

DRAFT

Water Efficient Landscape Ordinance

Ordinance # _____

Introduction. Landscapes are essential to the quality of life in southern Utah. They provide areas of recreation and can enhance the environment. In addition, landscapes offer people respite and psychological benefits as well as offer a cultural and a social framework. Furthermore, the City Council has determined that it is in the public interest to conserve the public's water resources and to promote water efficient landscaping. With careful planing and maintenance, our landscapes can be safe, attractive, useful and environmentally sound.

Section 1. PURPOSE AND INTENT

- A. To protect and enhance the community's environmental, economic, recreational, and aesthetic resources by promoting efficient use of water in the community's landscapes.
- B. To establish a structure for the design, installation, and maintenance of water efficient landscapes throughout the county.
- C. To assist in reducing overall per capita water use in the county by 25 percent by the year 2050. Water resources are limited and conservation efforts must be implemented to sustain growth.
- D. To reduce irrigation water waste by establishing efficient landscape and irrigation practices. Outdoor water use comprises over 60 percent of the county's water.
- E. To reduce peak summer usage and delay the need for new capital facilities.

Section 2. DEFINITIONS

For the purposes of this ordinance, the following definitions shall have the meanings herein prescribed:

- A. **Application Rate:** shall mean the amount of water applied to a given area over a given time, usually measured in inches per hour.
- B. **Bubbler:** shall mean 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.

- C. **Backflow:** means any unwanted flow of used or non-potable water or substance from any domestic, industrial or institutional piping system into the pure, potable water distribution system. The direction of flow under these conditions is in the reverse direction from that intended by the system and normally assumed by the owner of the system.
- D. **Backflow Prevention Device/Assembly:** A safety device used to prevent pollution or contamination of a water supply due to the reverse flow of water from an irrigation system.
- E. **Check Valves:** means a valve located under a sprinkler head to hold water in the system so it does not permit drainage from the lower elevation sprinklers when not in use.
- F. **Contract:** shall mean a binding agreement between two or more persons or parties.
- G. **Cycling:** shall mean preventing runoff by breaking up the irrigation time into several sections. For example, if the amount of time required to run the irrigation system is 30 minutes, then run the system for 10 minutes wait about an hour and run the system again for another 10 minutes repeating this pattern until the required irrigation time is complete.
- H. **Development:** means the construction, erection, or emplacement of one or more buildings, structures, or surface improvements on lands which is a premises in order to establish or expand a principal residential or nonresidential use.
- I. **Drip Emitter:** shall mean drip irrigation fittings that deliver water slowly at the root zone of the plant, usually measured in gallons per hour.
- J. **Expansions:** Additions or expansions to existing homes.
- K. **Extra-Drought Tolerant Plants:** shall mean a plant that can generally survive with available rainfall once established although supplemental irrigation may be needed or desirable during spring and summer months.
- L. **Fixed Spray:** shall mean the pattern of spray from an irrigation head nozzle which is fixed and non-changing.
- M. **Flow Rate:** shall mean the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).
- N. **Grading Plan:** shall mean a plan showing all finish grades, spot elevations as necessary and existing and new contours within the developed landscaped area.

- O. **Ground Cover:** shall mean live and mineral materials used in such a way as to form a continuous cover over the ground that can be maintained at a height of not more than twelve (12) inches. Living ground cover may include: vegetative vines, low-spreading shrubs, perennial flowering or foliage plants. Mineral ground cover may include: rocks, boulders, gravel, or brick.
- P. **Hardscaped:** shall mean patios, decks, and paths. Does not include driveways and sidewalks.
- Q. **Certified Irrigation Contractor (CIC):** shall mean a person who has been certified by the Irrigation Association (IA) to install irrigation systems and shall meet state and local license, insurance and bonding requirements, and shall be able to show proof of such upon demand. A Certified Irrigation Contractor installs, repairs and maintains irrigations systems.
- R. **Certified Irrigation Designer (CID):** shall mean a person who has been certified by the Irrigation Association (IA) to design irrigation systems and who meets state and local license, insurance and bonding requirements, and who is able to show proof of such upon demand. A Certified Irrigation Designer evaluates the site conditions and determines the most effective irrigation equipment and design methods. The objective of a CID is to establish specifications and design drawings for the construction of an irrigation project.
- S. **Irrigated Landscape Area:** shall mean all portions of a development site to be improved with planting and irrigation. Natural open space areas shall not be included in the Irrigated Landscape Area.
- T. **Irrigation Efficiency:** shall mean 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.
- U. **Irrigation Plan:** shall mean the plan that shall show the components of the irrigation system with water meter size, backflow prevention, precipitation rates, flow rate and operating pressure for each irrigation circuit, and identification of all irrigation equipment.
- V. **Landscape Architect:** shall mean a person who holds a license to practice landscape architecture in the state of Utah and shall meet state and local license, insurance and bonding requirements, and be able to show proof of such upon demand.
- W. **Landscape Designer:** shall mean a person who is a designer of landscapes, UNLA certified, and shall meet state and local license, insurance and bonding requirements, and be able to show proof of such upon demand.
- X. **Landscape Irrigation Auditor:** shall mean a person who has been certified by the Irrigation Association to conduct a landscape irrigation audit and shall meet state and local license, insurance and bonding requirements, and be able to show proof of such upon demand.

- Y. **Landscape Education Package:** A package of documents which is intended to inform and educate new homeowners in the City about water efficient landscapes. The package includes the principles of water efficient landscape design, information about the Water Check program, a listing of Water Conserving Plants, a listing of Certified Landscape Designers, Certified Irrigation Designers and certified Irrigation Contractors, an information packet about Washington County Water Conservancy District's Demonstration Garden and workshops, and information packet about the City's water rates, billing format for water use, and the economics of installing and maintaining a water efficient landscape.
- Z. **Landscape Plan Documentation Package (LPDP):** shall mean 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 provisions of this ordinance. The LPDP shall include a project data sheet, a Planting Plan, an Irrigation Plan, a Grading Plan, a Soils Report, an Irrigation Schedule, Suggested Plant List (identifying extra drought-tolerant and fire-resistant plants).
- AA. **Landscape Zone:** shall mean 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.
- BB. **Landscaping:** shall mean the improvement of property through the addition of plants and eradication of weeds and other deleterious material. Landscaping includes any combination of living plants, such as trees, shrubs, vines, ground covers, flowers, or 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, benches, or berms. All elements of the landscaping shall be combined in a harmonious manner to make the land more attractive for users, to screen unattractive uses, or to act as buffers to visually separate different types of uses.
- CC. **Microclimate:** shall mean an area within the overall landscape which shares similar elements such as slope, exposure, wind, soil conditions, etc.
- DD. **Mulch:** Any organic material such as leaves, bark, wood chips, straw, or inorganic material such as crushed stone or gravel, or other materials left loose and applied to the soil surface for the beneficial purpose of reducing evaporation.
- EE. **New Development:** means for development for which landscaping is required, which is all development that meets Section 3A criteria.

- FF. **Planting Plan:** shall mean a plan that shall clearly and accurately identify and locate new and existing trees, shrubs, ground covers, turf areas, driveways, sidewalks, hardscape features, and fences, and which includes a planting schedule showing graphic symbols (if applicable), botanical names, common names, quantity and plant size.
- GG. **Precipitation Rate:** shall mean the depth of water applied to a given area, usually measured in inches per hour.
- HH. **Pressure Regulating Valve:** shall mean a device that regulates the pressure (psi) in an irrigation system to maximize efficiency in the system.
- II. **Rehabilitated or Renovation Landscaping:** shall mean site alteration of more than 75%.
- JJ. **Rotor Spray:** shall mean the pattern of spray from the head is a single, rotating stream of water.
- KK. **Runoff:** shall mean irrigation water that is not absorbed by the soil or landscape area to which it is applied and which flows onto other area.
- LL. **Secondary or Reuse Water:** shall mean non-potable water suitable for irrigation purposes. This water would be available in a pressurized system.
- MM. **Soils Report:** shall mean a report by a soils laboratory indicating soil type(s), soil depth, uniformity, composition, bulk density, infiltration rates, and pH for the topsoil and subsoil for a given site. The soils report also includes recommendations for soil amendments.
- NN. **Static Water Pressure:** means the water supply pressure when water is not flowing.
- OO. **Turf:** shall mean a surface layer of earth containing mowed grass with its roots.
- PP. **Valve:** means a device used to control the flow of water in the irrigation system.
- QQ. **Water Conserving Plants:** A plant that tolerates our arid climate, and has desirable landscape characteristics which remain desirable under limited water.
- RR. **Water Check:** A series of tests ran on the irrigation system to determine the Irrigation Efficiency, Precipitation Rate and Water Pressure of the system.
- SS. **Weed Control Barriers:** shall mean porous landscape fabric used to prevent deep rooting of weeds.
- TT. **Weed Prevention Treatment:** shall mean applying pre-emergence to control germination of weeds.

Section 3. APPLICABILITY**A. Applicability & Exemptions**

(1) The provisions of this ordinance shall apply to all New Development, Expansions or Renovations of existing landscapes and rehabilitated landscaping for Public agency projects, Private Development Projects, developer-installed landscaping in multi-family residential projects, developer-installed landscaping in single-family projects that require a review process and to all previously recorded subdivisions where a contract has been signed with the Washington County Water Conservancy District stating that such ordinance may apply retroactively.

(2) Homeowner-provided landscaping at single-family residence, duplex and triplex lots and registered historical sites are excluded.

(3) Secondary Systems. Sections 4, 5, 6 and 8 of this ordinance do not apply to secondary water systems. However, it is to the homeowner's benefit, to have the developer follow the standards in this ordinance and have a Water Check performed on completion of the landscape.

B. Required Documentation

(1) Developers and landscape service providers can obtain a Landscape Plan Documentation Packet (LPDP) from the City's water conservation officer or at Washington County Water Conservancy District to assist them in providing a water-efficient landscape.

C. Recommendations

(1) Homeowners of single-family homes, duplex or triplex, who are exempt from this ordinance, are encouraged to obtain a Landscape Education Package from the City's water conservation officer or at Washington County Water Conservancy District to assist them in establishing and maintaining a water-efficient landscape.

Section 4. LANDSCAPE DESIGN & INSTALLATION STANDARDS

The following standards shall be implemented in the design and installation of the landscaping.

A. Designer and Installer Qualifications

(1) All landscape designs must be submitted by a Landscape Architect or a Utah Nursery and Landscape Association (UNLA) certified Landscape Designer.

(2) Installation of all new landscapes shall be supervised by a Landscape Architect or a UNLA certified Landscape Designer. 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 installation.

B. Landscape Design Standards**(1) Plant selection and Placement**

(a) Plants selected for landscape areas shall consist of plants that are well-suited to the microclimate and soil conditions at the project site.

(b) Plants with similar water needs shall be grouped together, referred to as Landscape Zone.

(c) 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.

(d) Areas with slopes greater than 30 percent shall be landscaped with Water Conserving Plants for erosion control and soil stabilization. See Section 4B(f) for allowable irrigation methods. Turf is shall not be allowed in these areas.

(2) Mulch

After completion of all planting, all irrigated non-turf areas shall be covered with a minimum layer of three (3) inches of Mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous landscape fabric (i.e. plastic sheeting) shall not be placed under the mulch.

(3) 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 (6) inches and amending the soil with organic material as per specific recommendations of the Landscape Designer/Landscape Architect based on the Soils Report.

C. **Irrigated Landscape Area**

The total area of landscaping requiring irrigation on any individual lot shall be restricted to a maximum of five thousand (5,000) square feet. For planned unit developments, the total area of landscaping requiring irrigation for all common areas, limited common areas and individual units shall be restricted to an average area per unit of five thousand (5,000) square feet.

D. **Non-irrigated Areas**

Areas which are not treated as set forth in sections 4C, above, shall be maintained as undisturbed native open space or, if disturbed, shall be Hardscaped including Weed Control Barriers, or otherwise treated with a Weed Prevention Treatment.

Section 5. IRRIGATION DESIGN & INSTALLATION STANDARDS

A. **Designer & Installer Qualifications**

(1) All new landscape irrigation systems shall be designed by an licensed Landscape Architect or an irrigation designer certified by the Irrigation Association (IA).

(2) All new landscape irrigation systems shall be installed by a certified 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.

(3) 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.

B. **Irrigation Design Standards**

(1) Irrigation design standards for this ordinance shall be as outlined in the

latest version of the “Minimum Standards for Efficient Landscape Irrigation System Design and Installation” set forth by the Irrigation Association. In addition, the following shall apply:

(a) Landscape Water Meter. A water meter that is in compliance with state code shall be installed for landscape irrigation systems and the landscape water meter shall be separate from the water meter and back-flow prevention assembly installed for indoor uses. The size of the meter shall be determined based on irrigation demand.

(b) Backflow Prevention Assembly. A back-flow prevention assembly that is in compliance with state code shall be installed for landscape irrigation systems and the back-flow prevention assembly shall be separate from the water meter and back-flow prevention assembly installed for indoor uses.

(c) Filter/Filtration. A Filtration device shall be installed for the long-term efficiency of a drip system.

(d) 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 use, or first point of division in the pipe, and shall be set at the manufacturer’s recommended pressure for sprinklers.

(e) Automatic Controller. All irrigation systems shall include an electric automatic controller with multiple program and multiple repeat cycle capabilities and a flexible calendar program.

(f) Slope Adjustments. On slopes exceeding 30%, the irrigation system shall consist of drip emitters, sub-surface drip, bubblers or sprinklers. Bubblers or sprinklers. Sprinklers must have a maximum precipitation rate of 0.85 inches per hour and an adjusted sprinkler cycle to eliminate runoff.

(g) Valve Selection and Use. Each valve shall irrigate a landscape 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. Drip emitters and sprinklers shall be placed on separate valves.

(h) Control Valve Circuit Synchronization. Sprinklers shall have matched precipitation rates with each control valve circuit.

(i) Elevation Adjustments. Irrigation systems shall be designed to minimize low head line drainage. Otherwise, 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 occurs within the irrigation system due to elevation differences.

(j) Tree Irrigation. Drip emitters shall be provided for each tree with the capability of extending to the tree drip line as the tree matures. It is highly recommended that valves used for tree irrigation be separate from all other plant material.

(k) System Cycling. Program valves for multiple repeat cycles will be installed where necessary to reduce runoff, particularly slopes and soils with slow infiltration rates.

(l) Small Landscaped Areas or Parking Strips. Parking strips or other

small landscaped areas less than eight (8) feet wide shall be irrigated by drip emitters, sub-surface drip or bubblers and an adjusted sprinkler cycle to eliminate runoff.

Section 6. LANDSCAPE PLAN SUBMITTAL REQUIREMENTS

A. General Provision

(1) All applications for site development plan approval for land uses subject to this ordinance shall be accompanied by a LPDP.

(2) Submitted LPDP shall be prepared or reviewed by a licensed Landscape Architect or by a UNLA certified Landscape Designer and an IA Certified Irrigation Designer as indicated in Section 4A and Section 5A. who, upon submittal of the application, professionally certifies compliance of the assembled package with all requirements.

B. Documentation Package Contents

(1) The information to be provided with the LPDP shall be presented in the following format:

(a) Planting Plan - The intent of the sketch plan is to illustrate the overall design concept for landscaping and depict how it relates to the overall development. The landscape sketch plan shall describe the general landscape design intent, the water conservation concept statement of the proposed landscape improvements and indicate the total irrigated landscape square-footage.

(b) Irrigation Plan - A detailed irrigation plan shall be drawn at the same scale as the landscape planting plan and shall reflect the requirements set for in Section 5.

Section 7. POST INSTALLATION

A. Landscape Irrigation Audit Report. After the landscaping has been installed an Irrigation Audit must be conducted by a Certified Landscape Irrigation Auditor, independent of the contractor, design firm, and owner/developer of the project. The Audit will verify the irrigation system meets the minimum efficiency required. For an all Fixed Spray head system the irrigation system shall be 60% or better for distribution efficiency. For an all Rotor Spray head system the irrigation system shall be 70% or better for distribution efficiency . The auditor shall furnish a certificate to the City, designer, installer and owner/developer certifying compliance with the minimum distribution requirements. Compliance with this provision is required before the City will release the bond for the project.

B. Recommendation. Homeowners of single-family homes, duplex or triplex, who are exempt from this ordinance, are encouraged to comply with Section 7A. This will allow them to seek recourse and remedy a newly installed inefficient irrigation system.

C. Irrigation Scheduling of System. The Landscape Architect or Landscape Designer shall provide an irrigation schedule that covers the initial 120-day plant establishment period and then a typical long-term use period shall be prepared and provided to the homeowner.

(1) Irrigation Schedule - This schedule shall consist of the following information for each valve:

- 1) Plant type (e.g. turf, trees, low water use plants).
- 2) Irrigation type (e.g. sprinklers, drip, bubbler).
- 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 for the year.
- 7) Cycle time to avoid Runoff.

Section 8. PROHIBITED WATERING PRACTICES

- A. **Waste of Water** Regardless of the age of a development, water shall be properly used. Waste of Water is prohibited.
- B. **Restricted Watering Time** Irrigation zones with overhead spray or stream sprinklers shall be designed to operate between 8:00 p.m. and 8:00 a.m. to reduce water loss from evaporation. This excludes drip or bubbler zones.

Section 9. ENFORCEMENT AND PENALTY FOR VIOLATIONS

- A. Any water consumer who violates any provision of this ordinance 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 notice is not followed, the City may order compliance with any of the provisions of this ordinance as a condition for receiving continued water service.**
