SALT LAKE COUNTY

FLIP THE STRIP

GUIDEBOOK

WATER-WISE LANDSCAPE STANDARDS FOR FACILITY MANAGERS

A NOTE FROM THE MAYOR'S OFFICE

Salt Lake County is committed to water conservation and smart water management. As such, landscape standards for waterwise park strips at County facilities have been identified.

The best practices outlined in the guidebook apply to most projects that involve conversion of an existing park strip to a waterwise design. The best practices should also be applied to new design of park strips and other passive green areas.

"Flip Your Strip" program rebates for removing turf from park strips and creating attractive, low-water alternatives are available from Utah Water Savers.

SALT LAKE COUNTY

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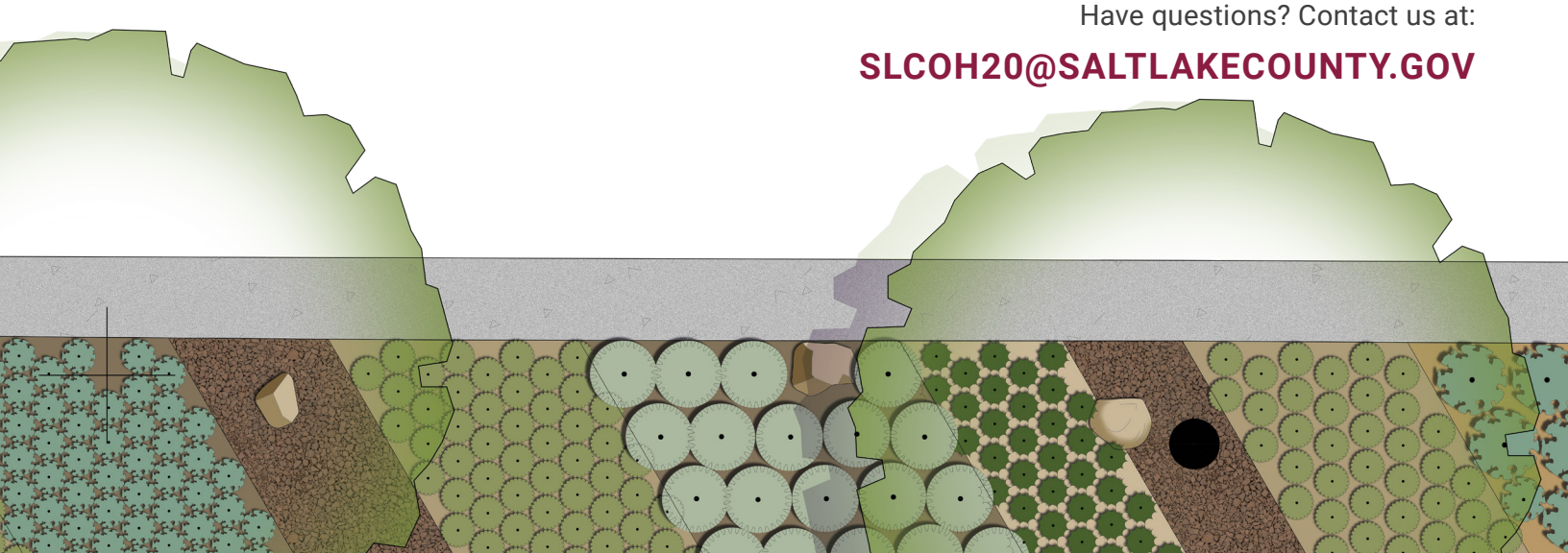


INTRO

WATER-WISE LANDSCAPES

In Utah, outdoor residential water use is the largest single category of municipal water use, averaging 45% of statewide municipal use. Of our culinary water use, approximately 65% is applied, often inefficiently, to landscapes.[2] The types of plants we grow, the density at which they are planted, and the type of system used to irrigate them can all have a major effect on the amount of water needed outdoors. Implementing more water-wise landscapes is one way we can help to conserve water now and for future generations.

A water-wise landscape is functional, attractive, easily maintained in its natural surroundings, and helps to conserve water. Efficient use of water in community landscapes reduces water waste and enhances the community's environmental, economic, recreational, and aesthetic resources. Other benefits include better functionality, less long-term maintenance, enhanced curb appeal, lower water bills, simpler irrigation, and phased installation.[3]

WHY CONSERVE WATER?

As a semi-arid state facing extreme growth pressure, Utah's water future is among the most significant challenges facing us today. Record 2023 snowpack went a long way toward replenishing Utah's lakes and reservoirs. However, as the second driest state in the nation, we are frequently either in drought or preparing for the next drought. Water conservation is an issue that impacts everyone. Ensuring residents have enough water for the future is a major concern for Salt Lake County's decision makers, water providers, local leadership, and the public.

A 2018 survey conducted by the Utah Department of Natural Resources identified education and information as the foremost barriers to water conservation in Utah, and sustainability as the most important reason to conserve. While water conservation will not solve all the problems of water supply and demand, it can help bridge the gap and establish sustainable practices consistent with Utah's climate and fast-growing population.[1]

WHO IS THIS GUIDEBOOK FOR?

A water conservation mindset begins with water users. This guidebook is specifically designed for County facility managers; however, it provides a foundation for anyone seeking to transform their landscape to focus on water conservation.

Water conservation is a top priority for Salt Lake County.

This guidebook details the basics for facility managers interested in converting landscapes to waterwise design.

WATER CONSERVATION IN PARK STRIPS

Park strips are a large contributer to water waste. These hot, narrow strips of land are a challenge to maintain and water. With overhead spray, the sidewalk and street frequently receive more water than the park strip.

As such, these locations offer unique opportunities for water conservation in the landscape and are an excellent place to begin transforming your facility landscape.

PARK STRIP CHALLENGES

- ***Size & Shape:*** *Park strips are generally a narrow, isolated shape that can be difficult to water.*
- ***Heat:*** *Park strips are usually adjacent to hot surfaces that can dessicate and kill plants and/or lawn.*
- ***Salt:*** *Salts applied to roads in the winter ends up in park strips and causes damage to plants.*
- ***Ownership:*** *Because the park strip is owned by the city but maintained by you, there are specific safety and utility access guidelines that must be followed.*
- ***Use:*** *Most park strips are aesthetic and not actively used for recreation.*

WATER-WISE PARK STRIP BENEFITS

- ***Water Savings:*** *According to Utah Water Savers, removing irrigated turfgrass from your park strip can save an estimated 5,000-8,000 gallons of water each year.*
- ***Safety:*** *Park strips provide a visual and actual safety buffer between pedestrians and the roadway.*
- ***Curb Appeal:*** *Park strips enhance curb appeal.*
- ***Ecosystem:*** *Several localscape perennials are also beneficial considered "pollinator pleasers" which is important to our ecosystem.*

SALT LAKE COUNTY STANDARDS

FLIP THE STRIP: HOW TO GET STARTED

Park strips are typically owned by the respective city/municipality; however, owners are required to properly landscape and maintain any park strip adjacent to their private property. As the owner, each municipality has set specific requirements for park strips that property owners should be aware of before beginning a transformation project, including obtaining required permits. See page 15 of this guidebook for a quick reference of city requirements. If you are unsure about any of the requirements, contact the city's community development office.

- ***Think about timing.*** *Obtaining funding, professional design assistance, required permits, contractor bidding, and implementation take a significant amount of time - up to 12-18 months in some cases, depending on the size of the project.*
- ***Consider a rebate program.*** *There are several rebate programs that provide reimbursement for water-wise conversions, some of which may apply to public facilities.. Visit the Central Utah Water Conservancy District Residential Rebates website at cuwcd.gov/rebates to learn more.*

SURFACE MATERIALS

Crushed Rock Mulch:

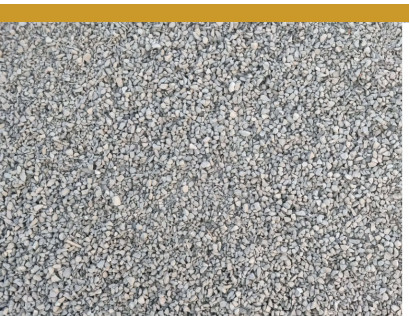
- **Pros:** *Pleasant appearance; Does not require replenishment.*
- **Cons:** *Contributes to urban heat island; More carbon intensive; Does not provide nutrients to the soil; Prematurely dries out the soil and roots of plants; Can make weed removal difficult; Larger rocks can be weaponized; Many ordinance prohibit full coverage of the park strip with rock and other hard materials.*

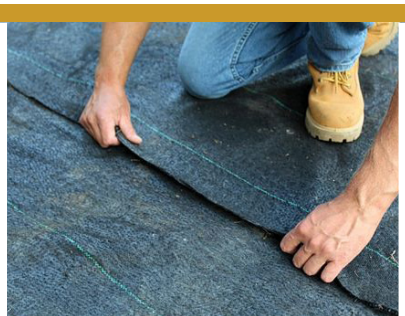
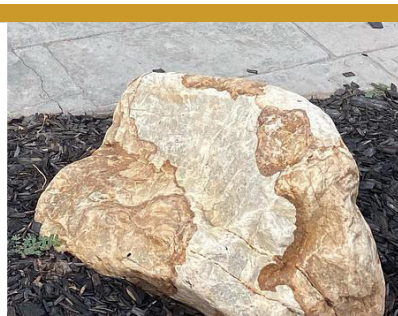
Organic Mulch (shredded):

- **Pros:** *Helps retain soil moisture; Reduces runoff; Inhibits weed growth; Provides nutrients to the soil as it decomposes.*
- **Cons:** *Maintenance intensive; Moves with the wind; Requires replenishing because it decomposes.*

Using Mulches: *Organic mulch should be used within planted areas to maximize plant health. Rock mulch should be used as a cover for non-planted areas. The rock mulch to be used will be 3/8 inch or smaller to discourage throwing, and angular to minimize migration onto sidewalks.*

- ***Mulch Depth:*** *Mulch should be at least 3-4" deep to cover the soil surface because this keeps weeds out and preserves soil moisture.*
- ***Landscape Fabric:*** *Landscape fabric or weed barrier should NOT be used. Exception: If required by a municipality. Mulch is more effective at weed control.*
- ***Boulders:*** *The addition of boulders, 24-36" in size, may be used as accents in between plantings.*



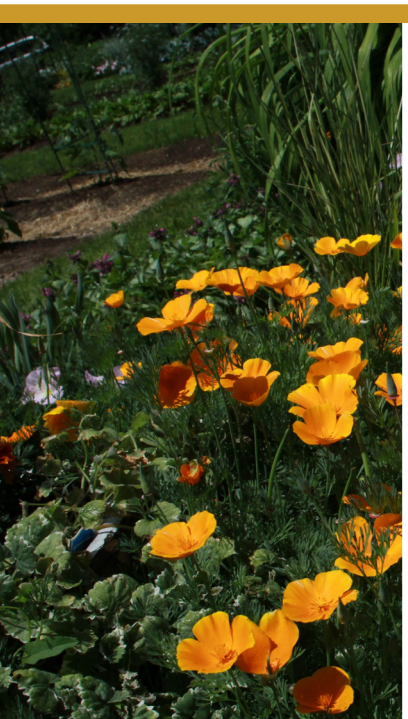
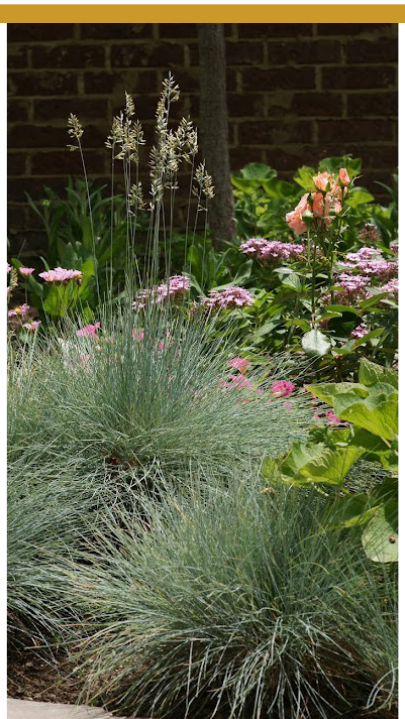
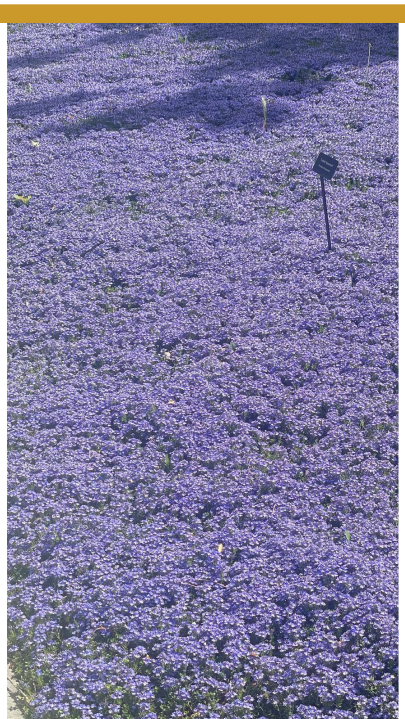
PARK STRIP PLANTING

GENERAL PLANTING GUIDELINES

- ***Plant Selection*:** *Plants should be water-wise, compact, salt tolerant, and cold hardy. A recommended plant list, specifically selected for these attributes, is provided on pages 13-14.*
- ***Plant Arrangement:** Plant arrangements should optimize shape, colors, textures, and seasonal interest. One of the two concepts on page 11 should be used as a basis for design. When mature, plantings should cover 75-percent of the planted area.*
- ***New Plants Need More Water**: New plants need more water until they are established. Once established, water once per week for about an hour (deeply and infrequently).*
- ***Meet Municipal Zoning Requirements:** Individual municipalities may have additional requirements. See pages 15-16 for more specific information.*

PARK STRIP TREE GUIDELINES

- ***Adding Trees:** Trees should be added where no street trees are present and where there is ample room for them to grow.*
- ***Tree Spacing and Placement:** This will depend on the size of the tree and city requirements. Consider the width of the park strip and proximity to sidewalks, utilities, driveways, or other limiting features.*
- ***Trees and Utilities:** Trees should not be planted close to utilities. Planting trees underneath powerlines should be avoided, unless required by the municipality, in which case a small tree at maturity may be selected.*
- ***Maintaining Visibility:** Trees should not be planted where they obstruct vision driver/ pedestrian visibility — especially at street corners.*


IRRIGATION

IRRIGATION GUIDELINES

Overhead sprays should be replaced with more efficient irrigation to reduce water loss from evaporation, overspray, and runoff.

- ***Maximize Water Use Efficiency:*** *Drip irrigation should be used for park strip shrub areas. Bubblers or root watering systems should be used to supplement tree watering.*
- ***Drip Irrigation Design:*** *Drip systems should use integral inline drip emitters, and be installed below the ground cover material to hide them from vandalism and other damage. To reduce maintenance and prolong the lifespan of the irrigation system, use the following: check valves, air relief valves, pressure regulation, and filtration.*

ONGOING MAINTENANCE

"Flipped Equipped" is a maintenance instruction guide created by Salt Lake County for waterwise park strips. Facility managers and maintenance staff should refer to this guide regularly to keep waterwise landscape performing at its best. Seasonal maintenance tasks are detailed in the guide, including:

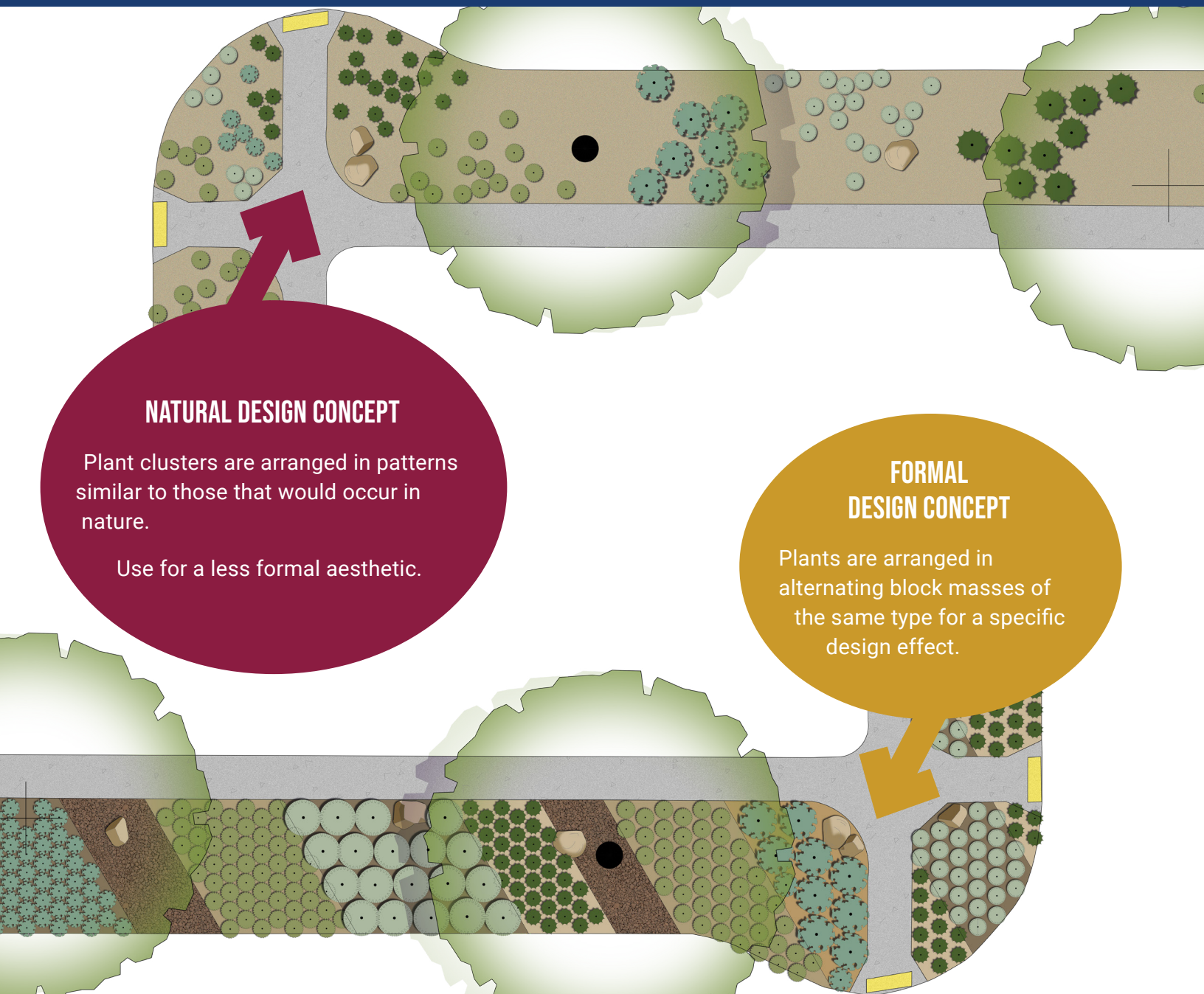
- *Maintaining and winterizing drip irrigation systems*
- *Addressing weeds with herbicide*
- *General seasonal tree maintenance*
- *Pruning of woody shrubs and perennial ornamental grasses*

PLANT ARRANGEMENTS

DESIGN CONCEPTS

The following are two examples of different styles which may be used for park strips that have been converted into water-conserving landscapes. Selecting a style will reflect the specific needs and desires of the particular facility and should consider the facility's architecture and site landscape.

Once your new landscape is installed and established, the value of a water-wise landscape and obvious reduction in water use and maintenance will be realized.Some of the unanticipated joys include new plants and unexpected splashes of vegetative color at your facility, a friendlier welcome for staff and visitors, and the pride in knowing the facility is contributing to a better environment!



NATURAL DESIGN CONCEPT

Plant clusters are arranged in patterns similar to those that would occur in nature.

Use for a less formal aesthetic.

FORMAL DESIGN CONCEPT

Plants are arranged in alternating block masses of the same type for a specific design effect.

WATER-WISE PARK STRIP DESIGN DOs

- *Add pathways in high-traffic street parking areas so visitors can easily access the sidewalk.*
- *Use colorful foliage with seasonal interest and use repetition to create order (color, size, shape, etc.),*
- *Choose plants based on water-wise principles.*
- *Aim for 75% plant coverage at maturity.*
- *Keep plant massings (groups of the same plant that are used for impact, drama, or harmony) below 20". Accent plants (individual plants that are used to show off a special feature such as a flowering display) should be under 36".*

WATER-WISE PARK STRIP DESIGN DON'Ts

- *Use irrigated turfgrass or artificial turf as landscaping materials.*
- *Use zero-scape landscape treatments which completely eliminate plants and cover the area with pavement, other paving and hardscape materials, gravel, rock, or stone.*
- *Water the park strip the same amount as your turfgrass.*
- *Block site lines from driveways or roads or interfere with city maintenance (plants should be no higher than 36").*

IN CONCLUSION

"There is not an entity or individual that is entirely responsible for, or is the exception to, water efficiency. We all need to do what we can to use water wisely. Whether that step is taking a shorter shower, updating infrastructures and appliances, fixing a leak, adjusting sprinkler timers, installing secondary water meters, using a tiered rate, running or following an education campaign, or installing water-wise landscaping. Each step helps us to create changes that will assist in reaching our goals in being water-wise. We do not conserve water because we have a wet or dry year, we conserve because, as Utahns, we are not wasteful."[1]

- UTAH'S REGIONAL M&I WATER CONSERVATION GOALS 2019 REPORT

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RESOURCES

Click on the resource links below to learn more about specific water-wise landscape design principles, resources, programs, funding, and classes.

Resources	Planning & Design	Turfgrass	Soil/ Topsoil/ Mulch	Plant Selection	Irrigation	Landscape Maintenance	Resources/ Programs/ Funding
Localscapes® Program	✓	✓	✓	✓	✓	✓	✓
Flipped Equipped - SLCounty Maintenance Instruction Guide						✓	
The Turfgrass Water Conservation Alliance		✓					
Utah State University Center for Water-efficient Landscaping	✓	✓	✓	✓	✓	✓	✓
Utah State University Extension Sustainable Turf		✓					✓
Utah State University Cooperative Extension Tree Browser				✓			
Utah State University Climate Center		✓			✓		✓
Conserve Water Utah Grass Removal Rebates		✓					✓
Soil Testing Laboratory at Utah State University			✓				
Topsoil Quality Guidelines for Landscaping			✓				
Water-Wise Plants for Utah Landscapes				✓			
Conservation Garden Park	✓			✓			
USDA Plant Hardiness Zone Map				✓			
Water-Wise Landscaping - Mulch			✓				
Flip Your Strip Program	✓						✓
Utah Water Savers	✓						✓
Salt Lake City Plant List and Hydrozone Schedule 2013, Salt Lake City Public Utilities	✓	✓	✓	✓	✓		✓
EPA Landscape Water Budget Tool – Download excel tool (xlsx)					✓		✓
EPA Landscape Water Budget Tool – Additional links and narratives					✓		✓
EPA Landscape Water Budget Data Finder – by Zip Code Peak Month ETo and Rainfall					✓		✓
EPA WaterSense – Weather-Based Irrigation Controllers, Soil Moisture-based Irrigation Controllers, Spray Sprinkler Bodies					✓		✓
Hunter Irrigation – Link to design literature and technical guides					✓		
Rain Bird Irrigation – Link to design guides					✓		
Brigham Young University – Topsoil Parameters			✓				
The Morton Arboretum Online Tree and Plant Search Tool				✓			
Cornell University Woody Plants Database				✓			
J. Frank Schmidt and Son Tree Reference Guide PDF Download				✓			
Missouri Botanical Gardens Plant Finder Tool				✓			

PARK STRIP PLANT RECOMMENDATIONS

ORNAMENTAL GRASSES

Botanical Name	Common Name	HxW (Inches)
Helictotrichon sempervirens	Blue Oatgrass	48x24
Schizachryrium scoparium 'Blaze'	Blaze Little Bluestem	36x30
Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Blue Grama	10x12
Pennisetum orientale 'Karley Rose'	Karley Rose Fountain Grass	36x36

PERENNIALS

Botanical Name	Common Name	HxW (Inches)
Penstemon pinifolius	Pineleaf Penstemon	12x12
Agastache cana 'Sinning'	Sonoran Sunset Hummingbird Mint	30x24
Zauschneria garrettii 'Orange Carpet'	Orange Carpet Fire Chalice	8x24
Hymenoxys acaulis	Sundancer Daisy	12x9
Geranium 'Rozanne'	Hardy Geranium	18x24
Echinacea purpurea	Purple Coneflower	36x18
Achillea millefolium	Common Yarrow	24x24
Eriogonum umbellatum	Sulfur Buckwheat	12x18
Yucca filamentosa 'Color Guard'	Color Guard Yucca	36x36
Perovskia atriplicifolia	Russian Sage	48x48
Sphaeralcea ssp.	Globemallow	24x12
Gaillardia aristata	Blanket Flower	24x24
Gaura lindheimeri	Whirling Butterflies	36x30
Iberis sempervirens	Candytuft	12x12
Iris hybrids	Bearded Iris	24x24
Rudbeckia fulgida	Black Eyed Susan	36x24

SHRUBS

Botanical Name	Common Name	HxW (Inches)
Caryopteris x clandonensis	Blue Mist Bluebeard	24x48
Lavandula angustifolia	English Lavender	30x24
Prunus besseyi 'Pawnee Buttes'	Pawnee Buttes Sand Cherry	18x60
Mahonia repens	Creeping Oregon Grape	24x60
Rhus aromatica 'Gro-low'	Gro-low Sumac	24x72
Juniperus horizontalis	Creeping Juniper	18x72
Rhus aromatica 'Autumn Amber'	Autumn Amber Sumac	12x48
Caragana pygmaea	Pygmy Pea Shrub	36x48
Potentilla fruiticosa	Shrubby Cinquefoil	36x36
Rosa mediland	Mediland Rose	36x60
Sedum spectable “Autumn Joy”	Autumn Joy Stonecrop	6x24

TREES

Botanical Name	Common Name	HxW (Feet)
Celtis occidentalis	Common Hackberry	50’x40’
Crataegus crus gali	Thornless Hawthorn	25’x25’
Ginkgo biloba	Ginkgo	45’x30’
Gleditsia triacanthos inermis	Thornless Honeylocust	45’x40’
Koelreuteria paniculata	Golden Raintree	35’x35’
Maackia amurensis	Amur Maackia	25’x15’
Syringa reticulata “Ivory Silk”	Japanese Lilac Tree	25’x20’
Tilia tomentosa	Silver Linden	60’x35’
Ulmus “Frontier”	Frontier Elm	35’x30’
Ulmus “Accolade”	Accolade Hybrid Elm	50’x40’
Ulmus parvifolia “Allee”	Allee Lacebark Elm	60’x35’
Zelkova serrata “City Sprite”	City Sprite Dwarf Zelkova	24’x18’
Zelkova serrata “Green Vase”	Green Vase Zelkova	50’x35’

ZONING ANALYSIS

The following analysis of landscape ordinances for all municipalities within Salt Lake County highlights specific requirements for consideration in the planning and design of the park strip landscapes. Be sure to know your municipality's requirements as you begin the process of "flipping your strip."

Municipality	Tree Spacing	Plant Coverage	Plant Height	Plant Species	Irrigation
Salt Lake City	30'	33% at maturity	22" max., 36" allowed as specimens	80% of species must be drought tolerant, no thorny plants	Bubblers/emitters for trees
South Salt Lake	30'	75%		Groundcover/ perennial plants	Bubblers/emitters for trees
Millcreek		75% at maturity		80% of species must be water conserving	Bubblers/emitters for trees
Taylorsville		25% at maturity	36" max.	Water conserving, no thorny plants	Drip recommended
Sandy			36" max. within 15 ft. of driveway	Water conserving	Drip encouraged
Murray		50% at planting	36" max.		
Midvale	30'		No tall plants	Water-efficient, no lawn	
Holladay		50%		Adaptable to local climate	Drip
West Valley City				Water conserving	Bubblers/emitters for trees
Kearns	30'	50% at maturity; six plants per 1,000 sf			Drip or bubbler
Magna		75% at maturity		1.25 trees per 1,000 sf	Bubblers/emitters for trees
South Jordan		50% at maturity			Drip or bubbler
West Jordan	25'	50% at maturity			Drip or bubbler
Cottonwood Heights	25'	50% at maturity	36" max.	Water-efficient, no lawn, no thorns	Drip or bubbler
Draper					Drip or deep watering for trees
Riverton		50% at maturity			Drip or bubbler
Bluffdale	30'				
Herriman	30'		24" max.	1 tree per 500 sf	
Unincorporated Salt Lake County		75% at maturity		80% of species must be water conserving, 1.25 trees per 1,000 sf	Drip or bubbler for trees

Municipality	Weed Barrier	Surface Treatments	Rocks & Boulders	Other	Code Reference
Salt Lake City	Must be porous if used	Bark or rock mulch; rock may not be used within 36" of street trees w/o irrigation; large park strips must not exceed 67% rock	Limited to 20" height, with 36" accent boulders; must be setback from curb and trees 24"		21A.48
South Salt Lake		Mulch, gravel, or stone		Min. one tree for every 1,000 sf of landscape	17.06.300
Millcreek		3" mulch or 2.5" rock			19.97
Taylorsville	Required	Organic mulch or rock	36" max. height; Boulders kept 30" away from street trees	12" clearance from water meters, 36" clearance from hydrants; pedestrian pathways across park strip encouraged	13.25.010.C
Sandy			36" max. height		21-25
Murray					17.68
Midvale			No tall rocks		17-7-11
Holladay					13.77
West Valley City		4" mulch			7-16-103
Kearns		3-4" mulch or gravel			19.97
Magna		3" mulch or gravel			19.97
South Jordan		3-4" mulch or gravel			16.30.040
West Jordan		3-4" mulch or gravel			13-13
Cottonwood Heights		3" mulch or gravel			19.70, 14.44.020
Draper					9-23, 17-5-060
Riverton		3-4" mulch or gravel			18.235.050
Bluffdale					
Herriman		No mulch in park strip			7-9-7, 10-23
Unincorp-orated Salt Lake County		3" mulch or gravel			19.77

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LANDMARK DESIGN

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