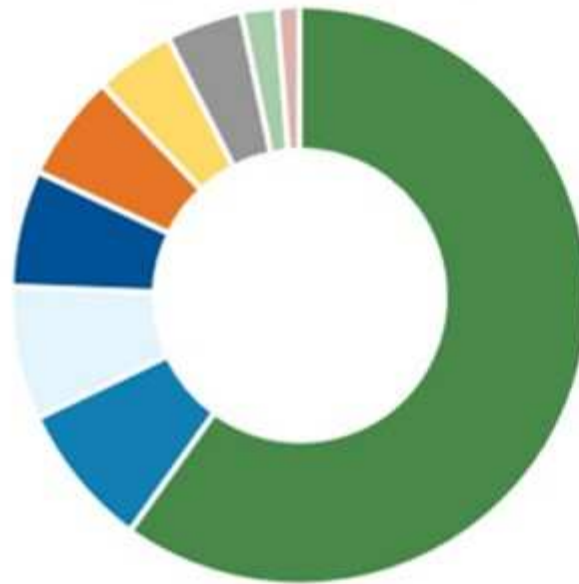
**kb**  
HOME

The information provided here is specific to KB Home Lot 09 in the Durango community of Menifee, California.

# Oak Shade & Durango Water Use



Typical Community

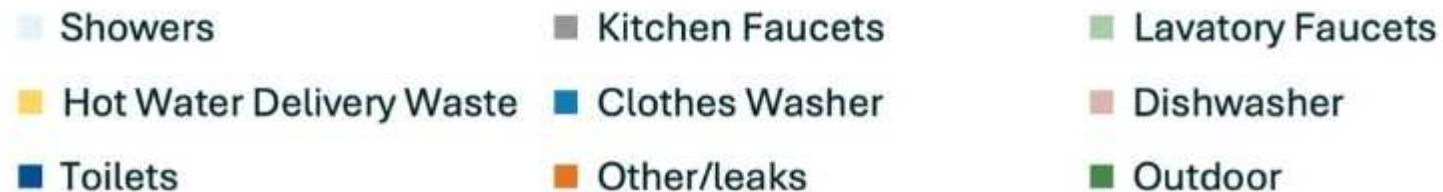


32,460,000 gallons/year

Oak Shade and Durango



18,970,000 gallons/year



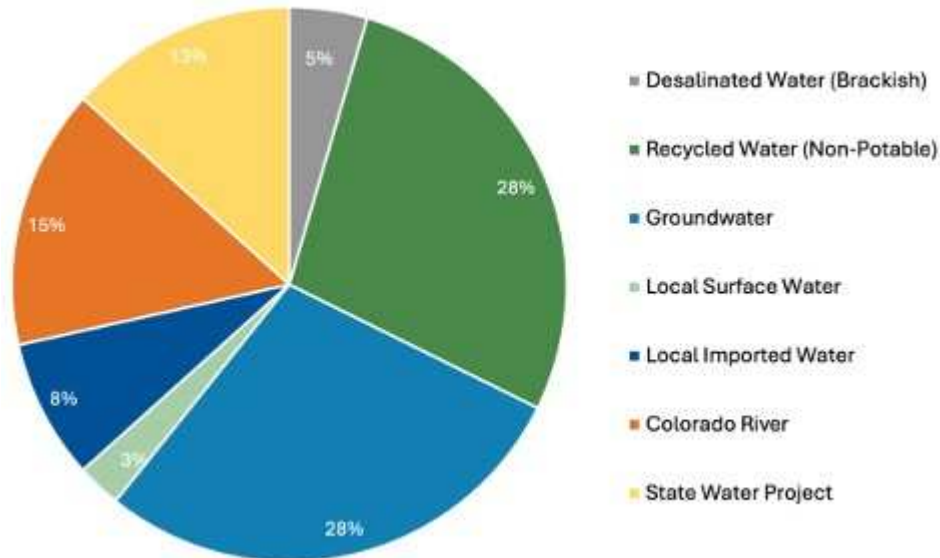
# Energy Intensity by Water Source and Water Supply Step



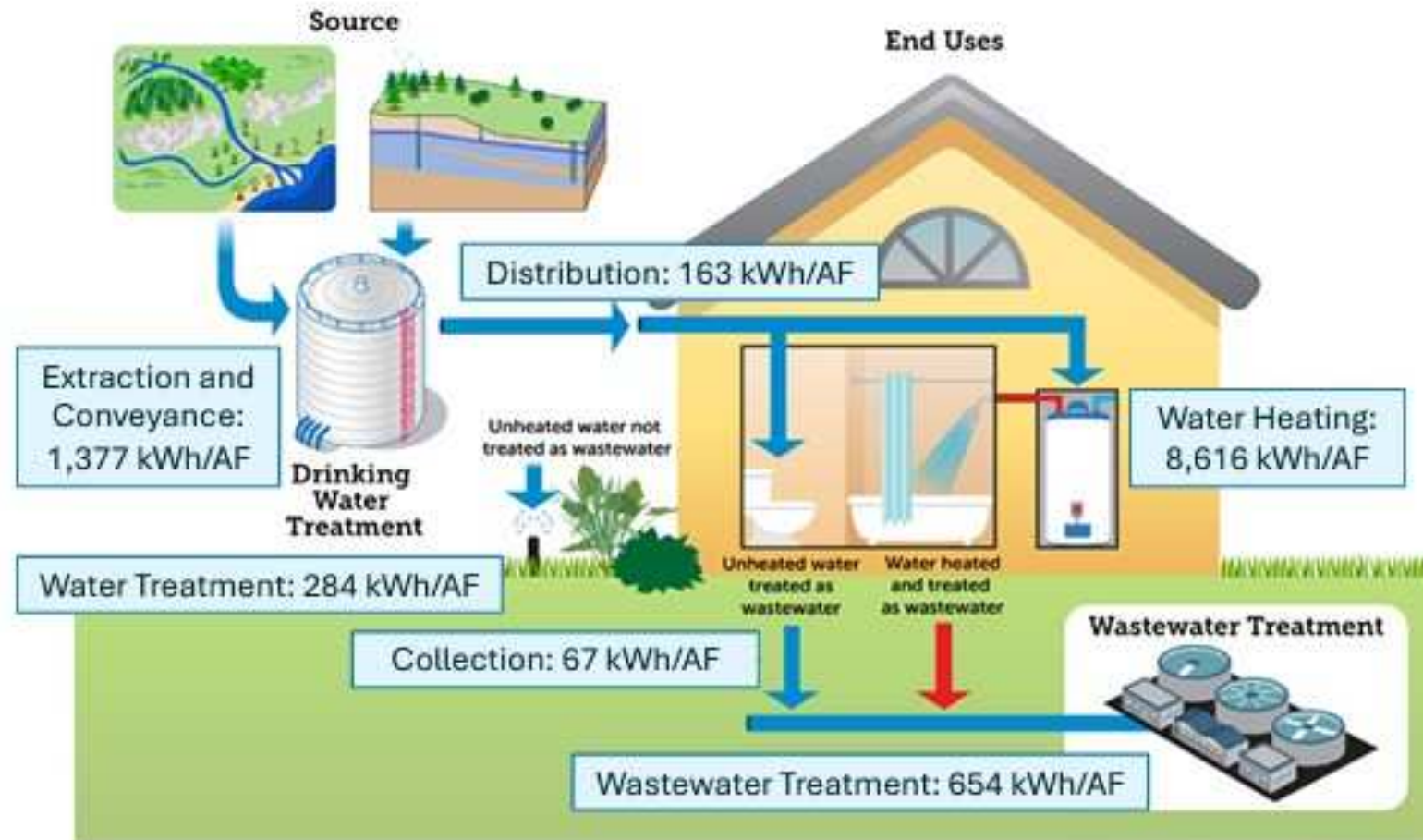
Energy Intensity by Phase and Water Source (kWh/acre-foot of water)

Source	Extraction and Conveyance	Water Treatment	Distribution	Wastewater Collection and Treatment
Desalinated Water (Brackish)	696.8	1,406.5	163.0	723
Recycle Water (Non-Potable)	107.3	606.8	415.8	723
Recycled Water (Potable)	696.8	1,271.5	163.0	723
Groundwater	696.8	205.3	163.0	723
Local Surface Water	88.9	205.3	163.0	723
Local Imported Water	33.0	205.3	163.0	723
Colorado River	2,110.9	205.3	163.0	723
Central Valley Project	225.0	205.3	163.0	723
State Water Project	3,306.2	205.3	163.0	723

Water Sources Serving Menifee, CA



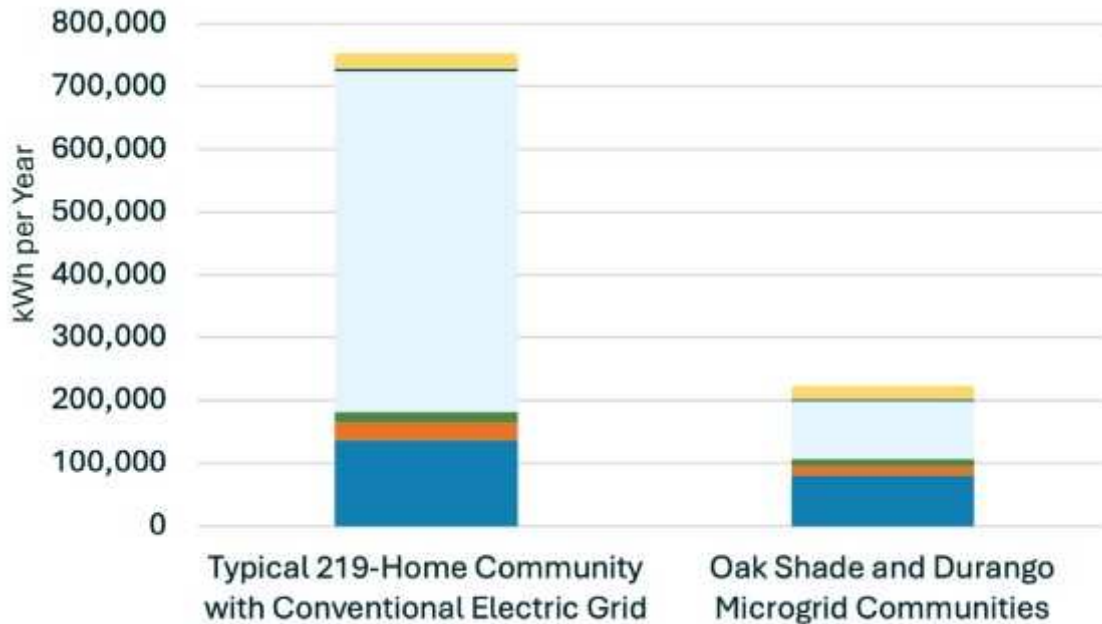
# Water-Related Energy Use by Water Supply Step at Oak Shade & Durango



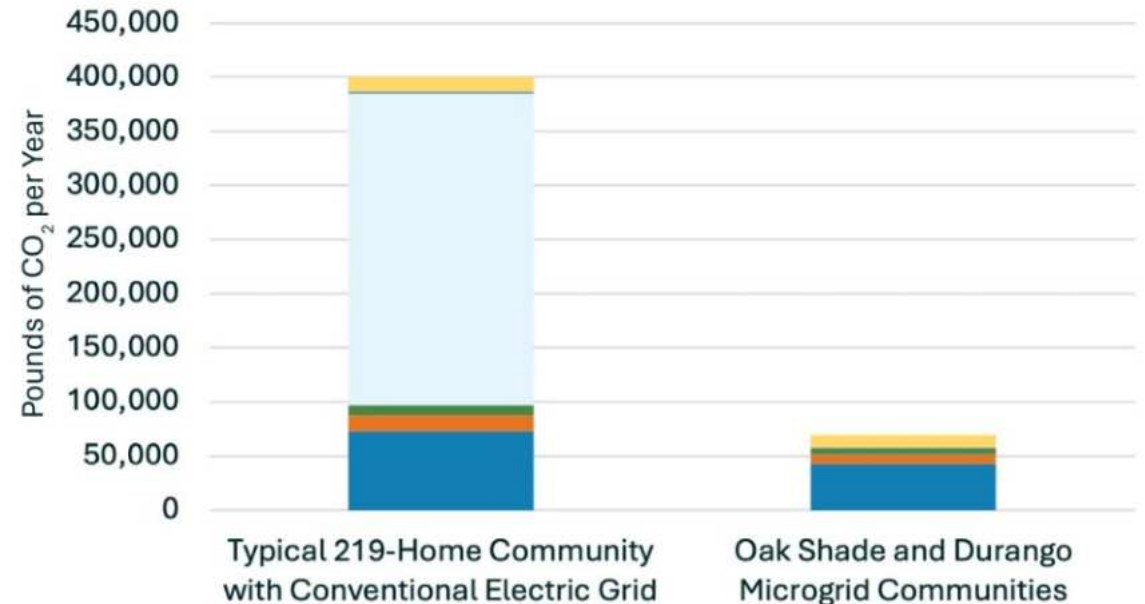
# Water Efficiency Saves Energy and Reduces Carbon Emissions



**Water-Related Electricity (kWh) consumption at Oak Shade and Durango**



**Water-Related CO<sub>2</sub> Emissions (Pounds) at Oak Shade & Durango**



- Water Extraction and Conveyance
- Water Distribution
- Wastewater Collection

- Drinking Water Treatment
- Water Heating
- Wastewater Treatment

# Comparing Decarbonization Strategies



**Estimated Energy Savings and Carbon Emissions Reductions from Water-Related Decarbonization Strategies**

		Microgrid Scenario	Heat Pump Water Heaters Scenario	Water Efficiency Scenario
Features	Electric Generation	0 lbs CO <sub>2</sub> /MWh	531.68 lbs CO <sub>2</sub> /MWh	531.68 lbs CO <sub>2</sub> /MWh
	Water Heater Efficiency	0.95 UEF	4.07 UEF	0.95 UEF
	Water Consumption	32.5 million gallons/year	32.5 million gallons/year	19 million gallons/year
Savings	kWh/Year Saved	0	416,000	224,000
	Pounds CO <sub>2</sub> /Year Avoided	289,000	221,000	119,000

“We addressed water-related carbon impact in three ways at Oak Shade and Durango: with the microgrid, with the heat pump water heaters, and with water efficiency. We believe that using all three is the best approach, but water efficiency was clearly the least expensive and would certainly be the most cost-effective if we were to evaluate the cost per pound of carbon emissions avoided. This is one of the reasons we’re dedicated to water efficiency at KB Home and have committed to build 100 percent WaterSense labeled homes in our Southwest regions.”

– Jacob Atalla, KB Home Vice President of Sustainability



# WaterSense, ZERH, and Tax Credits



- There are no tax credits for WaterSense labeled homes (yet)
- Builders can choose to use WaterSense certification to meet water heating efficiency requirements in ZERH (and ZERH does have tax credits!)
- There are benefits to choosing the WaterSense option:
  - Can be cost-effective depending on home layout
  - Additional water efficiency will save energy
  - Multiple home certifications differentiate a home
  - WaterSense labeled homes can allow for growth in water-stressed markets (as discussed previously)

# Options to Meet ZERH Water Heating Efficiency

1. Efficient DHW delivery system
  - Store  $\leq 0.5$  gallons of water between the source and the furthest fixture
  - On-demand recirculation systems must meet certain requirements
2. Water heater and fixture requirements
  - Gas water heaters have  $UEF \geq 0.87$ ; electric water heaters have  $UEF \geq 2.2$
  - WaterSense labeled showerheads and faucets
  - Store  $\leq 1.8$  gallons of water between the source and the furthest fixture
3. Certify the whole home to WaterSense



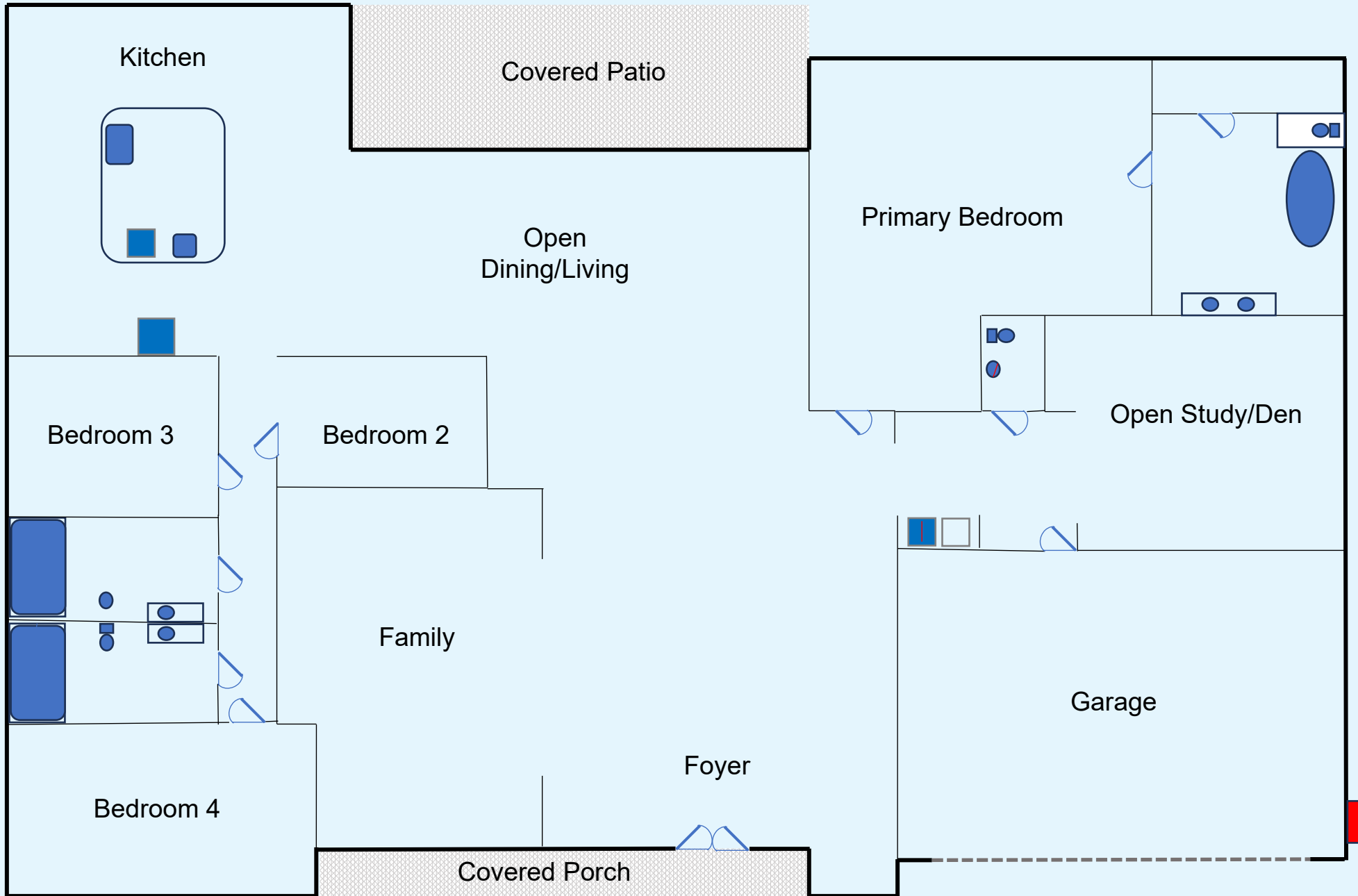
## U.S. DOE Zero Energy Ready Home Single Family Homes National Program Requirements Version 2 (Rev. 1)

Family V2 (Rev. 1) National Rater Checklist.<sup>12</sup> For modular homes, a Rater must verify in the plant any requirement that is not readily verifiable on-site.

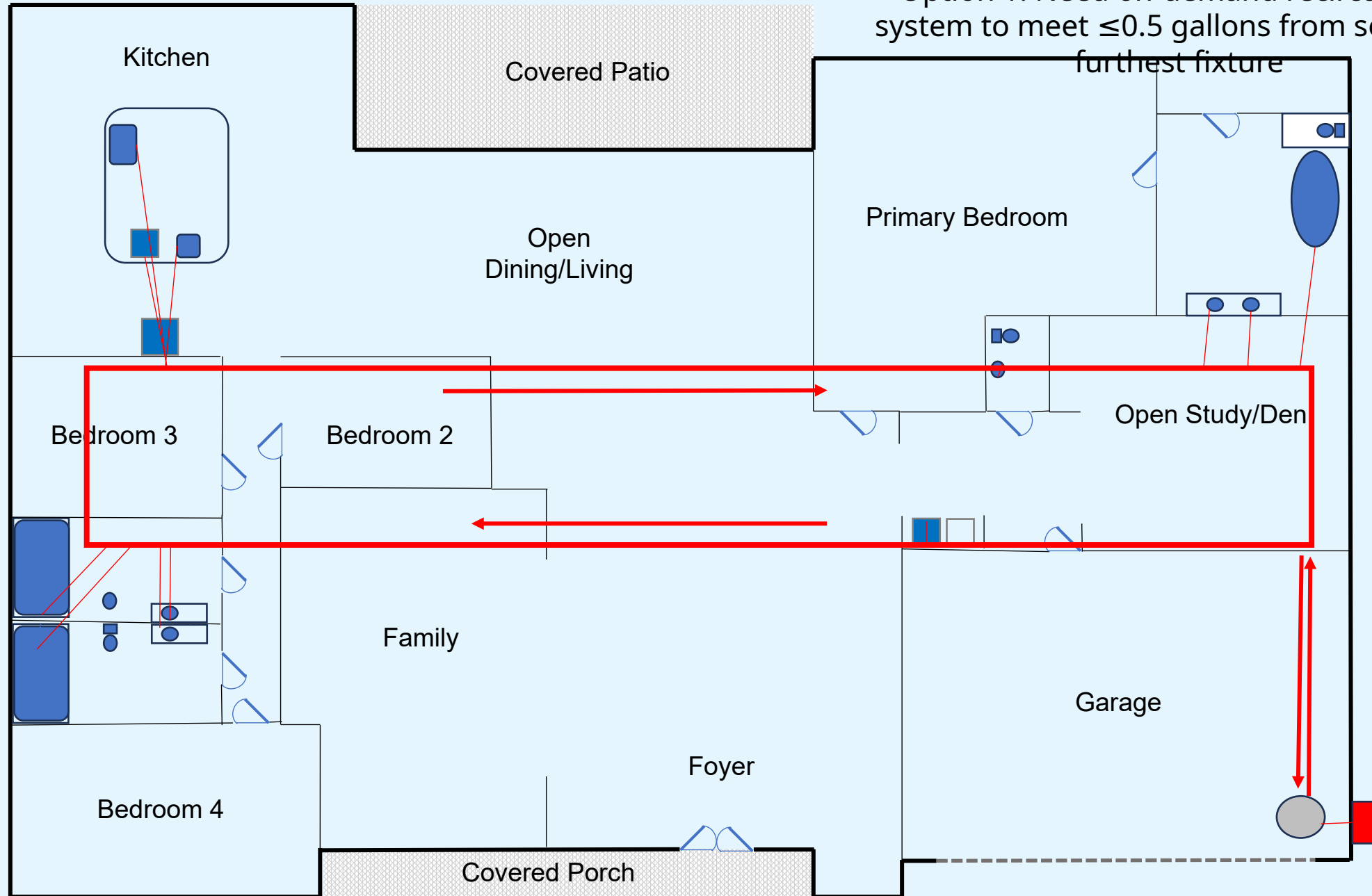
4. Submit the home to the HCO for ZERH for final certification and follow the HCO for ZERH's certification and oversight procedures, including those for quality assurance, recordkeeping, and reporting. The Rater is required to keep electronic or hard copies of completed checklists required for the DOE ZERH certification, including those required for prerequisite certifications.

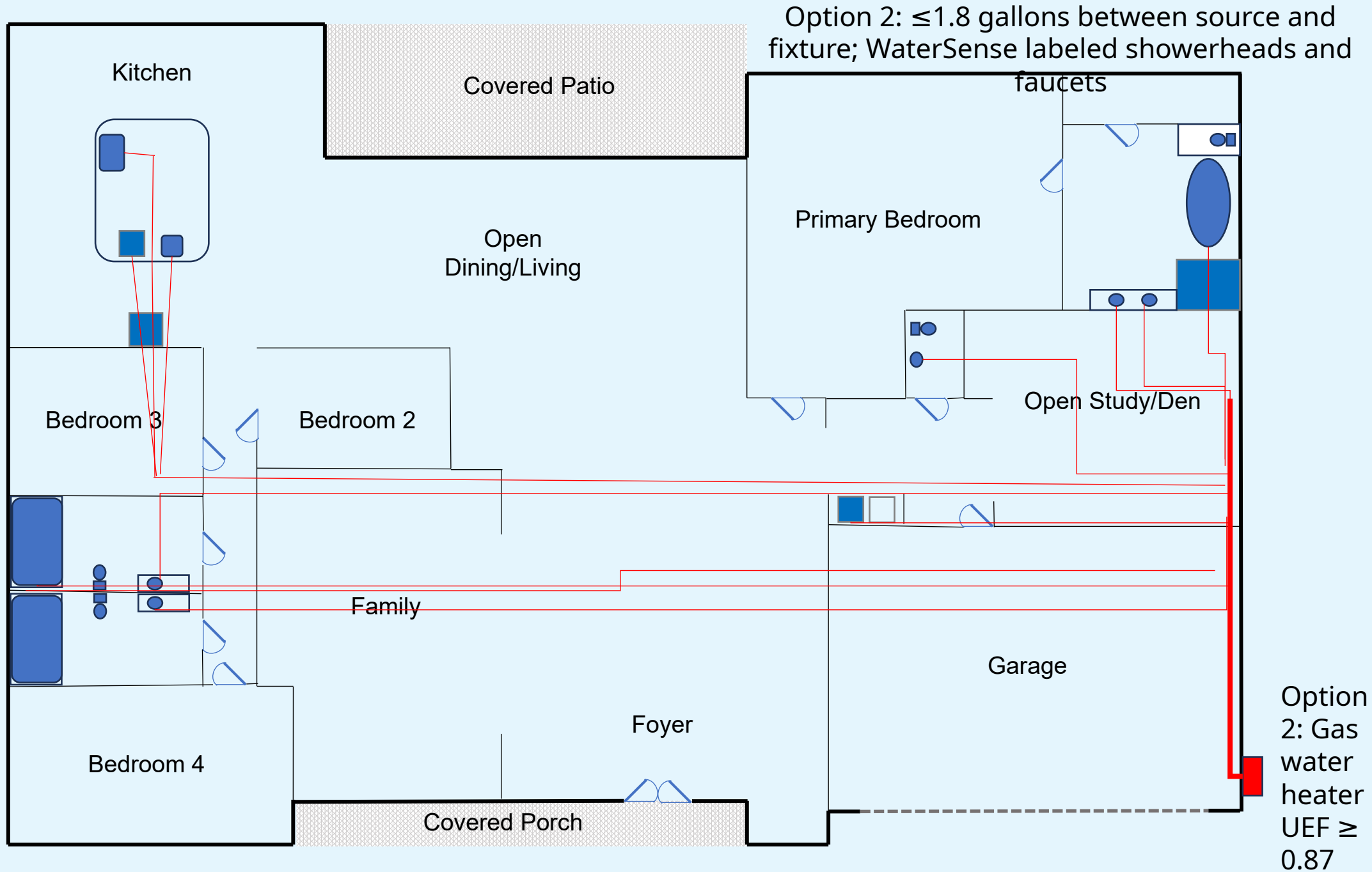
Exhibit 1: DOE Zero Energy Ready Home Mandatory Requirements

Component	Mandatory Requirements
1. ZERH V2 (Rev. 1) National Rater Checklist	1.1 Rater completes the DOE ZERH Single Family Homes Version 2 (Rev. 1) National Rater Checklist
2. ENERGY STAR Single Family New Homes Baseline	2.1 Certified under ENERGY STAR Single Family New Homes Version 3.2 <sup>13</sup>
3. Envelope	3.1 Ceiling, wall, floor, & slab insulation meet or exceed 2021 IECC UA <sup>14,15,16</sup> 3.2 Windows meet high performance requirements based on climate zone <sup>17</sup> <i>Advisory:</i> DOE is monitoring the implementation of ENERGY STAR product specifications for residential windows (V7.0), and plans to adopt these in a future program version update <sup>18</sup>
4. Duct System	4.1 All heating and cooling distribution ducts and heating and cooling air-handling equipment are located within the thermal and air barrier boundary. <sup>19</sup>
5. Water Heating Efficiency	5.1 Hot water delivery systems meet efficient design requirements. <sup>20</sup> <i>or</i> 5.2 Water heater and fixtures meet efficiency criteria <sup>21, 22</sup> <i>or</i> 5.3 Home is certified under WaterSense Labeled Homes Version 2.0.
6. Lighting &	6.1 All builder-supplied and -installed refrigerators, dishwashers, clothes washers, and clothes dryers are ENERGY STAR <sup>23, 24, 25</sup>



Option 1: Need on-demand recirculation system to meet  $\leq 0.5$  gallons from source to furthest fixture



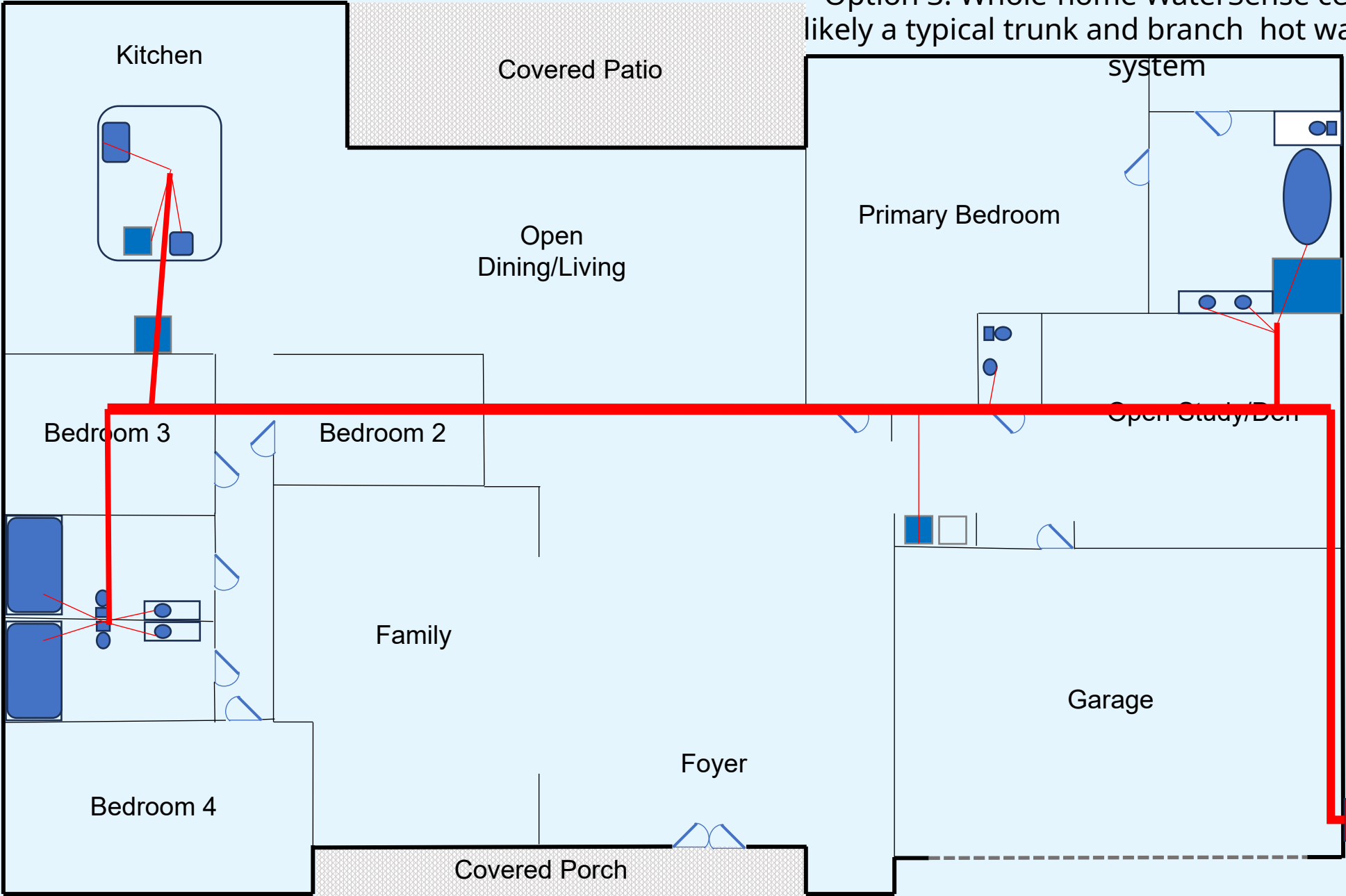


# Choosing WaterSense May Be Preferred



- Option 3: WaterSense certification
  - Install 1.1 gallons per flush (gpf), WaterSense labeled toilets
  - Install 1.75 gallons per minute (gpm), WaterSense labeled showerheads
  - Install WaterSense labeled faucets
  - Install 3.2 gallons per cycle (gpc), ENERGY STAR certified dishwasher
  - Optimize outdoor water use by installing WaterSense labeled irrigation controller, install pressure-compensating drip irrigation, and having an audit from an irrigation professional certified by a WaterSense labeled program

Option 3: Whole-home WaterSense certification;  
likely a typical trunk and branch hot water delivery system



Option 3: Gas water heater  
UEF  $\geq$  0.87

# Sustainability Goals and Reporting



- WaterSense partners have access the WaterSense's Partner Savings Calculator.
- Utilizes WaterSense's National Water Savings model to estimate labeled product and home savings.
- It allows builders to estimate their savings from building WaterSense labeled homes, which can help measure their corporate sustainability impact or help with environmental reporting.
- The Partner Savings Calculator estimates:
  - Gallons of water saved
  - kWh energy saved
  - Greenhouse gas emissions reduced
  - Total utility costs saved



# WaterSense Partner Savings Calculator

A screenshot of a Microsoft Excel spreadsheet titled '2023-partner-savings-calculator.xlsx'. The interface shows the 'Home' tab with various formatting options like font, alignment, and number. The spreadsheet content includes a title 'WaterSense Partner Savings Calculator', a WaterSense logo, and introductory text explaining the tool's purpose. It also features a form with input fields for 'Partner Name', 'Partner Type' (with a dropdown menu showing 'Manufacturer', 'Retailer/Distributor', and 'Builder'), and 'Year'. At the bottom, it notes '2023 Version' and 'Last Update: January 2024'.

AutoSave Off 2023-partner-savings-calculator.xlsx Search

File Home Insert Page Layout Formulas Data Review View Automate Help

Cut Copy Paste Format Painter Clipboard

Arial 11 Font


Alignment

Number

Conditional Formatting Format as Table

partner\_t... fx

A B C D E F G H I J K L M

1  **WaterSense Partner Savings Calculator**

2

3 This tool is designed to help WaterSense partners estimate their savings contributions from participating in the WaterSense program.

4 It provides estimates for gallons of water saved, energy saved (in kilowatt-hour equivalency), metric tons of greenhouse gas reduced (in carbon dioxide equivalents), and U.S. dollars saved for calendar year 2023.

5

6 The tool offers estimates for manufacturer, retailer/distributor, and builder partners.

7 Please select your partner type from the options below, then visit the corresponding worksheet to enter your information.

8

9 Partner Name:

10 Partner Type:

11 Year:

12

13

14

15 2023 Version

16 Last Update: January 2024

17

18



# WaterSense Partner Savings Calculator



2023 Savings Summary								
Example Builder has built 200 WaterSense labeled homes and has installed more than 5606 WaterSense labeled products!								
Year	Table 1. Water Savings		Table 2. Total Energy Savings Converted to kWh		Table 3. Combined Greenhouse Gas Savings in CO <sub>2</sub> equivalents		Table 4. Total Utility Bill Savings (water, wastewater, electric, and natural gas) in current year USD	
	gallons		kilowatt-hrs		metric tons		USD (\$2023)	
	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2007	0	0	0	0	0.00	0.00	\$ -	\$ -
2008	0	0	0	0	0.00	0.00	\$ -	\$ -
2009	0	0	0	0	0.00	0.00	\$ -	\$ -
2010	0	0	0	0	0.00	0.00	\$ -	\$ -
2011	0	0	0	0	0.00	0.00	\$ -	\$ -
2012	0	0	0	0	0.00	0.00	\$ -	\$ -
2013	0	0	0	0	0.00	0.00	\$ -	\$ -
2014	0	0	0	0	0.00	0.00	\$ -	\$ -
2015	0	0	0	0	0.00	0.00	\$ -	\$ -
2016	0	0	0	0	0.00	0.00	\$ -	\$ -
2017	1,129,446	1,129,446	104,702	104,702	38.70	38.70	\$ 23,731	\$ 23,731
2018	2,280,173	3,409,620	209,837	314,539	77.60	116.30	\$ 47,876	\$ 71,607
2019	3,451,731	6,861,351	314,546	629,085	117.31	233.61	\$ 73,261	\$ 144,868
2020	4,651,122	11,512,473	413,589	1,042,674	155.08	388.70	\$ 100,060	\$ 244,928
2021	5,760,541	17,273,015	509,686	1,552,360	192.74	581.44	\$ 121,542	\$ 366,470
2022	13,260,434	30,533,448	610,476	2,162,836	237.14	818.58	\$ 218,501	\$ 584,970
2023	20,799,354	51,332,802	714,130	2,876,965	282.63	1,101.21	\$ 58,707	\$ 643,677



# Comparing Savings Numbers

- Partner Savings Calculator is a conservative estimate
- It's possible to create more detailed analyses with more detailed inputs

	Gallons Saved	kWh Saved	Lbs CO2 Equivalent
Oak Shade & Durango Case Study	13,400,000	639,760	357,976
Partner Savings Calculator Results for 219 homes in CA	10,829,643	230,489	211,467

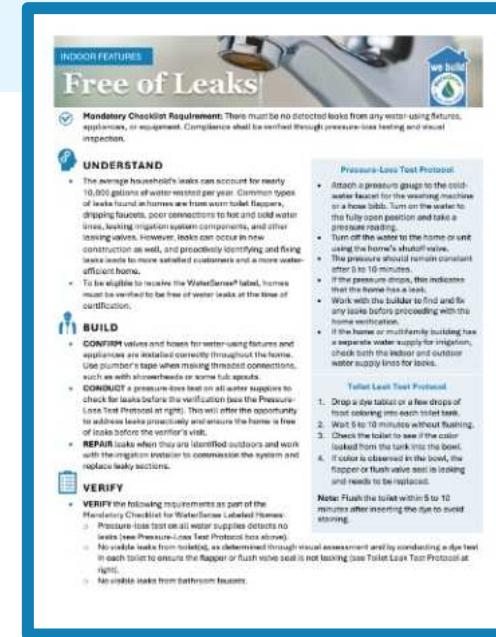
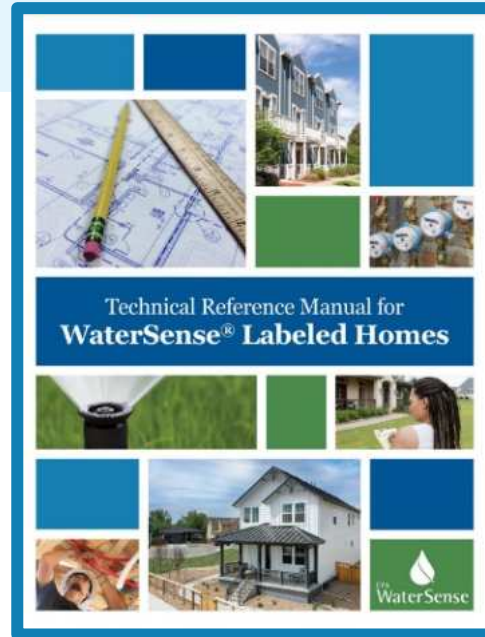
# Why Builders Should Consider WaterSense



- Water is an increasingly important part of the land entitlement process
  - Availability of water/service connections can be a deciding factor in a site's viability
- Water efficiency saves energy and reduces carbon emissions
  - There is embedded energy in every drop of water
  - WaterSense certification is an option to meet the water heating efficiency requirements for ZERH
- Disclosures and sustainability reporting
  - Being responsible stewards of water is an important part of the building industry's social license AND can be a prerequisite for investment
- Market differentiation/provides value to homebuyers
  - Water, energy, cost savings
  - Ensured performance

# WaterSense Tools & Resources ✨

# WaterSense Resources



Resources to Understand the WSLH Program	Resource Link	How to Use This Resource
WaterSense Labeled Homes Introductory Guide	<a href="http://www.epa.gov/watersense/homes">www.epa.gov/watersense/homes</a>	To start understanding the program
Technical Reference Manual for WaterSense Labeled Homes	<a href="http://www.epa.gov/watersense/homes-technical-reference-manual">www.epa.gov/watersense/homes-technical-reference-manual</a>	For more details on the WaterSense labeled home certification process
Technical fact sheets on features of water-efficient homes	<a href="http://www.epa.gov/watersense/homes-technical-reference-manual">www.epa.gov/watersense/homes-technical-reference-manual</a>	For technical details on water-efficient fixtures, systems, and practices that can be included in WaterSense labeled homes

# WaterSense Resources



Water, Energy, Carbon Savings Resources	Resource Link	How to Use This Resource
<p>WaterSense Labeled Homes: A Tool for Water and Land Use Planning fact sheet</p>	<p><a href="http://www.epa.gov/watersense/watersense-labeled-homes#density">www.epa.gov/watersense/watersense-labeled-homes#density</a></p>	<p>To understand potential water savings from WaterSense labeled homes and how you can build more homes with limited water resources if you build WaterSense</p>
<p>Delivering on Efficiency regional fact sheet series</p>	<p><a href="http://www.epa.gov/watersense/watersense-labeled-homes#regional">www.epa.gov/watersense/watersense-labeled-homes#regional</a></p>	<p>To understand potential savings from WaterSense labeled homes (using a whole-house approach) compared to state standards or installing water-efficient products alone</p>
<p>WaterSense Labeled Homes Communities Save Energy and Support Decarbonization</p>	<p><a href="http://www.epa.gov/system/files/documents/2024-03/ws-labeled-homes-menifee-communities-case-study.pdf">www.epa.gov/system/files/documents/2024-03/ws-labeled-homes-menifee-communities-case-study.pdf</a></p>	<p>To understand how water efficiency also saves energy and support decarbonization, as illustrated by a case study in Menifee, CA</p>
<p>WaterSense Labeled Homes Save Water and Energy infographic</p>	<p><a href="http://www.epa.gov/watersense/watersense-labeled-homes-save-water-and-energy-infographic">www.epa.gov/watersense/watersense-labeled-homes-save-water-and-energy-infographic</a></p>	<p>To understand how WaterSense labeled homes save water and energy as a result of high-performance features</p>

The collage features several key documents:

- WaterSense Labeled Homes: A Tool for Water and Land Use Planning** (Fact Sheet): Explains how WaterSense labeled homes can save water and energy, highlighting that they use 50K gallons less water and save \$700 more per year on utility bills compared to the average home.
- WaterSense Labeled Homes Communities Save Energy and Support Decarbonization** (Fact Sheet): Discusses how these homes reduce energy consumption and carbon emissions, noting that they can save up to 20% on energy bills.
- WaterSense Labeled Homes Are Designed for Efficiency** (Fact Sheet): Details the design requirements for these homes, such as high-efficiency appliances and water-saving fixtures.
- Case Study: Menifee, CA** (PDF): A detailed case study showing how WaterSense labeled homes in Menifee, CA, have significantly reduced water and energy consumption, leading to lower utility costs and a more sustainable community.
- The Energy in Water** (Infographic): A visual representation of the energy and water savings achieved by WaterSense labeled homes, showing that they can save up to 20% on energy bills and 50% on water bills.




# WaterSense Resources



Homeowner Resources	Resource Link	How to Use This Resource
WaterSense's Home Maintenance web page and checklist	<a href="http://www.epa.gov/watersense/home-maintenance">www.epa.gov/watersense/home-maintenance</a>	Provide stand-alone checklist with web page link to homebuyers to provide details on water-efficient home maintenance

## Home Maintenance



Properly maintaining your home is an important part of making sure your fixtures and systems perform well, save water, and keep your utility costs down.


WaterSense recommends you follow some simple maintenance tips for your water-using fixtures, features, and systems. Check out daily, monthly, and annual maintenance tips in [WaterSense's Maintenance Checklist for a Water-Efficient Home](#) and review more detailed information about maintaining a water-efficient home below.

### WaterSense Labeled Homes

In the market for a new home? Ask for a WaterSense labeled model! Backed by third-party certification, [WaterSense labeled homes](#) are verified to be free of leaks and include

**On this Page:**

## Maintenance Checklist for a Water-Efficient Home



**Do This Once Per Year to Save Water:**

- Check your home for leaks (indoors and outdoors) and repair them promptly. Find instructions on WaterSense's website at [www.epa.gov/watersense/fix-leak-week](http://www.epa.gov/watersense/fix-leak-week).
- Make sure your toilets aren't continuously running. Check for leaks by putting a few drops of food coloring in the tank and wait 10 minutes; if color appears in the bowl, you have a leak. Flush afterwards to avoid staining.
- Inspect showerheads and faucets for scale buildup and clean if necessary. Add new plumbing tape to ensure a tight fit.
- Add mulch as needed over landscaped areas in your yard.
- Check your irrigation system for breaks and leaks, signs of overwatering or underwatering, and areas of overspray, and repair or adjust as necessary. See WaterSense's Sprinkler Spruce-Up web page at [www.epa.gov/watersense/sprinkler-spruce-up](http://www.epa.gov/watersense/sprinkler-spruce-up) and Watering Tips web page at [www.epa.gov/watersense/watering-tips](http://www.epa.gov/watersense/watering-tips).
- Test your pool's automatic refill system and fill valve.
- Winterize your irrigation system and pool to prepare for cold weather.
- Check your service water pressure and adjust or replace your pressure-regulating valve if necessary.
- Have a professional service your home's water heater and water softener (if one is installed). If you like to do it yourself, make sure to flush your water heater to reduce sediment buildup; check the water heater's temperature and pressure valve; and clean your water softener's brine tank.

**Check These Areas More Frequently for Water Waste:**

**Daily**

- Turn off faucets and hose bibbs unless you are actively using water.
- Rinse only full loads of laundry and dishes and skip extra rinse cycles.
- During swim season, cover your pool when it's not in use.

**Monthly**


- Compare your water bill to the same month of the previous year to identify leaks.
- Weed your landscaped areas so more water is available for plants.
- Allow your grass to grow two to three inches tall before mowing.
- If you don't have a WaterSense labeled irrigation controller, revise your irrigation system's schedule according to seasonal weather changes.
- Check the salt level of your water softener and break up salt bridges.

**Do This Every Few Years to Save Water:**

- Hire an irrigation professional certified by a WaterSense labeled program using WaterSense's Find a Pro tool at [www.epa.gov/watersense/find-pro](http://www.epa.gov/watersense/find-pro) to assess your irrigation system and provide recommendations to improve its water efficiency.
- Replace old toilet flappers to ensure a good seal and avoid toilet leaks.

**Learn more at [www.epa.gov/watersense/home-maintenance](http://www.epa.gov/watersense/home-maintenance).**

To learn more about WaterSense, visit [www.epa.gov/watersense](http://www.epa.gov/watersense).  
 (866) WTR-SENS (987-7367) | [watersense@epa.gov](mailto:watersense@epa.gov)



832-F-24-002  
March 2014

# WaterSense Partner Resources

- Many eligible parties can sign up to become a WaterSense partner at [www.epa.gov/watersense/join-watersense](http://www.epa.gov/watersense/join-watersense)
- - Builders
  - Manufacturers
  - Retailers/distributors
  - Professional certifying organizations
  - Promotional parties (utilities, water districts, trade associations, nonprofit organizations, and government agencies)
- WaterSense partners have access to exclusive resources and communications, including builder tools and the Partner Savings Calculator



EPA  
**WaterSense**  
PARTNER



The screenshot shows the EPA WaterSense Partner website. At the top is the EPA logo and navigation links: LEARN THE ISSUES | SCIENCE & TECHNOLOGY | LAWS & REGULATIONS | ABOUT EPA. Below this is a green navigation bar with links: Network, Work With Media, Promote Campaigns, Sell, Educate, Awards & Reporting. The main header features the WaterSense logo and the text 'WaterSense® for Partners An EPA Partnership Program'. A secondary navigation bar includes 'WaterSense Website | Product Search | Contact Us'. The main content area is titled 'Builder Tools' and includes a description: 'These materials will help you build homes to EPA's specification and promote those WaterSense labeled homes and your partnership in the program. With your help as a builder partner, WaterSense will bring water and energy savings under one roof. Use these materials to get started.' Below this are several bullet points: Building a Home to Earn the WaterSense Label, Builder Resources, Using the Program Marks, Promoting Your WaterSense Partnership, and Selling and Maintaining Your WaterSense Labeled Home. On the right side, there is a sidebar with a list of resources: WaterSense Labeled Products (Sales Training Materials, Point-of-Purchase Materials), WaterSense Labeled Homes (Builder Tools, HCO and Verifier Tools), WaterSense Labeled Certification Programs, and Resources for Labeling.



# Questions and Discussion

- Questions?
- Discussion topics
  - Are you seeing any local interest in water conservation or water-efficient homes in your region?
  - What are the biggest challenges and barriers for builders when considering WaterSense?
  - Are there any tools and resources WaterSense could develop to help you?

# Contact WaterSense



E-mail: [watersense@epa.gov](mailto:watersense@epa.gov)

Website: [www.epa.gov/watersense](http://www.epa.gov/watersense)

Helpline: (866) WTR-SENS (987-7367)

