

CHAPTER 21-25. LANDSCAPING STANDARDS

Sec. 21-25-4. Water Efficient Landscaping.

(a) *Purpose.*

- (1) The City Council has found that:
 - a. Water is an increasingly scarce resource.
 - b. Nearly two-thirds of the City's culinary water resources are used for outdoor use, including watering landscapes.
 - c. The City desires to promote the design, installation, and maintenance of landscapes that are both attractive and water efficient.
- (2) Furthermore, the City Council has determined that it is in the public's interest to conserve public water resources and promote water efficient landscaping. The purpose of this section is to protect and enhance the community's environmental, economic, recreational, and aesthetic resources by promoting efficient use of water in the community's landscapes, reduce water waste, and establish a structure for designing, installing, and maintaining water efficient landscapes throughout the City.

(b) *Definitions Applicable to Section.* The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

- (1) *Administrative standards* means the set of rules, procedures, and requirements set forth in a landscape ordinance associated with making permit application, assembling materials for public review, meeting the requirements of the landscape ordinance, seeking approvals, enforcement, conducting site inspections, and filing reports.
 - (2) *Bubbler* means an irrigation head that delivers water to the root zone by flooding the planted area, usually measured in gallons per minute. Bubblers exhibit a trickle, umbrella, or short stream pattern.
 - (3) *Drip emitter* means a drip irrigation fitting that delivers water slowly at the root zone of the plant, usually measured in gallons per hour.
 - (4) *Evapotranspiration (ET)* means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time, expressed in inches per day, month, or year. (See also Reference evapotranspiration rate.)
 - (5) *Extra-drought tolerant plant* means a plant that can survive without irrigation throughout the year once established, although supplemental water may be desirable during drought periods for improved appearance and disease resistance.
 - (6) *Ground cover* means material planted in such a way as to form a continuous cover over the ground that can be maintained at a height not more than 12 inches.
 - (7) *Hardscape* means patios, decks, and paths; does not include driveways, parking lots, and sidewalks.
 - (8) *Irrigated landscaped area* means all portions of a development site to be improved with planting and irrigation. Natural open space areas shall not be included in the irrigated landscaped area.
 - (9) *Irrigation audit* means an on-site survey of the irrigation system, conduct of a catch-can test to measure system efficiency, and the generation of an irrigation schedule and recommendations to improve irrigation efficiency.
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Exhibit "B"

- (10) *Irrigation contractor* means a person who has been certified by the Irrigation Association to install irrigation systems or as otherwise approved by the Public Utilities Department.
 - (11) *Irrigation designer* means a person who has been certified by the Irrigation Association to prepare irrigation system designs, or a landscape architect, or as otherwise approved by the Public Utilities Department.
 - (12) *Irrigation efficiency* means the measurement of the amount of water beneficially applied, divided by the total amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system hardware characteristics and management practices.
 - (13) *Irrigation Plan* means the plan that shows the components of the irrigation system with water meter size, backflow prevention, rain shut-off device, precipitation rates, flow rate and operating pressure for each irrigation zone, and identification of all irrigation equipment.
 - (14) *Landscape architect* means a person who holds a certificate to practice landscape architecture in the State of Utah.
 - (15) *Landscape designer* means a person who has been certified by the Utah Nursery and Landscape Association to prepare landscape plans or as otherwise approved by the Public Utilities Department.
 - (16) *Landscape Education Package* means a package of documents that is intended to inform and educate water users in the City about water efficient landscapes. The package includes the principles of water efficient landscape design, a listing of water conserving plants, a listing of certified landscape designers, landscape architects, certified irrigation designers, certified irrigation contractors, an information packet about various area demonstration projects, City's water rates, billing format for water use, and the economics of installing and maintaining a water efficient landscape.
 - (17) *Landscape Irrigation Auditor* means a person who has been certified by the Irrigation Association to conduct a landscape irrigation audit or as otherwise approved by the Public Utilities Department.
 - (18) *Landscape Plan Documentation Package* means the preparation of graphic and written criteria, specifications, and detailed plans to arrange and modify the effects of natural features such as plantings, ground and water forms, circulation, walks and other features to comply with the provisions of this section. The Landscape Plan Documentation Package shall include a project data sheet, a Planting Plan, an Irrigation Plan, a Grading Plan, a soils report, a landscape water allowance, and an irrigation schedule.
 - (19) *Landscape water allowance* means, for design purposes, the upper limit of annual applied water for the established landscaped area. The landscape water allowance is based upon the local reference evapotranspiration rate, the ET adjustment factor, and the size of the landscaped area.
 - (20) *Landscaped Zone* means a portion of the landscaped area having plants with similar water needs, areas with similar microclimate (i.e., slope, exposure, wind, etc.), and soil conditions and areas that will be similarly irrigated. A landscape zone can be served by one irrigation valve or a set of valves with the same schedule.
 - (21) *Landscaping* means any combination of living plants such as trees, shrubs, vines, ground covers, flowers, turf or ornamental grass; natural features such as rock, stone, or bark chips; and structural features, including, but not limited to, fountains, reflecting pools, outdoor art work, screen walls, fences, or benches.
 - (22) *Mulch* means any material such as bark, wood chips, rocks/stones, or other similar materials left loose and applied to the soil.
 - (23) *Native Vegetation* means plant species indigenous to the area prior to settlement including but not limited to grasses, shrubs, and trees.
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- (24) *Non-drought tolerant plant* means a plant that will require regular irrigation for adequate appearance, growth, and disease resistance.
- (25) *Planting Plan* means a plan which clearly and accurately identifies and locates new and existing trees, shrubs, ground covers, turf areas, driveways, sidewalks, hardscape features, and fences.
- (26) *Precipitation rate* means the rate at which water is applied per unit of time, usually measured in inches per hour.
- (27) *Rain shut-off device* means a device wired to an automatic controller that shuts off the irrigation system when it rains.
- (28) *Reconstructed landscaping* means any existing approved landscaping and irrigation that is removed and replaced as part of new construction.
- (29) *Reference evapotranspiration rate* or *ET* means a standard measurement of environmental parameters that affect the water use of plants. ET is expressed in inches per day, month or year and is an estimate of the evapotranspiration of a large field of four- to five-inch tall, cool season grass that is well watered. The average growing season ET for the Sandy City area is 31.18 inches. (See also Evapotranspiration.)
- (30) *Runoff* means irrigation water that is not absorbed by the soil or landscape area to which it is applied and that flows onto other areas.
- (31) *Soils report* means a report by a soils laboratory indicating soil types, soil depth, uniformity, composition, bulk density, infiltration rates, and pH for the top soil and subsoil for a given site. The soils report also includes recommendations for soil amendments.
- (32) *Spray sprinkler* means an irrigation head that sprays water through a nozzle.
- (33) *Stream sprinkler* means an irrigation head that projects water through a gear rotor in single or multiple streams.
- (34) ***Turf (or lawn)* means nonagricultural land planted in closely mowed and managed grasses, not to include native or ornamental grasses.**
- (35) *Vegetative Coverage* means the ground level surface area covered by the exposed leaf area of a plant or group of plants at full maturity. The area covered by the exposed leaf area of a tree or stand of trees shall not be counted towards vegetative coverage.
- (36) *Waste of water* includes, but is not limited to:
- a. The use of water for any purpose, including landscape irrigation, that consumes or for which is applied substantial amounts of excess water beyond the reasonable amount required by the use, whether such excess water remains on the site, evaporates, percolates underground, goes into the sewer system, or is allowed to run into the gutter or street. Every water consumer is deemed to have under his control at all times the water lines and facilities, other than water utility facilities, through which water is being supplied and used to his premises, and to know the manner and extent of his water use and excess runoff.
 - b. The excessive use, loss, or escape of water through breaks, leaks, or malfunctions in the water user's plumbing for any period of time after such escape of water should reasonably have been discovered and corrected. It shall be presumed that a period of 48 hours after the water user discovers such break, leak, or malfunction or receives notice from the City of such condition, whichever occurs first, is a reasonable time to correct such condition.
 - c. Washing sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate fire, health, or safety hazards.
- (37) *Water check*. See Irrigation audit.
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- (38) *Water conserving plant* means a plant that can generally survive with available rainfall once established, although supplemental irrigation may be needed or desired during the growing season.
- (39) *Water use efficiency review* means an on-site survey and measurement of irrigation equipment and management efficiency and the generation of recommendations to improve efficiency.
- (40) *Xeriscape* means a landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques (as the use of drought tolerant plants, mulch, and efficient irrigation).
- (c) *Commercial, Industrial, Institutional, and Residential Development.*
- (1) *Applicability.*
- a. The provisions of this Subsection (c) shall apply to landscaping for all new and reconstructed landscaping for public agency projects, private commercial and industrial projects, institutional projects, developer-installed landscaping in multifamily residential projects, and developer-installed landscaping in single-family projects. These developments require project review and approval by the City through a site plan or modified site plan review. **With a modified site plan, only the disturbed areas impacted by the proposed site modifications are required to adhere to all requirements of this section.**
- b. This Subsection (c) does not apply to homeowner-provided landscaping at single-family projects, nor to registered historical sites.
- (2) *Documentation to be Submitted for Plan Approval.* A Landscape Plan Documentation Package shall be submitted to and approved by the Public Utilities Department prior to the issuance of any permit. A copy of the approved Landscape Plan Documentation Package shall be provided to the property owner or site manager and to the local retail water purveyor. The Landscape Plan Documentation Package shall be prepared by a registered landscape architect or a landscape designer. The Irrigation Plan shall be prepared by an irrigation designer or a landscape architect. The Landscape Plan Documentation Package shall consist of the following items:
- a. *Project Data Sheet.* The Project Data Sheet shall contain the following:
1. Project name and address;
 2. Applicants or applicant's agent's name, address, phone number, and fax number;
 3. Landscape designer/landscape architect's name, address, phone number, and fax number; and
 4. Landscape contractor's name, address, phone number, and fax number.
- b. *Planting Plan.* A detailed Planting Plan shall be drawn at a scale that clearly identifies the following:
1. Location of all plant materials, a legend with botanical and common names, and size of plant materials;
 2. Property lines and street names;
 3. Existing and proposed buildings, walls, fences, light poles, utilities, paved areas, and other site improvements;
 4. Existing trees and plant materials to be removed or retained; and
 5. Designation of landscape zones.
- c. *Irrigation Plan.* A detailed Irrigation Plan shall be drawn at the same scale as the Planting Plan and shall contain the following information:
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Exhibit "B"

1. Layout of the irrigation system and a legend summarizing the type and size of all components of the system, including manufacturer name and model numbers;
 2. Static water pressure in pounds per square inch (psi) at the point of connection to the public water supply; and
 3. Flow rate in gallons per minute and design operating pressure in psi for each valve and precipitation rate in inches per hour for each valve with sprinklers.
- d. *Grading Plan.* A Grading Plan shall be drawn at the same scale as the Planting Plan and shall contain the following information:
1. Property lines and street names, existing and proposed buildings, walls, fences, utilities, paved areas, and other site improvements; and
 2. Existing and finished contour lines and spot elevations as necessary for the proposed site improvements.
- e. *Soils Report.* A soils report will be required where irrigated landscaped areas consisting of grass or similar turf exceed 33 percent of the overall landscaped area. The soils report shall describe the depth, composition, and bulk density of the top soil and subsoil at the site and shall include recommendations for soil amendments. The Planting Plan shall incorporate the recommendations of the soils report into the planting specifications.
- f. *Landscape Water Allowance.* The annual landscape water allowance shall be calculated using the following equation:

$$\text{Landscape Water Allowance} = \text{ET} \times 1.0 \times 0.62 \times A$$

Where landscape water allowance is in gallons per growing season:

ET	=	Reference Evapotranspiration in inches per growing season
1.0	=	ET adjustment factor, 100% of turf grass ET (growing season adjustment factor)
0.62	=	Conversion factor
A	=	Total irrigated landscape area in square feet

- g. *Irrigation Schedule.* A monthly irrigation schedule shall be prepared that covers the initial 90-day plant establishment period and the typical long-term use period. This schedule shall consist of a table with the following information for each valve:
1. Plant type (e.g., turf, trees, low water use plants);
 2. Irrigation type (e.g., sprinklers, drip, bubblers);
 3. Flow rate in gallons per minute;
 4. Precipitation rate in inches per hour (sprinklers only);
 5. Run times in minutes per day;
 6. Number of water days per week; and
 7. Cycle time to avoid runoff.
- (3) *Landscape Design Standards.*
- a. *Plant Selection.*

1. Plants selected for landscape zones shall consist of plants that are well suited to the microclimate and soil conditions at the project site. Plants with similar water needs shall be grouped together as much as possible in landscape zones.
 2. For projects located at the interface between urban areas and natural open space (non-irrigated), extra drought tolerant plants shall be selected that will blend with the native vegetation and are fire-resistant or fire-retardant. Plants with low fuel volume or high moisture content shall be emphasized. Plants that tend to accumulate excessive amounts of dead wood or debris shall be avoided.
 3. Areas with slopes greater than 25 percent shall be landscaped with deep rooting water conserving plants **or native vegetation** for erosion control and soil stabilization. Irrigation devices are limited to drip emitters, bubblers, or sprinklers with a maximum precipitation rate not to exceed 0.85 inches per hour. Turf is not permitted on any slope greater than 25 percent.
 4. Parkstrips and other landscaped areas less than eight feet wide shall be landscaped with water conserving plants. Turf is prohibited in these areas.
 5. Only within commercial, industrial, institutional, and common areas of residential development, the amount of turf area shall not exceed 20% of the total landscaped area, not including **active** park and recreation areas (such as sports fields, private/public park, etc.). Turf areas shall be concentrated in a central open shape and area. **The type of turf installed should be a water-wise variety (not including sports fields)**. To the extent reasonably practicable, turf **should** be free from obstructions (trees, signs, posts, valve boxes, etc.).
 6. Non-turf areas of the landscape area shall **utilize water conserving plants and/or native vegetation that** have a minimum vegetative coverage of 30 percent at initial planting, **excluding non-disturbed native vegetation** areas within a 30 percent or greater slope.
 - b. *Mulch*. After completion of all plantings, all non-turf areas shall be covered with a minimum layer of four inches of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material shall not be placed under the mulch.
 - c. *Soil Preparation*. Soil preparation shall be suitable to provide healthy growing conditions for the plants and to encourage water infiltration and penetration. Soil preparation shall include scarifying the soil to a minimum depth of six inches and amending the soil with organic material as per specific recommendations of the landscape designer/landscape architect based on the soils report.
- (4) *Irrigation Design Standards*.
- a. *General*. Irrigation design standards for this section shall be as outlined in the latest version of the Minimum Standards for Efficient Landscape Irrigation System Design and Installation as specified in the Sandy City Standard Specifications and Details for Municipal Construction. In addition, the following portions of this Subsection (4) shall also be applicable. All irrigation shall be appropriate for the designated plant material to achieve the highest water efficiency.
 - b. *Landscape Water Meter*. A water meter and backflow prevention assembly for landscaping that are in compliance with State Code shall be installed after the City meter and outside the City maintained meter box on the customer's service line. The size of the meter shall be determined based on irrigation demand.
 - c. *Pressure Regulation*. A pressure regulating valve shall be installed and maintained by the consumer if the static service pressure exceeds 80 pounds per square inch (psi). The pressure regulating valve shall be located between the landscape water meter and the first point of water
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- use, or first point of division in the pipe, and shall be set at the manufacturer's recommended pressure for sprinklers.
- d. *Automatic Controller.* All irrigation systems shall include an electric automatic controller with multiple program and multiple repeat cycle capabilities and a flexible calendar program. All controllers shall be equipped with an automatic rain shut-off device.
 - e. *Slopes Exceeding 30 Percent.* On slopes exceeding 30 percent, the irrigation system shall consist of drip emitters, bubblers, or sprinklers with a maximum precipitation rate of 0.85 inches per hour and adjusted sprinkler cycle to eliminate runoff.
 - f. *Valves.* Each valve shall irrigate a landscape zone with similar site, slope and soil conditions, and plant materials with similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. In addition, drip emitters and sprinklers shall be placed on separate irrigation valves.
 - g. *Drip Emitters/Bubbler.* Drip irrigation or bubblers shall be used except in turf areas. Drip emitters or a bubbler shall be provided for each tree, where practicable. Bubblers shall not exceed one and one-half gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the Public Utilities Department due to the limited number of trees on the project site.
 - h. *Sprinklers.* Sprinklers shall have matched precipitation rates with each control valve circuit.
 - i. *Check Valves; Pressure Compensating Valves and Sprinklers.* Check valves shall be required where elevation differences will cause low head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure will occur within the irrigation system due to elevation differences.
 - j. *Drip Irrigation Lines.* Drip irrigation lines shall be placed underground or otherwise permanently covered, except for drip emitters and where approved as a temporary installation. Drip irrigation systems shall be equipped with a pressure regulator, filter, flush end assembly, and any other appropriate components.
 - k. *Operation Time for Irrigation Zones with Overhead Spray/Stream Sprinklers.* Irrigation zones with overhead spray or stream sprinklers shall be designed to operate between 6:00 p.m. and 10:00 a.m. to reduce water loss from wind and evaporation. Drip or bubbler zones are excluded.
 - l. *Program Valves.* Program valves for multiple repeat cycles where necessary to reduce runoff, particularly slopes and soils with slow infiltration rates.
- (5) *Plan Review, Construction Inspection, and Post-Construction Monitoring.*
- a. As part of the site plan approval process, a copy of the Landscape Plan Documentation Package shall be submitted to the City for review and approval before construction begins. With the Landscape Plan Documentation Package, a copy of the Landscape Water Allowance Worksheet shall be completed by a landscape designer and submitted to the City.
 - b. All Landscape Plan Documentation Packages submitted must be certified by a licensed landscape architect or an approved landscape designer. The Irrigation Plan must be prepared by an approved irrigation designer or a landscape architect.
 - c. All landscape irrigation systems shall be installed by an irrigation contractor. The person representing the contracting firm shall be a full-time employee of the firm and shall be directly involved with the project, including at least weekly site visits during construction.
 - d. All installers, designers, and auditors shall meet State and local license, insurance, and bonding requirements and be able to show proof of such upon demand.
 - e. During construction, site inspection of the landscaping may be performed by the City.
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- f. Following construction and prior to the release of the secondary bond guarantee posted for the project, an inspection shall be scheduled with the Public Utilities Department to verify compliance with the approved Landscape and Irrigation Plans. A Certificate of Substantial Completion, as defined in the Sandy City Standard Specifications and Details of Municipal Construction Manual, shall be completed by the property owner, contractor, or landscape designer/landscape architect and submitted to the City.
 - g. Following construction and prior to release of the secondary bond guarantee posted for the project, a water use efficiency review will be conducted by a landscape irrigation auditor. The auditor shall be independent of the contractor, design firm, and owner/developer of the project. The water performance audit will verify that the irrigation system complies with the minimum standards required by this section. The minimum efficiency required for the irrigation system is 60 percent for distribution efficiency for all fixed spray systems and 70 percent distribution efficiency for all rotor systems. The auditor shall furnish a certificate to the City, designer, installer, and owner/developer certifying compliance with the minimum distribution requirements, and an irrigation schedule. Compliance with this provision is required before the City will release the bond for the project.
- (d) *Residential (Single-Family) Development.*
- (1) The provisions of this Subsection (d) apply to homeowner installed landscaping for all new and reconstructed landscaping for single-family residential dwellings. This Subsection (d) does not apply to residential developments with developer installed landscapes, nor to registered historical sites.
 - (2) *Provisions for New or Reconstructed Landscapes.*
 - a. *Landscape Education Package.* A copy of the Landscape Education Package shall be given to all new single-family homeowners by the City at the time of application for a building permit and all new or modified water account owners. The Landscape Education Package, prepared by the Public Utilities Department, shall consist of the following items:
 - 1. Principals of water efficient landscape design;
 - 2. List of water conserving plants;
 - 3. List of certified landscape designers, certified irrigation system designers and suppliers, and certified landscape irrigation contractors;
 - 4. Information packet about the various area demonstration gardens; and
 - 5. Information packet about the City's water rate schedule, billing format for water use, and the economics of installing and maintaining a water efficient landscape.
 - b. *Post Installation.* After the landscaping has been installed, the homeowner is encouraged to notify the Public Utilities Department of its completion and request a listing of landscape auditors who can perform a water use efficiency review, also called a water check. The water check will determine the irrigation system efficiency, make recommendations for improvements, and provide the homeowner with an irrigation schedule.
 - (3) Parkstrips and other landscaped areas less than eight feet wide are encouraged to be landscaped with water conserving plants and not turf.
- (e) *Prohibited Watering Practices.*
- (1) *Waste of Water.* Regardless of the age of a development (commercial, industrial, office, or residential), water shall be properly used. Waste of water is prohibited.
 - (2) *Restricted Watering Time.* Watering time is restricted as specified in Title 8.
- (f) *Enforcement, Penalty for Violations.*
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Exhibit "B"

- (1) *Enforcement Authority.* The Public Utilities Director and other employees of the Public Utilities Department are authorized to enforce all provisions of this section.
- (2) *Violation of this section.* Any consumer who violates any provisions of this section shall be issued a written notice of violation. The written notice shall be affixed to the property where the violation occurred and mailed to the consumer of record and to any other person known to the City who is responsible for the violation and its corrections. Such notice shall describe the violation and order that it be corrected, cured, or abated immediately or within such specified time as the City determines is reasonable under the circumstances. Failure to receive such notice shall not invalidate further actions by the City. If the order is not complied with, the City may terminate water service to the customer and/or issue a Class C misdemeanor citation.

(LDC 2008, § 15A-25-04; Ord. No. 10-04, 2-19-2010; Ord. No. 09-17, 7-31-2010; Ord. No. 21-08 , § 1(Exh. A), 3-23-2021)