

# Water Efficient Landscape Ordinance Amendment

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Environmental Services Department*

**Transportation & Environment Committee**

**March 7, 2022**



*Environmental Services*

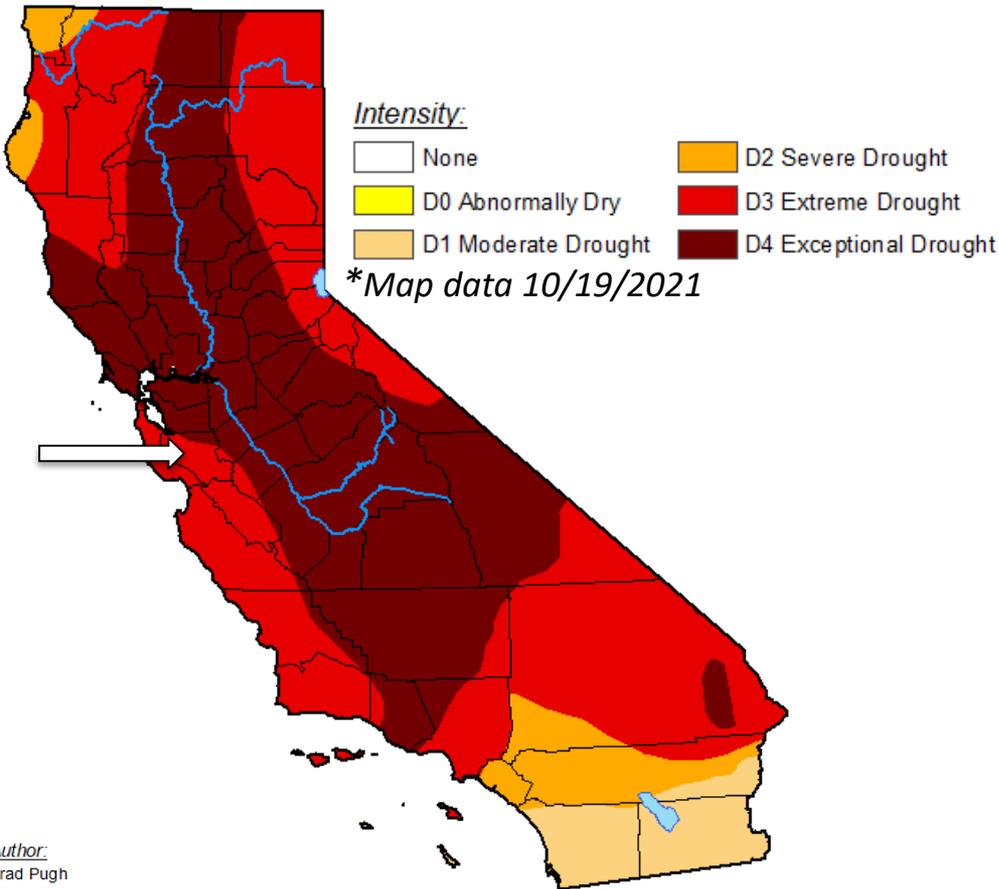


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# Water Efficient Landscape Ordinance

- Half of CA water used for landscape irrigation
- Model Water Efficient Landscape Ordinance
  - Enacted 1993
  - Amended 2010, 2015
- City of San Jose Water Efficient Landscape Ordinance
  - Adopted 1994
  - Amended 2013, 2016

# Motivations



## 10/13/2021 Rules & Open Government Committee 21-778

- Water Shortage Declaration
- Directed staff to revise WELO to “require only planting **drought-tolerant landscapes** in new developments”

*Author:*  
Brad Pugh  
CPC/NOAA



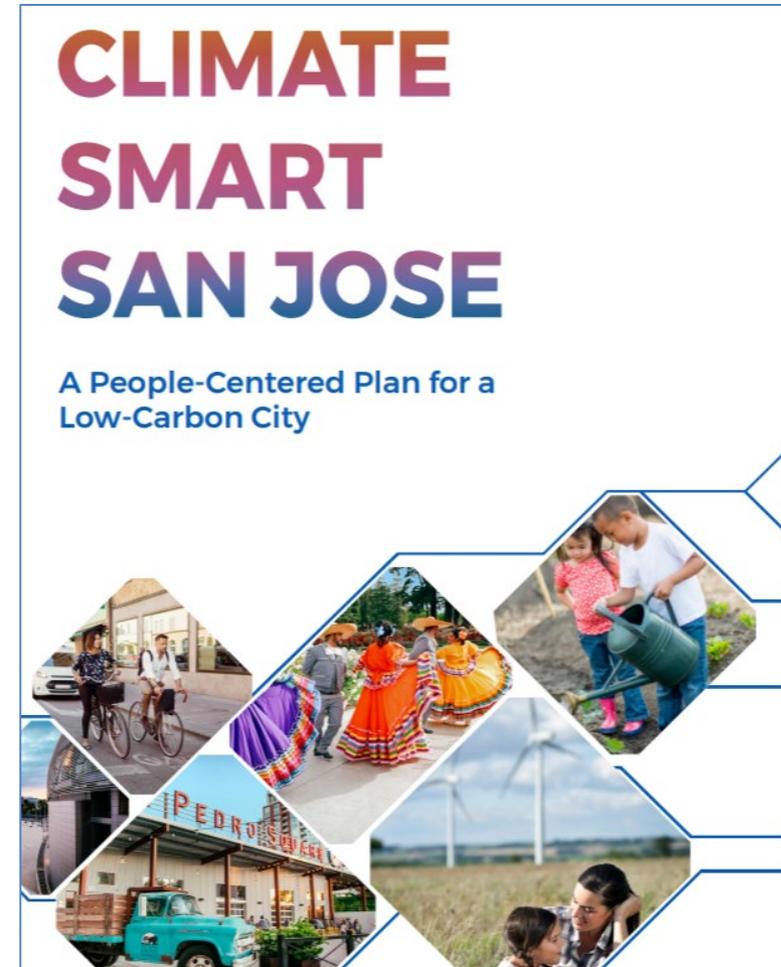
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

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# Motivations (cont'd)

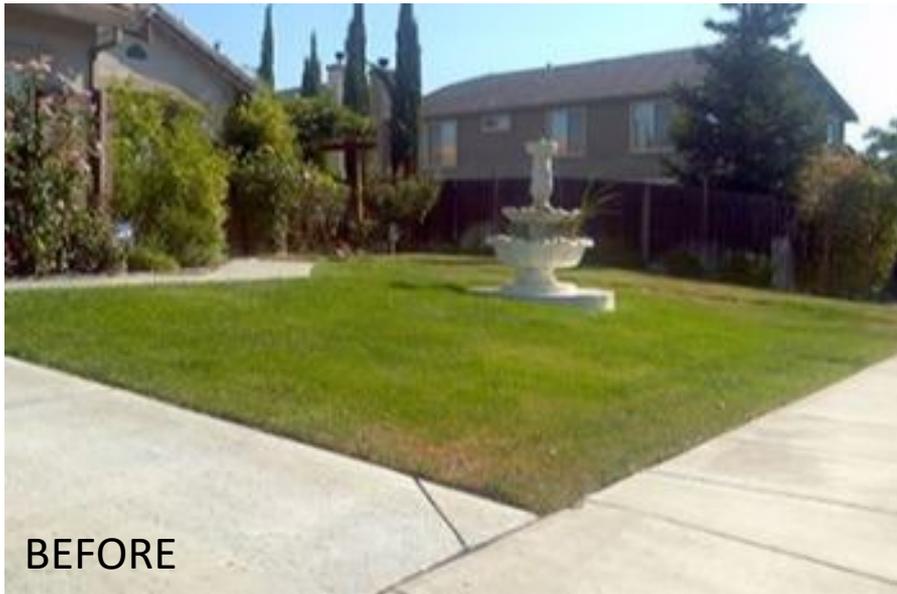
Supports Climate Smart San José goals to:

- Reduce total citywide, and specifically residential, water consumption
  - Amendment will help lower water use for irrigation for both residents and businesses
- Reduce household energy use
  - Amendment can help to reduce urban heat island effects by limiting hardscape and thereby reducing building cooling needs.



# Benefits to Residents and Community

- Drought resilience through water-efficient design
- Carbon sequestration in urban landscapes
- Reduced urban heat island effects
- Cost Savings



<https://www.ccwater.com/160/Lawn-to-Garden-Rebate>

# Plant Selection

\*WUCOLS

Plant Type	Plant Common Name		Watering Needs (as %ET <sub>0</sub> )	Native to California?
Turfgrass (cool season)	Kentucky bluegrass		80 High	Not native, invasive
Turfgrass (warm season)	Common bermudagrass		60 Moderate	Not native, invasive
Tree	California buckeye		<10 Very low	Yes
Groundcover /shrub	Prostrate acacia		<10 Very low	Yes

# Plant Selection – Water Savings

## Valley Water Sustainable Landscape Guidelines

Landscape SF = 875 Annual ET Inches = 49" Irrigation Efficiency % = 70%  
 Landscape SF x ET Inches x Plant Factor % ÷ Irrigation Efficiency % x 0.62 = Landscape Water Need in Gallons

Grass  
 Water Need:  
**HIGH**

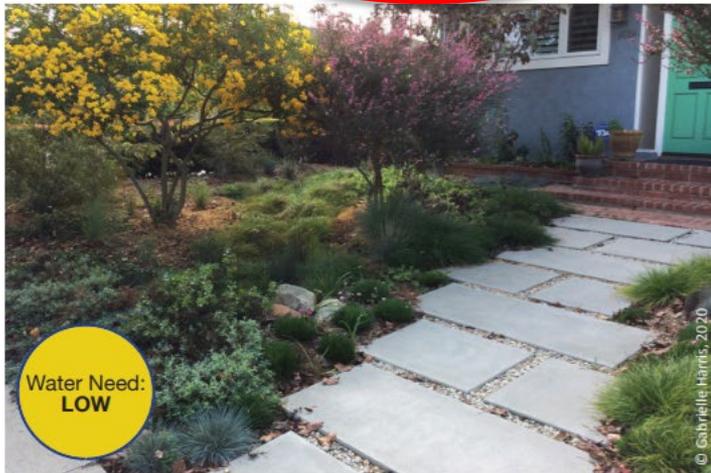
**HIGH Water Need**  
 Plant Factor = 100% = 1.0

$875 \text{ SF} \times 49" \times 1.0 \div 0.70 \times 0.62 =$   
**37,975 Gallons Annually**

New Front Yard  
 Water Need:  
**MODERATE**

**MODERATE Water Need**  
 Plant Factor = 50% = 0.50

$875 \text{ SF} \times 49" \times 0.50 \div 0.70 \times 0.62 =$   
**18,988 Gallons Annually**



**LOW Water Need Plant Factor = 20% = 0.20**

$875 \text{ SF} \times 49" \times 0.20 \div 0.70 \times 0.62 =$   
**7,595 Gallons Annually**



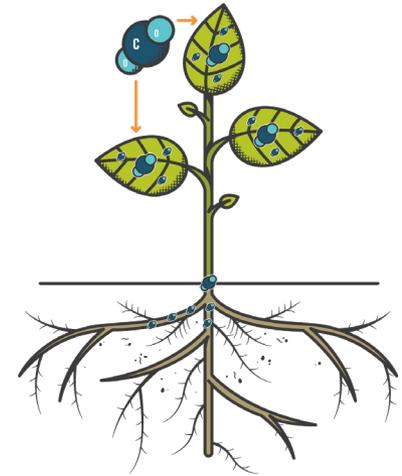
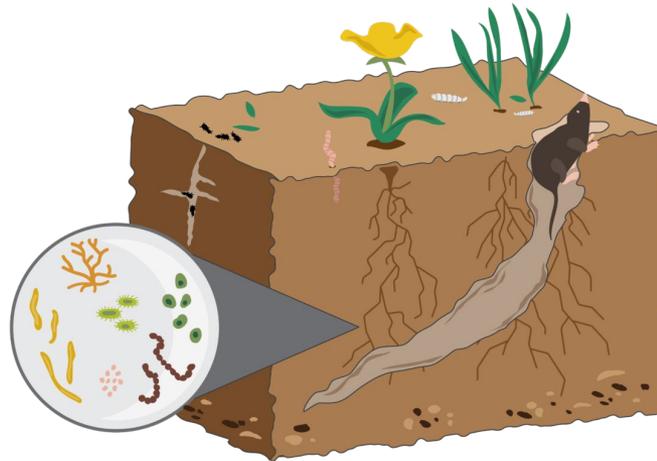
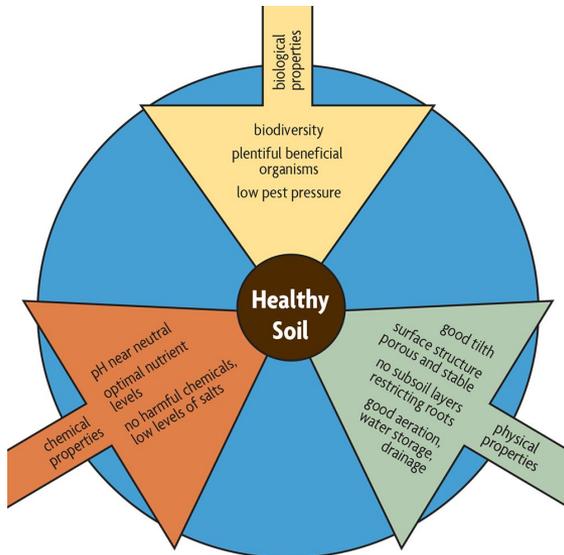
**VERY LOW Water Need Plant Factor = 10% = 0.10**

$875 \text{ SF} \times 49" \times 0.10 \div 0.70 \times 0.62 =$   
**3,798 Gallons Annually**

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# Native Plants

**USDA:** “A plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem.”



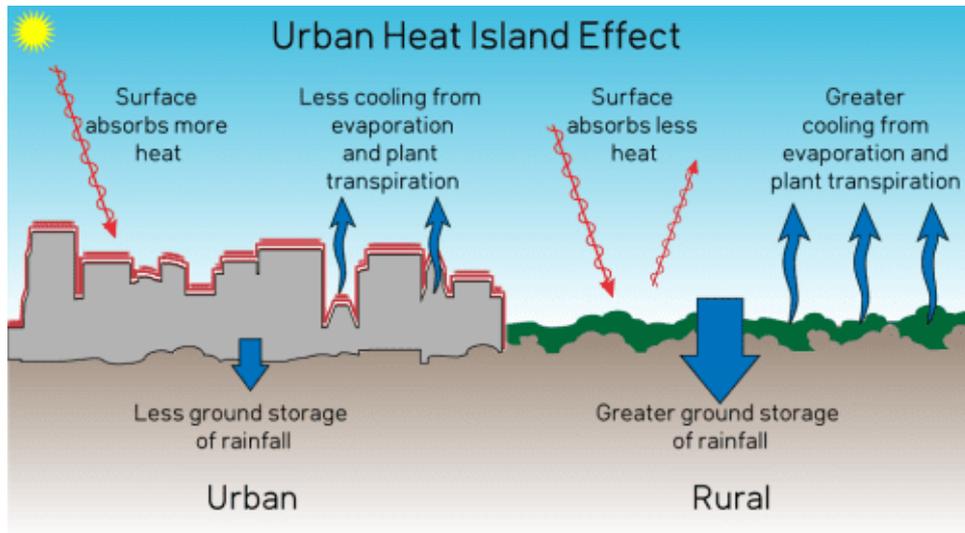
<https://www.sare.org/publications/building-soils-for-better-crops/soil-health-plant-health-and-pests/>

<https://rodaleinstitute.org/why-organic/organic-farming-practices/soil-health/>

<https://rodaleinstitute.org/why-organic/issues-and-priorities/carbon-sequestration/>

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# Urban Heat Island Effect



<https://dozr.com/blog/urban-heat-island>

## How to combat?

- Reduce hardscape
- Plant selection
  - Native trees and groundcover provide shade & increase urban tree canopy

# Irrigation Design

Valley Water Sustainable Landscape Guidelines

Go with the **Low Flow**: Spray or Drip?



Image courtesy of Rain Bird Corporation

**Spray Irrigation** Emits Water in an Overlapping (Head-To-Head) Pattern.



Image courtesy of Rain Bird Corporation

**Drip Irrigation** Delivers Water Directly to Roots.

## Bubbler Irrigation



<https://golfstore.rainbird.com/rwsbc1404-rain-bird-rws-root-watering-system-36-in-tube-1-0-gpm-bubbler-4-in-grate.html>

# Key Amendments Summary

Category	Current Ordinance	Proposed Change
Applicability	New construction with landscape area 500+ square feet	All new construction
Compliance Pathways	Three compliance pathways: <ul style="list-style-type: none"> <li>• Plant-type restriction</li> <li>• Water budget</li> <li>• Recycled water</li> </ul>	All applicable projects must comply with all design requirements
Plant Type	High-water use plants permitted in up to 25% of landscape area with water budget compliance pathway	<ul style="list-style-type: none"> <li>• High-water use plants prohibited</li> <li>• Encourages native plants</li> </ul>
Turf	Turf permitted in up to 25% of landscape area	Turf prohibited, except for recreational areas
Hardscape	No hardscape limitation	No more than 50% of the area available for landscaping may be hardscape.
Irrigation	Spray sprinkler systems permitted	Must use drip/bubbler, except where turf is permitted

# Stakeholder Engagement & Conclusion

Chamber of Commerce  
Water and Energy Policy  
Committee

Waterfluence

Sierra Club  
Loma Prieta  
Chapter

San Francisco  
Baykeeper

Gachina  
Landscape  
Management

Department of Planning,  
Building, and Code  
Enforcement

Sustainable Silicon Valley



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