



# City of Moab, Utah

## Water Wise Landscaping Code for New Development

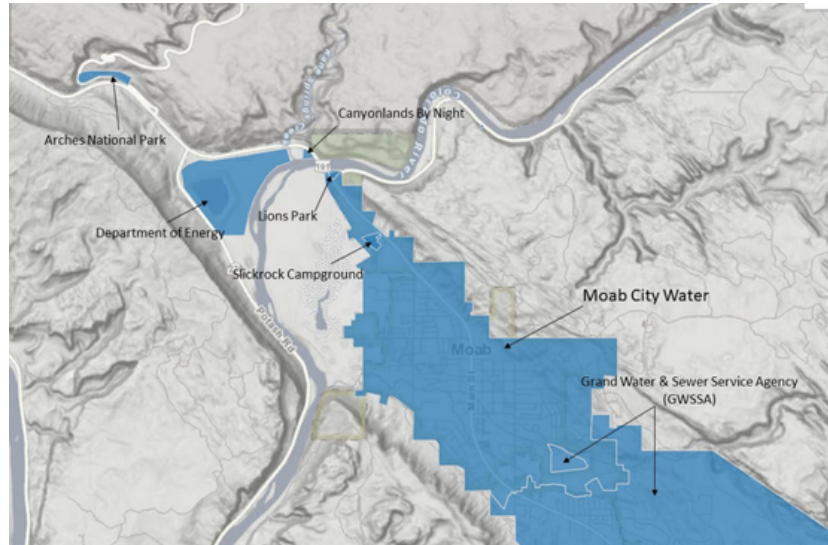


### Project at-a-Glance

#### Community Overview

- Utility/Community: City of Moab, UT
- Location: Moab, UT
- Population served: 5,341
- Service area: 4.8 square miles

#### Project Partners



#### Project Benefits

- Moab's new water efficient landscape ordinance will help the City meet their target to reduce outdoor water demand by 50%, in order to keep overall water demand flat despite population growth and climate change.
- The passing of this ordinance qualifies Moab residents to participate in [Utah's Landscape Incentive Program](#), where they can receive \$1.50 per square foot to replace their grass with water-efficient landscaping, therefore incentivizing and furthering water efficient practices in the City.
- In addition to saving water, Moab's ordinance will lower customers water bills, support community wide landscape investments, and benefit local wildlife, pollinators, and the environment.

#### Project Challenges



Climate Change



Drought



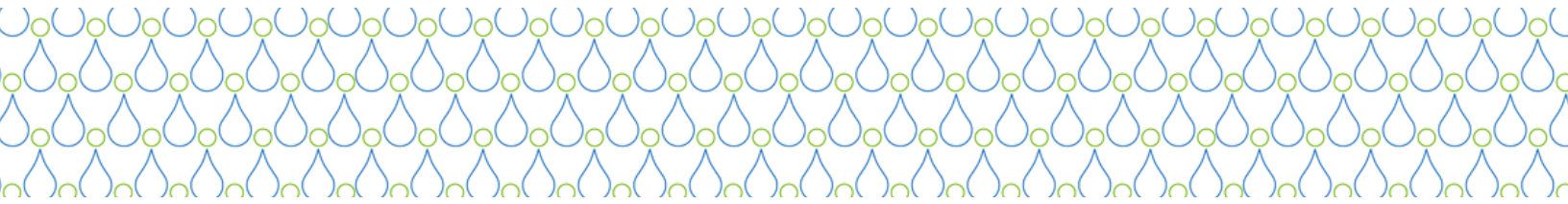
Changing Population



Lack of Reliable Water Supply

## Strategies for Success

WaterNow and Western Resource Advocates (WRA) partnered with the City of Moab to develop a water efficient landscape ordinance, for new and redevelopment, to increase water supply resilience in the face of challenges like a growing population and less predictable precipitation trends due to climate change.



## Project Spotlight

Scanning the horizon of red rocks and distant mountains surrounding Moab, Utah, the area's total average rainfall of just under 10" annually is hardly a surprise. Precious water brings life to the desert, so the City of Moab's water conservation goal to safeguard this critical resource by developing a landscaping ordinance is also unsurprising. According to the Center for Water Efficient Landscaping at Utah State University, approximately 65% of culinary water is applied to outdoor landscapes in Utah.

In Moab, residential water use accounts for 60% of the City's total water use. Commercial entities account for 32% of water use; overnight accommodations account for 16%, and institutions, including all City, school, and church buildings, account for 8%. Moab City Council set a baseline water use goal of 250 gallons per capita per day (gpcd) by 2030, with an advanced goal of 230 gpcd, based on State participation in conservation efforts. More specifically, they set a target to reduce outdoor water demand in the City by 50% by 2030, in order to keep overall residential water demand flat despite population growth and climate change. For context, Moab was using 282 gpcd in 2015.



Moab applied to the Project Accelerator Program with the goal of developing a new water efficient landscaping ordinance that included concepts such as setting a maximum percentage of cool-season turfgrass, creating a City approved plant list, improving irrigation system efficiency through smart controllers and other technologies, and establishing a landscape water budget to limit how many gallons of water can be applied to a given landscape, among other regulations. WaterNow, in collaboration with our partners at Western Resource Advocates, supported these efforts through a multi phased approach:

**Phase 1:** Research existing waterwise landscape ordinances and graywater reuse regulations in Utah and communities across the west.

**Phase 2:** Conduct informational interviews with local landscape professionals, graywater experts, and City of Moab Water Board staff to better understand the opportunities and limitations regarding Moab’s current landscape code language and the Phase 1 research on water efficient landscape code best practices.

**Phase 3:** Draft landscape standard recommendations and work closely with City Council, Planning Commission, and City staff to iterate and finalize code language.

**Phase 4:** Support the passage of a water efficient landscape ordinance through the City Council adoption process.





## Project Impacts

**On September 12, 2023, the Moab City Council unanimously adopted Ordinance No. 2023-08 creating a new Chapter 17.10 Water Efficient Landscaping Standards for New Developments.**

The primary intent of the new landscape regulations is to enhance and preserve the community's quality of life and property values by enriching the visual environment, supporting public safety, and contributing to a resilient and sustainable environment by reducing outdoor water demand. This new ordinance applies to new landscape plans immediately.

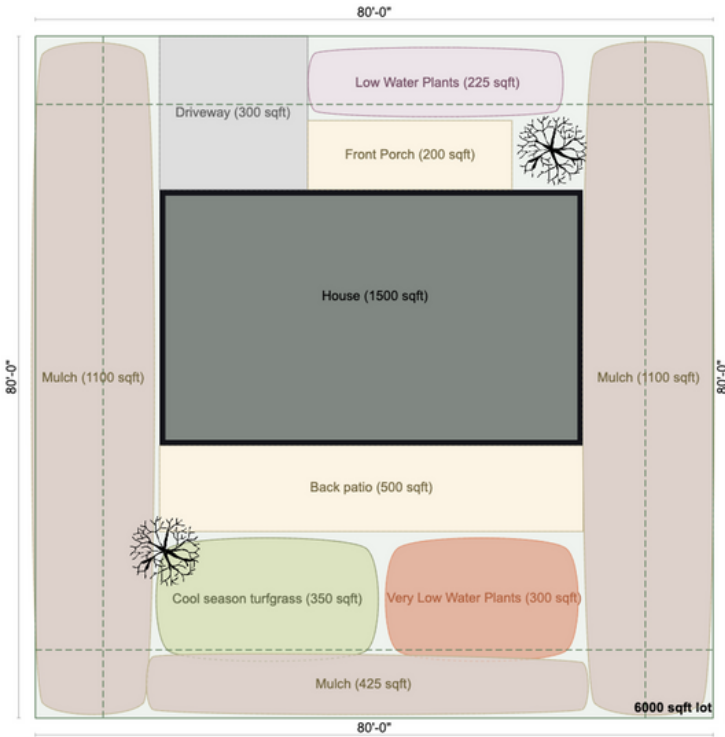
The scale of development, redevelopment, or improvement determines the level of required landscaping standards. For example, a single-family home remodel project that triggers a building permit would not be required to abide by the irrigation efficiency standards, however a new subdivision that triggers site plan review would be required to follow all irrigation standards. Some of the specific standards are included below:

- A minimum of 25% of the landscaped area must be living plant materials.
- At least 90% of all forbs, shrubs, and trees, and 100% of groundcovers and ornamental grasses must be selected from the [City's Approved Plant List](#).
- Cool season turfgrass is limited to 10% of the total landscaped area (or 200 square feet), whichever is greater.)
- Mulch shall be applied at a minimum depth of 2-3 inches. (Some native plants are exempt from mulching.)
- Smart irrigation controllers and spray sprinkler bodies labeled by the US EPA WaterSense are required.
- The total irrigation water needed for all hydrozones cannot exceed a Maximum Applied Water Budget of 15 gallons/square foot/season (24in/season) unless the site is using graywater or rainwater capture.

The ordinance also includes an indoor efficiency policy identified in the City's Water Conservation Plan which requires all new and remodeled (or "refreshed") lodging units and new residential units in Moab to install WaterSense-labeled fixtures (faucets, shower heads, toilets, and urinals) and Energy Star-qualified appliances. Since the hotel and tourism industry is very robust in Moab, and typically hotel rooms are refreshed every 5-7 years, this is expected to result in significant water savings.

The passing of this ordinance qualifies Moab residents to participate in [Utah's Landscape Incentive Program](#), where they can receive \$1.50 per square foot to replace their grass with water-efficient landscaping, therefore incentivizing and furthering water efficient practices in the City. The City will also be developing a suite of educational resources related to water efficient landscaping that complements the ordinance.

# Landscape Water Budget Schematics

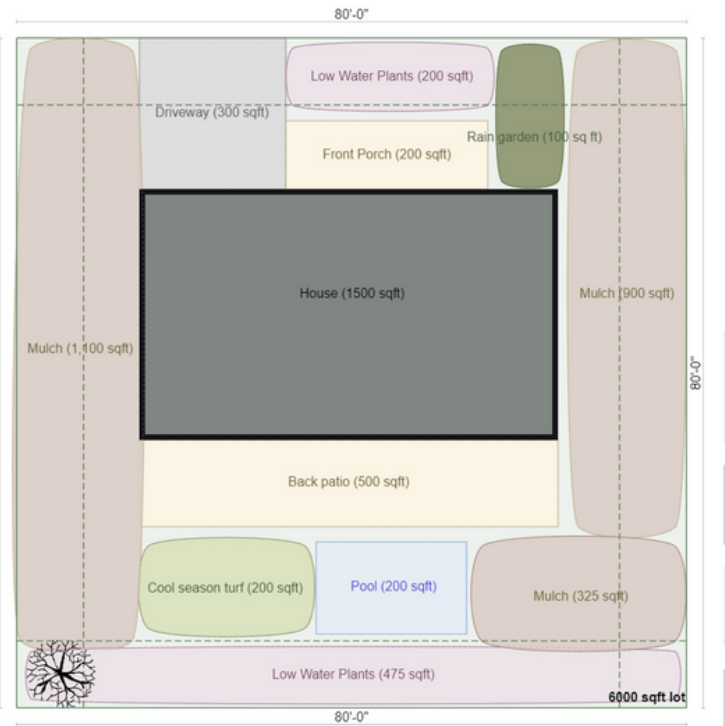


**Water Budget:**  
14.6 gal/sqft/season

## Example 1 - Turfgrass:

**Lot Size:** 6000 sqft  
**House Size:** 1500 sqft  
**Total Landscaped Area:** 3500 sqft  
**Total Living Plant Material:** 875 sqft  
 (25% of total landscaped area)  
**Total Non-Living Plant Material:** 2,626 sqft  
 (75% of total landscaped area)

Plant Material or Feature	Sq Ft	PF	Notes
Cool season turfgrass	350	0.80	10% of total LA
Low water plants	225	0.20	7% of total LA
Very low water plants	300	0.00	8% of total LA
Mulch (non-living)	2,265	--	75% of total LA



**Water Budget:**  
16.2 gal/sqft/season  
 \*Special feature incentive = 14.2 gal/sqft/season

## Example 2 - Pool, Turfgrass, & Special Feature:

**Lot Size:** 6000 sqft  
**House Size:** 1500 sqft  
**Total Landscaped Area:** 3500 sqft  
**Total Living Plant Material:** 875 sqft  
 (25% of total landscaped area)  
**Total Non-Living Plant Material:** 2,425 sqft  
 (69% of total landscaped area)

Plant Material or Feature	Sq Ft	PF	Notes
Swimming pool	200	0.80	6% of total LA
Cool Season Turfgrass	200	0.80	6% of total LA
Low water plants	675	0.20	19% of total LA
Mulch (non-living)	2,425	--	69% of total LA
Rain garden*	100	--	+2gal/sqft





## Lessons Learned

The project team identified several key takeaways for other communities looking to implement similar ordinances:

- To be most effective, ordinances should be paired with an education and outreach strategy to increase compliance among residents, developers, and landscape professionals and any others that are affected by the regulation, or otherwise interested in water wise landscaping practices.
- Seek to understand community needs and desires early on and be flexible. Even if a given regulation is an industry best practice, it doesn't necessarily mean it's an appropriate standard for every community. For example, since Moab is relatively small and remote, access to certain landscape and irrigation materials and experts is likely more limited than in urban areas.
- Fostering champions at the staff and council level are critical to the success and longevity of the project.



*Photo Credit: Doug McMurdo*