



City of West Jordan
8000 South Redwood Road
West Jordan, Utah 84088
Community Development Dept.
(801) 569-5060

Commercial Landscape Information Package

Multi-family
Mobile home parks
Business/Research Parks
Commercial
Industrial
Professional Office
Manufacturing
Streetscapes
Municipal developments

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Instructions

This Commercial Landscape Information Package is designed to help developers, landscape architects, and irrigation contractors understand the municipal code requirements for commercial landscapes and irrigation systems in the City of West Jordan. The City recognizes that landscape irrigation plays a crucial role in its overall water conservation efforts. The City's code has recently been amended to encourage water-wise landscape designs, efficient irrigation systems, and responsible watering schedules.

Please use this checklist and refer to the municipal code in this package to ensure that all landscape and irrigation plans comply with the requirements **BEFORE** submitting for City approval. Contact the Community Development Department (801)569-5060 with any questions.

Special Reminders:

- All turf areas must pass the irrigation audit with minimum distribution uniformity of 60% (fixed heads) and 70% (rotors heads). Minimizing odd-shapes, curves, and narrow turf areas will help to achieve these efficiency percentages.
- Topsoil Analysis lab results must be included with landscape plans. See code section 89-6-703(a)(3). Qualified labs include:
 - QA Consulting and Testing, Salem, UT (801)423-1116
 - BYU Soil Analysis Lab, Provo, UT (801)422-2147
 - USU Soil Testing Lab, Logan, UT (435)797-2217
- Separate irrigation meters are required for all landscapes over 1,000 square feet.
- Mid-installation inspections are required before irrigation lines are buried. Be sure to notify City two days in advance to schedule this inspection.
- Park strips narrower than 8 feet must use drip irrigation, bubblers, micro-spray, or similar (no pop-up or rotor heads).

Applicant Checklist
Landscape & Irrigation Requirements
Commercial, Municipal, and Multi-Family Developments
City of West Jordan, Utah

Note: Please refer to West Jordan City Municipal Code 89-6-7 (Landscaping) for complete code, including new requirements effective July 21, 2005. This checklist summarizes the new code and is intended to help developers and architects meet all City requirements regarding landscaping and irrigation for commercial, municipal, and multi-family projects.

Code Section

Description

Submittal Materials, Fees, and Standards

- 89-6-703(a)(1) Pay Landscape Plan Submittal Fee
- 89-6-703(a)(2) Landscape Plans prepared by legally qualified designer
- 89-6-703(a)(2) Information required on Landscape Plans
- 89-6-703(a)(4) Landscape Water Allowance (annual and monthly)
- 89-6-703(a)(5) Information required on Irrigation plans
- 89-6-703(b) Irrigation Standards, including Utah Irrigation Association Standards
- 89-6-703(b)(7) Install separate Landscape Water Meter
- 89-6-703(a)(3) Topsoil Analysis lab results and soil amendment recommendations.
Qualified labs include:
 - QA Consulting and Testing, Salem, UT (801)423-1116
 - BYU Soil Analysis Lab, Provo, UT (801)422-2147
 - USU Soil Testing Lab, Logan, UT (435)797-2217

Landscaping for water conservation

- 89-6-704 Plant material and coverage (note: maximum 50% turf, and non-turf areas must use at least 80% water-conserving plants from approved list)

Design, installation, maintenance, and irrigation scheduling

- 89-6-705(a) Design guidelines
- 89-6-705(b) Installation guidelines
- 89-6-705(c) Landscape maintenance
- 89-6-705(d) Tree maintenance
- 89-6-705(e) Irrigation schedules

Park strips and streetscapes

- 89-6-706 Park strip standards
- 89-6-706(a)(3)d Prohibits pop-up and rotor sprinklers on strips narrower than 8 feet
- 89-6-706(a)(4) Minimum gravel diameter 1-1/2" (one and one half inches)
- 89-6-706(a)(7) Turf prohibited on steep park strips
- 89-6-706(b) Adopted streetscape plans

Parking lot landscaping

- 89-6-707 Design standards (note: minimize slope on berms, if used)
- 89-6-707 Islands in parking areas shall not be sloped or bermed

Landscape standards for specific uses

- 89-6-708(a) Single-family and two-family developments
- 89-6-708(b) Multi-family developments
- 89-6-708(c) Mobile home parks
- 89-6-708(d) Business/Research Park Zone (BR-P)
- 89-6-708(e) Commercial and Professional Office developments
- 89-6-708(f) Manufacturing developments
- 89-6-708(g) Downtown overlay zone

Qualifications, Inspections, and Audits

- 89-6-709(a) City may require proof of contractor licensure
- 89-6-709(f) Applicant notify City when ready for mid-installation irrigation field inspection (before pipes are buried)
- 89-6-709(b-e) Irrigation Audit must be passed with 60-70% distribution uniformity before building occupancy is granted.

Cash Bond

- 89-6-710(a) Bond required for occupancy if irrigation audit not completed
- 89-6-710(b) If exempt from irrigation audit, bond requirements of 89-1-109 (private projects) and 89-6-1202 (public improvements) apply.

Excessive Water Use (*applies to property owners*)

- 89-6-711(a) Applies to properties with Landscape Water Allowance described in section 89-6-703(a)(4)
- 89-6-711(b) Property owner notified by City when water consumption exceeds 130% of monthly water allowance.
- 89-6-711(c) Additional irrigation audit required after four months over 130% of monthly water allowance. Audit fee included in customer utility bill.
- 89-6-711(d) Penalty for continued excessive water use
- 89-6-711(e) Administrative review. Adjustments allowed for circumstances beyond customer's control.

Minimum Standards for
Efficient Landscape Irrigation
System Design and Installation

VERSION
2002

Prepared by the
Irrigation Standards Committee of

The Utah Irrigation Association

Introduction:

This Standards document has been provided to assist in promoting efficient irrigation design and installation. Underscored throughout the document is the emphasis on conserving water through modern irrigation practices. This document is subject to revision. Please forwards comments and suggestions to the Utah Irrigation Association.

1. GENERAL SCOPE:

1. Irrigation systems shall be subject to construction and completion inspections as specified by system designer prior to turnover to owner.
2. Irrigation drawings shall include but not limited to zone size, operating pressure and scheduled flow rates.
3. Owner shall be provided a complete scaled as-built drawing upon project completion. Refer to Section 2 "As-Built Drawings."

1.1 SYSTEM CHARACTERISTICS:

1. Design and construction of irrigation system must meet all applicable codes. Components of irrigation system shall be designed and installed in accordance with guidelines set forth by manufacturers.
2. Spray or overhead type systems shall be designed to match/provide efficient watering cycles utilizing E.T has baseline.
3. Systems shall be designed to provide a minimum of 60% Distribution Uniformity (DU) for spray type heads and 70% DU for rotor type heads.
4. Pressure regulation devices will be installed to allow entire system including all remote control valves and all sprinkler heads to operate at optimum pressure designated by product manufacturer. Pressure regulation devices may include one or all of the following: 1—pressure regulation valve at main line POC, 2—pressure regulation device on/at remote control valve, 3—pressure regulation device on individual sprinkler heads. 4- regulation of low volume drip/micro systems.
5. Booster pumps shall be installed on systems where supply pressure does not meet minimum recommended pressures of sprinkler manufacturers.
6. Systems shall be able to complete watering in 10 hours or less per night. (Applies to post established landscapes.)
7. Provide separate zones for turf, shrubs, and drip.
8. Provide separate zones for different exposures. (i.e. north side of building vs. south side)
9. Match appropriate zones for plant material to irrigation.
10. Provide separate zones for sloped areas. When irrigating slopes, take runoff at slope bottom into consideration. Run lateral lines parallel to slope.
11. Systems shall contain check valves to prevent low point drainage where applicable.
12. Provide separate zones for variations in site soil types.
13. Design and/or install with reduced head spacing or low angle nozzles for windy conditions.
14. Each zone shall have its own station on the controller.
15. No single zone shall be designed or installed with sprinklers of differing pressure requirements or precipitation rates. (Rotors, spray heads, drip emitters may not be mixed within a zone.)
16. All sprinkler heads shall be spaced at a maximum of 50% of design performance diameter of the sprinkler. Spacing shall be reduced below 50% of design performance diameter when conditions demand.

17. Irrigation systems with 1" POC or 2500 square feet and larger of landscaped area shall have a master valve installed.
18. The UIA endorses the use of non potable color indicators (equipment) for heads, valves, valve boxes, quick couplers, piping, etc., when irrigation systems are supplied by secondary or other non potable water sources.

1.2 POINT OF CONNECTION:

1. Systems with irrigated area of 1 acre and larger shall have a normally closed master valve. Where necessary, the master valve shall be capable of manual operation to allow manual use of the irrigation system. A normally open master valve is acceptable if the controller is capable to shut the valve off in event of unscheduled flow.
2. Recommended Point of Connection component installation order: 1-connection to source, 2-stop & waste valve/ or shut off, 3-wye strainer, 4-pressure regulator, 5-backflow preventer, 6-quick coupler blowout, 7-master valve, 8-flow meter - (if required).
3. In situations of secondary water supply, provide filtration system necessary to clean water supply and protect irrigation system components. Provide accessible pressure gauges immediately upstream and downstream of the filtration device. (non self cleaning units).
4. The UIA recommends with 1 1/2" POC systems, an additional/separate water meter be installed for use with the landscape.

1.3 CONTROLLER / WIRE:

1. Controller shall be able to provide separate programs for turf zones, shrub zones, and drip zones.
2. Controllers shall be capable of temporarily shutting down system by utilizing internal/external options (such as rain, wind, freeze devices).
3. Controller shall be programmable for multiple start times for repeat and rest periods, and shall be capable of water budget adjustment.
4. Power wire and control wire shall not be contained in the same conduit.
5. Controller wiring at outside exposure shall be contained in steel rigid conduit. EMT conduit for inside installations.
6. Remote control valve wiring shall be a minimum of 14 gauge, UF UL or PE UL rated.
7. All wire connections shall be made with watertight connectors and contained in valve box.
8. Provide slack/extra control wire at all change in directions.
9. Provide 36" of slack wire at each remote control valve in valve box.
10. Remote control valve wiring shall be installed with the main line pipe where possible, taped to the underside of the mainline pipe at regular intervals.
11. Remote control valve wiring shall have separate colors for common, control, and spare.
12. Provide minimum of one spare wire for every five remote control valves in system. Spare wire shall be available at all valve manifolds or clusters. All spare wires shall be "home run" to the respective controller. End run common.
13. Outdoor controllers shall be lockable and weather resistant.
14. All wiring under hardscaping shall be contained in sleeving.

1.4 PIPING / FITTINGS:

1. All PVC pipe shall be rated ASTM D 1784 or 1785.
2. Minimum recommended standards for PVC pipe: Schedule 40 for sizes 3/4" through 3", Class 200 for sizes 4" and up. 1/2" PVC pipe not allowed.
3. Maximum flow velocity in any pipe shall not exceed five feet per second. Pressure Polyethylene pipe shall be ASTM D2239 rated, lateral and drip tubing excepted.
4. All piping under hardscape shall be contained in sleeving separate from wire sleeving.
5. All piping will be capable of winterization by air blowout.
6. Manual drains may be used in main line pipe applications.
7. Minimum pipe depths: lateral pipe 12" cover, main line 18" cover, sleeving 18" cover.
8. All piping will be backfilled with clean material, settled and compacted to proper finish grade.
9. All solvent weld joints to be installed according to manufacturer specifications.
10. All insert fittings shall be installed according to manufacturer specifications.
11. PVC Main lines shall use a minimum of Schedule 40 fittings for 3/4" through 1 1/2". Sch 80 or better 2"-3".
12. Push on ductile or Mechanical cast iron fittings shall be used on PVC main line fittings 4" and larger.
13. Proper thrust blocking shall be installed on all fittings 3" and larger.

1.5 VALVES:

1. Remote control valves shall be sized according to the of the zone demand requirement, lateral piping downstream and manufacturer's specifications.
2. All remote control valves shall have flow control adjustment.
3. Non potable (secondary) systems shall use compatible (dirty water) remote control valves.
4. Control valves will be installed in a Standard or larger, manufactured, valve/meter box, capable of being bolted closed after installation.
5. Remote control valve in valve box shall have ample space for service and to remove valve cover

1.6 SPRINKLER HEADS

1. All sprinkler heads shall be attached to lateral line pipe with a flexible/adjustable swing assembly.
2. Spray heads shall pop up a minimum of 4" in turf areas.
3. Sprinkler heads adjacent to hardscape paving shall be spaced 1 to 3" away from paving. Sprinklers adjacent to walls, buildings, fences or other structures shall be spaced a min. 6" away from structures.
4. All sprinklers within a zone shall have matched precipitation rates.
5. Shrub heads located adjacent to pedestrian areas shall be pop up variety.
6. Sprinklers in turf areas shall be fully spring retractable and pop up a minimum of 4".

2. IRRIGATION AS-BUILT DRAWINGS AND OPERATIONS AND MAINTENANCE MANUALS

- 2.1 The following shall be included on Irrigation As-Built Drawings. In addition, provide a reduced color-coded drawing(s) showing all zones and assigned valves.
- 2.2 Note all points of connection (P.O.C.) include tap size, line size and static water pressure (P.S.I.) of service.
- 2.3 Provide name and phone number of the servicing water purveyor. Include the date the installation was completed and the date the as-built drawing was approved.
- 2.4 Accurately locate all of the following major components and their size, installed on the project.

- a. Water Meters
- b. Backflow Preventors
- c. Pressure Reducing Valves (note pressure settings)
- d. Filters
- e. Stop and Waste
- f. Master Control Valves
- g. Isolation and Gate Valves
- h. Flow Sensors
- i. Remote Control Valves (note station assignment, size, flow rate, pressure setting, D.U. and actual flow rates if available from water audit)
- j. Drip System Pressure Regulators and Filters
- k. Quick Couplers and Hose Bibs
- i. Pressure Main Lines and Sizes
- m. Main Line Sleeves and Sizes
- n. Capped Main Lines and Future P.O.C.'s
- o. Manual Drain Valves and Sumps
- p. Remote Control Wire
- q. Controller Location (s) (note manufacturer, model, size and number of stations used)
- r. Rain Sensors
- s. Moisture Sensors
- t. Note and identify location(s) of existing utility systems as encountered during installation i.e. gas, phone, sewer etc.

2.5 Locate the following additional components installed on the project:

- a. All Sprinkler Heads
- b. Lateral Lines and sizes
- c. Lateral Line Sleeves and sizes
- d. Manual or Automatic Flush Valves
- e. Air Release Valves

2.6 Operations and Maintenance Manual

1. A signed and dated written description of the contractor's warranty and warranty period. Include name, address, phone number and license number.
2. A description of system start up and winterization process.
3. All product literature and customer service information for products used/installed on project.

Municipal Code

Title 89, Chapter 6, PART 7. (Landscaping)

City of West Jordan, Utah

Effective July 21, 2005

Municipal Code Title 89, Chapter 6, PART 7. (Landscaping)

Sec. 89-6-701. Purpose and scope of part.

- (a) *Purpose.* The purpose of this part is to:
 - (1) require landscaping to visually soften paved areas and buildings;
 - (2) establish energy conservation and enhanced environmental conditions by providing shade, air purification, noise, glare and heat abatement, and retardation of storm water runoff;
 - (3) preserve, enhance and expand the urban forest;
 - (4) buffer uncomplimentary land uses and generally enhance property values and appearance within the City; and,
 - (5) encourage water conservation through the use of water-conserving plants, efficient irrigation systems, and responsible irrigation scheduling.
- (b) *Scope and application.*
 - (1) These regulations shall apply to new landscapes in all developments within the City except front, side, or back yards of single-family or two-family residences.
 - (2) Except for single-family residential and two-family dwellings, the landscaping required by this Part shall be provided as a condition of building permit issuance for any building addition, or expansion or intensification of use on a property that increases the floor area and/or parking requirement by 50% or more.

(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003)

Sec. 89-6-702. Administrative modifications to landscaping standards.

- (a) Requests may be made to the Zoning Administrator for modifications to the standards of this Part. In making the request, the applicant shall present substantial evidence that:
 - (1) the strict application of applicable standards will result in an unreasonable hardship as the result of shallow lot depth, irregular lot shape, unusual topography or other similar factors; or
 - (2) the proposed modification constitutes an innovative landscaping design which is superior to the landscaping that would result from strict application of required standards.

(b) The Zoning Administrator shall make any determination to modify landscaping standards in writing, and shall include in the determination the findings upon which it was based.
(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003; Ord. No. 04-23, (a), 05-25-2004)

Sec. 89-6-703. Submittal Materials, Fees, and Standards.

(a) *Submittal.* For all development proposals except single-family and two-family dwellings, landscape and irrigation plans, with appropriate details, shall be prepared and submitted by the applicant with the initial application. Landscape and irrigation plans shall also be provided as a condition of building permit issuance for any addition, expansion, or intensification of a property that is noncomplying due to landscaping, or that increases the floor area and/or parking requirement by 50 percent or more. At a minimum, the submittal shall include: Fees, Landscape Plans, Topsoil Analysis, Landscape Water Allowance, and Irrigation Plans.

(1) Fees. Landscape Plan Submittal Fees shall be paid to the City with final plan submittal. The fee revenues shall be used to pay for city staff and/or contractors performing plans reviews, field inspections, and irrigation audits. The Landscape Plan Submittal Fees shall be established by Resolution of City Council. Fees shall apply to landscapes over 1,000 square feet in size.

(2) Landscape Plans. All Landscape Plans shall be prepared by a Landscape Designer, as defined in section 89-1-203, and shall contain the following information.

- a. The location and dimensions of all existing and proposed buildings and structures, property lines, easements, parking lots and drives, streets and rights-of-way, sidewalks, signs, dumpster enclosures, fences, and other site features as determined necessary by the Zoning Administrator.
- b. The location of all proposed plants and a Plant Schedule specifying the quantity, size, common name, botanical name, and spacing of all proposed plants.
- c. Designation of Landscape Zones, as defined in section 89-1-203, grouping plants with similar water needs.
- d. The location, size, and common names of all existing plants on the site, including trees and other plants in the parkway, indicating plants to be retained and those that will be removed.
- e. The location of existing buildings, structures and plants within twenty feet of the site.
- f. Existing and proposed landscape grading of the site indicating contours at two-foot intervals. Proposed berming shall be indicated using one-foot contour intervals.
- g. Elevations of all proposed fences and retaining walls on the site.
- h. Summary data indicating:
 1. the total area and percentage of the site that will be landscaped;
 2. the area and percentage of landscaping that will be planted in domestic turf grasses;

3. the percentage of landscaped area coverage from water conserving trees, shrubs, perennials, and groundcover species expected after plant maturity, not including tree canopies. See definition of Water-Conserving plants in section 89-1-203; and
4. the total percentage of landscaped area with actual plant coverage expected after plant maturity, not including tree canopies.

(3) Topsoil Analysis. All plant material shall be compatible with soil conditions, as determined by a Topsoil Analysis. The Landscape Designer shall obtain and provide a topsoil suitability analysis including the following characteristics and quantitative values:

- a. Soluble salts (dS/m or mmho/cm)
- b. pH
- c. Sand (%)
- d. Silt (%)
- e. Clay (%)
- f. Texture Class (sandy clay, clay loam, silty sand, etc)
- g. Organic matter (%)
- h. % Coarse fragments (>2mm diameter)
- i. Sodium Adsorption Ratio (SAR)

Topsoil analysis shall include recommendations for soil amendments. The Landscape Plan shall incorporate any recommendations by the Landscape Designer for soil amendments or preparation based on the Topsoil Analysis.

(4) Landscape Water Allowance. For all landscapes measuring over 1,000 square feet, the Landscape Designer shall prepare annual and monthly Landscape Water Allowances for use after the 60-day plant establishment period, based on the following equations, and copies shall be provided to the City and property owner:

a. Annual Water Allowance (gallons) = $ET_O \times 1.0 \times 0.62 \times A$

where Landscape Water Allowance is in gallons per year, and

ET_O = Reference Evapotranspiration (31.18 inches per year in Salt Lake County)

1.0 = ET_O adjustment factor, 100% of turf grass ET_O (water year adjustment factor)

0.62 = conversion factor (to gallons per square feet)

A = total Irrigated Landscape Area in square feet

b. Monthly Water Allowance (gallons) = $ET_O \times 1.0 \times 0.62 \times A$,

using the following monthly ET_O values:

ET ₀ values (inches) for Monthly Water Allowance											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.00	0.00	0.00	3.36	4.59	5.40	6.21	5.60	3.72	2.30	0.00	0.00

(5) Irrigation plans. When a site is required to be landscaped under the terms of this Part, a permanent irrigation system shall be installed to help insure survival of plants, unless the Landscape Plans specifically indicate that the plants will not require artificial irrigation for establishment or to remain healthy and aesthetically appealing.

All irrigation plans shall be prepared by an Irrigation Designer, as defined in section 89-1-203.

Irrigation Plans shall be drawn at the same scale as the Landscape Plan and shall contain the following minimum information.

- a. 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.
 - b. Static water pressure in pounds per square inch (psi) at the point of connection to the public water supply.
 - c. Flow rate in gallons per minute and design operating pressure in psi for each valve.
 - d. Precipitation rate in inches per hour for each irrigation zone.
- (Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003)
- e. Preliminary Irrigation Schedule based on flow calculations.

(b) Irrigation Standards

- (1) Irrigation systems shall be installed by an Irrigation Contractor, as defined in section 89-1-203.
- (2) On slopes exceeding 33 percent, the irrigation system shall consist of Drip Emitters, Bubblers or sprinklers with a maximum average Precipitation Rate of 0.85 inches per hour and the controller clock shall be set with appropriate cycles and run-times to eliminate Runoff.
- (3) 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. Each type of irrigation device (drip, bubblers, fixed, rotors, etc) shall be placed on separate valves.
- (4) Drip Emitters or a Bubbler shall be provided for each tree. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate

valve unless specifically exempted by the City due to the limited number of trees on the project site.

- (5) Drip irrigation lines shall be installed underneath mulch, except for emitters and where approved as a temporary installation. Filters and end flush valves shall be provided as necessary.
- (6) All irrigation systems shall conform to the most current edition of "Minimum Standards for Efficient Landscape Irrigation System Design and Installation" set by the Utah Irrigation Association, which document is hereby adopted and fully incorporated as if set forth in its entirety. Three copies of the "Minimum Standards for Efficient Landscape Irrigation System Design and Installation" have been filed for use and examination by the public in the City Recorder's office prior to its adoption and, thereafter, at least one copy shall be available through the City Recorder's office.
- (7) Irrigation systems in City-owned projects, or property to be turned over to the City shall also conform to the City's *Public Improvement Standards, Specifications, and Plans* manual, which document is hereby adopted and fully incorporated as if set forth in its entirety. Three copies of the *Public Improvement Standards, Specifications, and Plans* manual have been filed for use and examination by the public in the City Recorder's office prior to its adoption and, thereafter, at least one copy shall be available through the City Recorder's office.
- (8) Landscape Water Meter. A separate water meter shall be installed for landscape irrigation systems that are used in projects with landscaped area over 1,000 square feet in size. The landscape water meter shall be separate from the water meter installed for indoor uses. The size of the meter shall be determined based on irrigation demand. The landscape water meter shall not be a "sub-meter," but shall be billed separately from any indoor meters.

Sec. 89-6-704. Landscaping for water conservation.

- (a) Landscape designs for sites in West Jordan shall recognize the climatic limitations of the Salt Lake Valley and the need for water conservation. For this reason, the following criteria shall be used in evaluating all Landscape Plans.
 - (1) Trees, shrubs. Not less than 80% of trees and shrubs specified on the Landscape Plan shall be water-conserving species that can withstand dry conditions once established. The plant list titled "Water-Wise Plants for Salt Lake City," is designated as the primary reference in determining qualifying plants, which document is hereby adopted and fully incorporated as if set forth in its entirety. Three copies of the "Water-Wise Plants for Salt Lake City" document have been filed for use and examination by the public in the City Recorder's office prior to its adoption and, thereafter, at least one copy shall be available through the City Recorder's office.
 - (2) Herbaceous perennial and groundcover plants. Not less than 80% of herbaceous perennial and groundcover plants specified on the Landscape Plan shall be drought-tolerant species that can withstand dry conditions once established. The plant list titled "Water-Wise Plants for Salt Lake City," is designated as the

primary reference in determining qualifying plants.

- (3) Turf grasses. If turf grasses are selected for use on a site, they shall not comprise more than 50% of the total landscaped area. Use of water conserving grasses, such as Buffalo Grass, Blue Gramma grass, varieties of Dwarf Tall Fescue, or equivalent are encouraged. Turf grasses shall only be used in areas where the grade of the site is 30% or less in order to prevent the runoff of irrigation water.

Exception: Turf areas designed for active recreation at parks, schools, storm drain detention basins, and golf courses are exempt from this provision.

- (4) Irrigation systems. While irrigation systems are necessary for certain landscape areas, and may be desirable for other applications, all irrigation systems shall be designed for the most efficient use of water, as outlined in section 89-6-703.
- (5) Water features. Water features can provide relief from summer temperatures, but should be used sparingly with every attempt made to limit the amount of water used. Fountains and other water features should be sited and designed so that they are, and also appear to be, efficient users of water. Water features should also be designed to maximize the amount of water recycled and to minimize the amount of make-up water required. This should be accomplished through proper design of the catch basin of the water feature and, where there is a significant risk of over-spray, wind shut-off valves should be incorporated into the system.

(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003)

- (6) For projects located at the interface between urban areas and natural open space, Water-Conserving 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 amount of dead wood or debris shall be avoided. See definition of Water-Conserving Plants in section 89-1-203.
- (7) Slopes. Areas with slopes greater than 30% shall be landscaped with deep-rooting, Water-Conserving Plants for erosion control and soil stabilization. See definition of Water-Conserving Plants in section 89-1-203.
- (8) Plant Coverage. Plants shall cover 10% or more of the required landscape area, not including tree canopies.
- (9) Rock and Gravel. When used in portions of landscaped areas, rock and gravel shall measure a minimum of 1-1/2" (one and one-half inches) in diameter or larger.

Sec. 89-6-705. Design, installation, maintenance, and irrigation scheduling.

- (a) *Design guidelines.*
 - (1) Scale and nature of plants. The scale and nature of plants shall be appropriate to the size of the structures. Large scaled buildings, for example, should generally be complemented by larger scaled plants.
 - (2) Selection of plants. Plants shall be selected for form, texture, color, pattern of growth and adaptability to local conditions. All plants shall be of good quality and capable of withstanding the extremes of individual site microclimates.

- (3) Evergreens. Evergreens should be incorporated into the landscape design, particularly in those areas where screening and buffering is required.
- (4) Softening of walls and fences. Plants shall be placed intermittently against long expanses of building walls, fences, and other barriers to create a softening effect.
- (5) Detention/retention basins and ponds. Site drainage and detention facilities shall be integrated into the overall landscape design as usable open space. Detention/retention basins and ponds shall be landscaped. Such landscaping may include shade and ornamental trees, evergreens, shrubbery, hedges, turf, groundcover and/or other plants.
- (6) Energy conservation. Plant placement shall be designed to reduce the energy consumption needs of the development.
 - a. Deciduous trees should be placed on the south and west sides of buildings to provide shade from the summer sun.
 - b. Evergreens and other plant materials should be concentrated on the north side of buildings to dissipate the effect of winter winds.
- (7) Preservation of existing plants. Existing mature trees and other significant vegetation shall be incorporated into the landscape design. Trees in the public right-of-way shall not be removed without the approval of the Urban Forester. Existing trees that are preserved and incorporated into a new landscape plan may be credited toward the minimum number of trees required as specified in Section 89-6-708 for each zoning category. In order to receive this credit, existing trees shall be a minimum of two-inch caliper DBH (diameter at breast height or 4.5 feet from ground) for both deciduous and coniferous trees. All existing trees receiving this credit shall be healthy and free of mechanical injury.
- (8) Landscape berms. Berms and existing topographic features should be incorporated into the landscape design to provide interest and, where necessary, should be used in combination with plants to help provide screening and buffering as required elsewhere in this Title. The slope of berms shall not exceed 25% (a ratio of four horizontal feet to one vertical foot).
- (9) Above-ground utilities. The landscape design shall identify the location of above-ground public utilities (i.e., overhead power lines, transformers, meter boxes, backflow preventers, etc.) and offer design solutions to mitigate the visual impact of such elements on the site while not obstructing access to such facilities for maintenance and service.
- (10) Sign visibility. Although landscaping may not initially appear to obscure a sign, it may significantly reduce or eliminate the sign's effectiveness unless taken into account in the planning stage. Selection and placement of plants in the vicinity of signs should be determined by the mature height and spread of the plants to insure that signs are not obscured from view when the landscape has reached full maturity. Plant foliage shall not obscure in any way complete visibility of public safety and traffic regulatory signs.

- (b) *Installation.*
- (1) Plant size. Size and density of plants at the time of planting and at maturity shall be considered when approving Landscape Plans. The following minimum size standards shall apply.
- a. Deciduous trees. All deciduous trees shall have a minimum trunk size of two inches in caliper (measured at six inches above root flare or at soil/ground level).
 - b. Evergreen trees. All evergreen trees shall have a minimum height of five feet.
 - c. Shrubs. All shrubs shall have a minimum height or spread of 18 inches depending on the plant's natural growth habit. Plants in five-gallon containers will generally comply with this standard.
 - d. Ground cover.
 - 1. Crowns, plugs or containers shall be in a number sufficient by species to provide 10 percent surface coverage after two growing seasons.
 - 2. Turf and native grass. Seeding shall provide complete coverage within the first growing season.
 - 3. Sod. The amount of sod shall be the amount necessary to provide coverage and soil stabilization.
- (2) Approved street trees. Street trees shall be selected from the *City of West Jordan Approved Street Tree Lists* found in Chapter 7 of the City's *Public Improvement Standards, Specifications, and Plans* manual.
- (3) Planting. All landscaping shall be installed in accordance with the current planting procedures established in the City's *Public Improvement Standards, Specifications, and Plans* manual. All planting shall be completed within one year from the date a final Landscape Plan is approved.
- (4) Mulch. A four inch layer of mulch shall be applied to all planting beds to inhibit weed growth and conserve soil moisture. Mulch shall not be used as a substitute for plants. Non-porous materials shall not be placed under the mulch. Mulch shall not be required around plant varieties that may be harmed by mulch.
- (5) 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 based on the Topsoil Analysis.

(c) *General landscape maintenance.*

- (1) Responsibility. The developer, his successor, and/or subsequent owners of a site for which landscape plans were required shall be responsible for the maintenance, repair and replacement of all landscaping elements.
- (2) Landscape plants. All landscape plants shall be maintained in good condition so as to present a healthy, neat and orderly appearance. Plants not in this condition shall be replaced when necessary. Landscaped areas and shall be kept free of refuse and debris.
- (3) Irrigation systems. Irrigation systems shall be maintained and adjusted at least monthly, or per owner's manual, in order to ensure optimal operating condition and to promote water conservation.
- (4) The owners of phased developments shall implement a program for dust, weed and debris control on undeveloped portions of the site.

(d) *Tree maintenance.*

- (1) Clearance under trees.
 - a. Trees adjacent to pedestrian walkways shall have a minimum canopy clearance of eight feet above grade.
 - b. Tree canopies that extend over street travel ways shall be pruned to provide canopy clearance of at least 15 feet above street pavement.
- (2) Pruning. It shall be unlawful for any person to do any major pruning (20 percent of more), to top or prune the crown, or remove any street tree or tree on commercial property without first obtaining approval from the City's Urban Forester. City personnel shall also receive permission for removal of any public tree. The Urban Forester must approve the removal of any public tree. As a condition of such approval, the permittee may be required to replace the tree.
- (3) Protection of trees. Any public tree located in the immediate vicinity of any excavation, demolition or construction site which has potential for injury, shall be protected from such injury unless the contractor has received approval from the Urban Forester to remove the tree(s).

(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003; Ord. No. 04-23,(a)(7); (b)(1) and (d)(7), 05-25-2004)

(e) *Irrigation Schedules.*

1. An irrigation audit shall be performed and two Recommended Irrigation Schedules shall be prepared by the Irrigation Auditor. Sprinkler run times shall be calculated based on the precipitation rate measurements in the final audit report. For zones not audited, estimated precipitation rates shall be based on flow calculations. The first schedule shall cover the initial 60-day plant establishment period. The second schedule shall cover the post-establishment period. Copies of these schedules shall be provided to the City, property owner,

and business owner. Both the establishment and post-establishment irrigation schedules shall be posted visibly near the irrigation controller and include the following information for each valve:

- a. Station (valve) number
- b. Plant Type
- c. Sprinkler Type
- d. Precipitation Rate (inches per hour)
- e. Minutes required for appropriate watering depth
- f. Cycles and Run times (minutes per cycle) to avoid runoff
- g. Irrigation Intervals (days between waterings) based on plant material, soil type, and the seasonal fluctuations in water demand. The following seasonal intervals may be used as a general guide, but may be adapted as needed:

Month	Apply ½" of water once every:
January	No irrigation
February	No irrigation
March	No irrigation
April	6 days (if needed)
May	4 days
June	3 days
July	3 days
August	3 days
September	6 days
October	10 days (if needed)
November	No irrigation
December	No irrigation

2. Valves with fixed or rotor sprinklers shall be scheduled to operate between 6 p.m. and 10 a.m. to reduce water loss from wind and evaporation.

3. Valves shall be programmed for multiple repeat cycles where necessary to reduce runoff, particularly on slopes and soils with slow infiltration rates.

Sec. 89-6-706. Park strips and streetscapes.

(a) *Park strips.* Park strips are defined as the area within a street right-of-way located between the back of curb (or edge of pavement if there is no curb) and the sidewalk or, if there is no sidewalk, the back of curb and the right-of-way line.

(1) Intent. The intent of these park strip landscaping standards is to maintain the appearance of park strips, protect the users of park strips by prohibiting the use of materials that may cause harm or injury to pedestrians or vehicles, provide for safe and convenient access across park strips to and from vehicles that may park at the curb, increase landscape design flexibility while not unreasonably inhibiting access for repair and maintenance of public utilities, encourage water conservation through the use of water-conserving plants, and to generally improve environmental conditions along the City's streets. See definition of water-conserving plants in section 89-1-203.

(2) Park strip trees.

- a. Spacing and size. Park strip trees, when required, shall be provided at the equivalent of at least one tree for each 30 feet of street frontage and may be clustered or spaced linearly as deemed appropriate by the Urban Forester. Trees size shall be a minimum of two inch caliper (measured at six inches above root flare or at soil/ground level) at time of planting.
- b. Tree grates. If new trees are proposed in a park strip in which the area surrounding the tree will have an impervious service, tree wells with grates shall be provided which comply with the City's *Public Improvement Standards, Specifications, and Plans* manual
- c. Approval and planting. No tree shall be planted in a park strip without first obtaining approval from the Urban Forester. Tree species and planting location shall be approved by the Urban Forester.
- d. Tree maintenance. Planting and maintenance of trees shall be done in conformance with the City's *Public Improvement Standards, Specifications, and Plans* manual. No work (pruning, removal, etc.) shall be performed on street trees without first obtaining approval from the Urban Forester.

(3) Park strip ground surface treatment.

- a. Plant coverage. Plants in park strips, not including tree canopies, shall cover 10% or more of the park strip surface within three years of planting or when planting has reached maturity, whichever comes first. For lots with two or more street frontages, this standard shall be applied separately to each adjacent park strip on each street frontage. In new park strips, or when replacing landscaping in existing park strips, water-conserving plants, as defined in section 89-1-203, shall constitute at least 80% of all plants used

Exception: The percentage of vegetation coverage may be modified or waived as part of the approval of a master streetscape plan for a development.

- b. Shrubs and annual or perennial flowering plants. Shrubs and annual or perennial flowering plants, up to 36" in height, are permitted as

individual specimens or accent plants when not located within site distance areas. Shrubs shall not be planted at a spacing that would result in a visual barrier between the street and sidewalk. If the entire park strip is planted with annual or perennial flowering plants, it shall be the property owners responsibility to insure that erosion does not deposit soil or other material on sidewalks or in the street.

- c. Organic mulch. Materials such as bark, shredded plant material, and compost, may be used as water-conserving mulch for plants and may also be used as the only material in portions of a park strip.
 - d. Parking strips and other landscaped areas less than eight (8) feet wide shall not be irrigated with pop-up fixed or rotor sprinklers. These areas shall generally be landscaped with water-conserving plants or approved street trees irrigated with micro-spray, bubblers, or drip irrigation. Street tree requirements in section 89-6-706(2) apply. Turfgrass may only be used in these areas if irrigated with surface bubblers or sub-surface systems.
- (4) Gravel, Rocks, and Boulders. Gravel, rocks, and boulders, may be used on portions of the park strip. Large diameter rocks and boulders shall be kept a minimum of 18" away from existing street trees. Gravel and rocks shall measure a minimum of 1-1/2" in diameter or larger. Vegetation, organic mulch, or gravel shall be used near existing street trees.
- (5) Paving Materials. Paving materials, limited to poured concrete, concrete pavers, brick pavers, or natural stone pavers, may be used in portions of a park strip subject to the following limitations.
- a. Paving Materials Near Existing Street Trees. Poured concrete shall not be placed in any park strip with existing street trees. Other paving materials shall be kept a minimum of 18" away from existing street trees. Organic mulch or gravel, as approved by the Urban Forester, shall be used near existing street trees.
 - b. Park Strips 36" or less in width. Except as specified in Section 89-6-706(a)(5)a. above, any paving material may be used in 100% of a park strip that is 36" or less in width. If poured concrete it used, it shall be finished with a stamped pattern resembling brick or natural stone or scored with another decorative pattern to distinguish it from the adjacent sidewalk.
 - c. Park Strips Over 36" Wide. In park strips over 36" in width, the combination of all brick, stone or concrete pavers, poured-in-place concrete, organic mulch used without plants, gravel, rocks, and boulders shall not exceed 90% of the total park strip surface area. Poured concrete shall not be used except for carriage ways as outlined below.
- (6) Carriage Ways. In order to provide for safe and convenient access across park strips to and from vehicles that may park at the curb, carriage ways (walkways

between the curb and sidewalk) through planted areas are encouraged. The material of carriage ways may be poured concrete, concrete pavers, brick pavers, or flat, natural stone paving materials such as flagstone or a combination of these materials. If poured concrete is used, the carriage way shall be not more than four feet in width and shall be located so as to provide the most direct route from the curb to the sidewalk. The area of carriage ways shall be included in calculating the percentage of inorganic material in the park strip.

- (7) Prohibited materials. Materials prohibited in park strips include asphalt, thorn-bearing plants, shrubs which create visual barriers, and structural encroachments. These materials are prohibited for the reasons stated below:
- a. Asphalt. Asphalt is inconsistent with the city's urban design policy, and deteriorates quicker than pavers. Asphalt in park strips also reduces roadway access definition and encourages people to drive over the curb.
 - b. Thorn-bearing plants. Plants which have thorns, spines, or other sharp, rigid, parts are hazardous to pedestrians and bicyclists, and are difficult to walk across.
 - c. Continuous shrub or perennial plantings that exceed 36" in height at maturity. Continuous perennial or shrub plantings that exceed 36" in height at maturity are hazardous to pedestrians, pets, children on riding toys, and vehicles due to sight distance problems, are difficult to walk across, create visual barriers which promote crime, and limit access to the sidewalk from vehicles parked adjacent to the park strip.
 - d. Retaining walls, fences, steps, and other similar structural encroachments. Retaining walls, fences, steps, and other similar structural encroachments in park strips are prohibited unless they are specifically approved by the City. These structural encroachments are generally prohibited because they limit access from the street to sidewalks and create obstructions to, and increase the cost of, performing maintenance of public improvements and utilities within the park strip.
 - e. Plants within clear vision areas. No plants, boulder, monument, or other object which is over 36" in height shall be planted or located within clear vision areas. Street trees shall not be located closer than 30 feet to the projected intersection of curb lines.
 - f. Turf on steep park strips. Turf is not permitted in park strips with a slope greater than 3:1 (three feet horizontal distance to one foot vertical distance) due to increased runoff of irrigation water from steep slopes.
- (8) Park strip maintenance. Any owner of property abutting City park strips shall have the following responsibilities.
- a. Regular irrigation based on schedules prepared by irrigation designer and/or auditor, and fertilization of street trees and other vegetation when necessary to maintain good health and vigor.

- b. Protection of street trees against damage caused by excessive pruning, lawn mowers, weed trimmers, snow blowers and similar equipment. It is recommended that trees be protected by removing all plant material from at least a two-foot radius around the trunk of the tree and replace with mulch.
- c. It shall be unlawful for any private-property owner or tenant to remove any tree in park strips or within the landscape-setback area where there is no park strip without approval from the City.
- d. Park strips shall be kept free of weeds, refuse, and debris.

(b) *Adopted streetscape plans.* A streetscape plan is required in those cases where a wall is required between a development and an arterial or major collector street. The plan shall show in detail the landscape treatment of the space between the wall and the street curb line.

- (1) Where an adopted streetscape plan is in place, the developer shall follow such plan.
- (2) Where no adopted streetscape plan is in place, the developer shall coordinate with, and receive approval from, the Urban Forester on development of a streetscape plan and on the installation of the irrigation system and plant materials.
- (3) Where the required streetscape is a component of residential development, the landscaping requirement may be satisfied by providing funding to the City to complete the landscaping in accordance with an adopted streetscape plan.

(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003; Ord. No. 04-23, (a)(2); (b)(3), 05-25-2004)

Sec. 89-6-707. Parking lot landscaping.

(a) *Parking lot landscaping.* Landscaping within parking areas is required in order to break up the large expanses of pavement and to provide relief from reflected glare and heat, as well as to guide vehicular and pedestrian traffic. Parking lots having more than 15 spaces shall include landscaping as specified below.

- (1) Interior parking lot landscaping. Not less than six percent of the interior of a parking lot shall be landscaped. The interior area of a parking lot for the purpose of this computation may be calculated by multiplying the number of parking spaces times 290 square feet. Planting that is required along the perimeter of a parking lot shall not be considered as part of the interior landscaping requirement. Interior parking lot landscaping shall be reasonably dispersed throughout the parking lot.
- (2) Perimeter parking lot landscaping. Where a parking lot is located within a required yard, or within 20 feet of a lot line, landscaping shall be provided around the perimeter of the parking lot. The perimeter landscaping shall be not less than eight feet in width.

- (3) The minimum interior dimensions of any planting area or planting median shall be eight feet.
- (4) Each planting area shall be protected by concrete vertical curbs. Where such curbs serve as a wheel stop for parking spaces, not less than 36 inches shall be provided in the planting area as overhang clearance for tree locations.
- (5) No shrubs, perennials, fence, wall or similar item more than three feet in height shall be placed at points of parking lot ingress or egress or in clear vision areas. Trees may be planted in clear vision areas but must be pruned to provide a minimum canopy clearance of eight feet to lowest branches of the tree.
- (6) The primary landscaping materials used in parking lots shall be trees that will have a canopy spread of 20 feet or more at maturity. Shrubs, hedges and other plants may be used to complement trees but shall not be the sole landscape element. Effective use of earth berms and existing topography is also encouraged as a component of the landscaping plan. If used, earth berms shall have the least possible slope to prevent irrigation runoff and erosion.
- (7) In those instances where plants exist on a parking lot site prior to its development, such plants may be used if approved by the Planning Commission.
(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003)
- (8) Landscaped islands within parking areas shall not be sloped or bermed (to prevent runoff and erosion, and to reduce maintenance and debris in the parking areas.)

Sec. 89-6-708. Landscape standards for specific uses.

- (a) *Single-family and two-family developments.*
 - (1) Front yard and side corner yard landscaping. All areas on residential lots located between the front lot line and the main building and between the main building and the lot line of a corner side yard of a corner lot, except driveways, parking areas, walkways, utility areas, approved decks, patios and porches, shall be maintained with suitable landscaping of shrubs, at least two trees, groundcovers, perennials, other landscaping materials, and/or decorative paving. The two required trees may be planted in the yard areas described above or in the park strip abutting the street. The use of water conserving plants is encouraged. See definition of water-conserving plants in section 89-1-203. Landscaping shall be completed within one year after occupancy of the home.
 - (2) Vegetation coverage. Plants in residential landscapes, not including tree canopies, shall cover 50% or more of the yard area within three years of planting or when planting has reached maturity, whichever comes first.
- (b) *Multiple-family developments.*
 - (1) Landscape coverage. Landscaped areas shall comprise not less than 40% of a multiple-family site. The minimum front yard(s) and side yard(s) adjacent to public streets, except those portions devoted to driveways and sidewalks, shall be landscaped

using trees and other vegetation, as allowed by section 89-6-704.

(2) Required tree planting.

- a. Street trees. One tree per 30 linear feet. of street frontage
- b. Remainder of site. Trees shall be provided according to following schedule:

Units	Number of Trees
2	2
3 to 8	2 plus one tree for every two units over 2
9 to 20	5 plus one tree for every three units over 8
21 to 40	9 plus one tree for every four units over 20
41 to 60	14 plus one tree for every four units over 40
61 to 100	19 plus one tree for every four units over 60
Over 100	30 plus one tree for every four units over 100

- (3) Landscaped buffers. When any multi-family development is proposed adjacent to an existing lower density residential development, a landscaped buffer not less than 20 feet in width shall be required. A minimum of one tree for each 400 square feet, or fraction thereof, of the landscaped buffer shall be planted. These trees shall be in addition to those required by Section 89-6-708(b)(2) above.

(c) *Mobile home parks.* The following landscaping provisions shall apply in all mobile home parks:

- (1) Street trees shall be planted along the frontage of all private or public streets within the development and around the periphery of a mobile home park at a minimum spacing of 30 feet on center.
- (2) All open areas except driveways, parking areas, walkways, utility areas, decks, patios, or porches shall be landscaped in accordance with section 89-6-704, or as otherwise approved by the Planning Commission. This required landscaping shall include a minimum of one tree per dwelling unit.

(d) *Business/Research Park Zone (BR-P)*

- (1) Landscape coverage. Landscaped areas shall comprise not less than 25% of the site. The front yard and side yards adjacent to public streets, except those portions devoted to driveways and sidewalks, shall be landscaped using trees and other plants.
- (2) Street trees. Street trees shall be planted at 30 foot intervals no farther than 20 feet from the top back-of-curb and no closer than 15 feet from the top-back-of-curb. These trees may be included among the required trees on the site. Street tree species shall be selected from the *City of West Jordan Approved Street Tree*

Lists found in Chapter 7 of the City's Public Improvement Standards, Specifications, and Plans manual.

- (3) Landscape standards for remainder of site.
 - a. Generous treatments of evergreen and deciduous trees, shrubs, flowers and other ground covers shall be required in creating a park-like setting with attractively and functionally designed berms, swales and detention areas. If used, earth berms and swales shall have the least possible slope to prevent irrigation runoff and erosion.
 - b. A minimum of 20 trees per acre shall be planted. A minimum of 40 percent of the total number of trees shall be evergreen trees.
 - c. A minimum ten-foot wide landscaped area shall be installed around buildings except in areas used for pedestrian and vehicle access.
 - d. Plant sizes shall conform to standards specified in Section 89-6-705(b)(1).
 - e. Landscape buffers may be required in areas that abut incompatible land uses or as visual barriers around parking and utility areas.
 - f. Landscaped islands shall be located at the ends of parking rows. Islands shall measure a minimum of six feet wide and shall extend the length of the parking stall. A minimum six-foot-wide planter strip shall divide each double parking row and connect the end islands of each row. Deciduous shade trees shall be planted at 30-foot intervals along the length of each parking row to reduce glare, heat and noise.
- (e) *Commercial and Professional Office developments.*
 - (1) Landscape coverage. Landscaped areas shall comprise not less than 15% of a commercial or professional office site. The front yard and side yards adjacent to public streets, except those portions devoted to driveways and sidewalks, shall be landscaped using trees and other plants as allowed by section 89-6-704.
 - (2) Required tree planting.
 - a. Street trees. One tree per 30 linear feet of street frontage.
 - b. Remainder of site. One tree per 3,000 square feet of landscape area.
 - (3) Landscaped buffers. When any commercial or office development is proposed adjacent to a existing residential development, a landscaped buffer not less than 20 feet in width shall be required. A minimum of one tree for each 400 square feet , or fraction thereof, of the landscaped buffer shall be planted. These trees shall be in addition to those required by Section 89-6-708(e)(2) above.

- (f) *Manufacturing developments.*
 - (1) Landscape coverage. Landscaped areas shall comprise not less than 10% of a manufacturing site.
 - (2) Required tree planting.
 - a. Streetscape. One tree per 30 linear feet. of street frontage.
 - b. Remainder of site. One tree per 4,000 square feet of landscape area.
 - (3) Other landscaping provisions. Front yard and side yard setbacks adjacent to a public street, except those portions devoted to driveways, shall be landscaped and shall include trees and other landscaping materials. The use of water conserving plants in these areas shall comply with section 89-6-704. See definition of water-conserving plants in section 89-1-203.
 - (4) Landscaped buffers. When any manufacturing development is proposed adjacent to an existing residential development, a landscaped buffer not less than 20 feet in width shall be required. A minimum of one tree for each 400 square feet , or fraction thereof, of the landscaped buffer shall be planted. These trees shall be in addition to those required by Section 89-6-708(f)(2) above.
- (g) *Downtown Overlay Zone*
 - (1) All landscaping along major streets shall be of a similar type and appearance to create visual distinction in the downtown overlay zone.
 - (2) Development credits may be provided in the Downtown Overlay Zone to encourage a more user-friendly view from streets or walkways. If additional landscaping is provided that is greater than that required in the underlying zone, the development may qualify for additional density, square footage, or City assistance.

(Enacted by Ord. No. 03-40, 07-15-2003 [Repealed] Enacted by Ord. 03-33, 08-19-2003)

Sec. 89-6-709 Qualifications, Inspections, and Audits

- (a) The City may require proof of state licensure and any other qualifications outlined in the definitions within section 89-1-203.
- (b) Irrigation Audit. Applies to all landscapes measuring over 1,000 square feet. Following construction and prior to issuing the approval for occupancy, an Irrigation Audit shall be conducted by an Irrigation Association Certified Landscape Irrigation Auditor (CLIA) who is approved by the City. The auditor shall be independent of the contractor, design firm, and owner/developer of the project. The Irrigation Audit will verify that the irrigation system complies with the minimum standards required by this ordinance. The average distribution uniformity for all tested turf zones must be at least 60% for fixed/spray zones and 70% for rotor/stream zones. All turf zones (valves) shall be tested for distribution uniformity, up to a maximum of eight (8) zones. When the

irrigation system consists of more than eight (8) zones, the auditor shall select and test eight (8) turf zones, including both fixed and rotor zones which are most representative of the system. All other zones, including drip irrigation, micro-spray, bubblers, or other designs, shall be turned on and inspected visually for head placement, head adjustment, appropriate gallon-per-minute emitters, pressure problems, leaks, and general coverage.

(c) When the above audit is required, the auditor shall furnish a report to the City and owner/developer certifying compliance with the minimum requirements. Compliance with this provision is required before the City will issue the certificate of occupancy.

(d) The property owner shall complete any changes, upgrades, or re-installations needed to comply with City codes. The owner shall pay the Landscape Plan Submittal Fee each time a new inspection or audit is performed by the Irrigation Auditor.

(e) A Certificate of Occupancy shall not be granted prior to completion of an Irrigation Audit (if required by this chapter), field inspection, and issuance of a Certificate of Substantial Completion.

(f) The City or its contractors may perform site inspections at any time before, during or after the irrigation system and landscape installation, and will require corrective measures if requirements of this chapter are not satisfied. Failure of the City to perform such inspection shall not be a waiver of enforcement of the requirements of this chapter.

Sec. 89-6-710 Cash Bond

(a) If the property owner desires to occupy the building or premises before the irrigation audit and landscape field inspection are complete, a cash bond or other approved financial instrument shall be made with the City according to Section 89-1-109 (private projects) and 89-6-1202 (public improvements). The cash bond or other approved financial instrument shall be released when the required Irrigation Audit and landscape field inspection are successfully completed.

(b) If property is exempt from the Irrigation Audit because landscaped area measures less than 1,000 square feet, all requirements of Section 89-1-109 (private projects) and 89-6-1202 (public improvements), and applicable requirements of this chapter must be met prior to bond release.

Sec. 89-6-711 Excessive Water Use

(a) Applicability. Applies to properties with Landscape Water Allowance described in section 89-6-703(a)(4).

(b) Notification. Water consumption records shall be monitored monthly by the City's Water Conservation Technician, or other City employee. Each month in which a customer's water consumption exceeds 130% of the monthly Landscape Water Allowance, the City shall notify the property owner by mail, summarizing monthly allowance and actual water consumption data. Upon receipt of such notification, the property owner shall inspect the irrigation system and attempt to bring water consumption within the Monthly Allowance. The appropriate City employee shall provide information or a reasonable amount of on-site assistance to help identify problems with the irrigation system or controller.

(c) **Additional Audits.** If a customer's water consumption exceeds 130% of the Monthly Allowance as determined by section 89-6-703(a)(4) during four (4) separate months during any calendar year, an Irrigation Audit shall be performed by a City-approved landscape Irrigation Auditor, at the property owner's expense, to determine if the water allowance should be adjusted and locate any leaks, maladjusted sprinkler heads, design flaws, or scheduling changes that should be made in order to meet the Monthly Allowance. The fee for this additional audit shall be the same amount that was paid for the original Landscape Plan Submittal Fee prior to the initial Building Department approval, and shall be included in the customer's utility bill. The fee shall not be required if the auditor determines that the customer's original water allowance was unfairly calculated.

(d) **Penalty.** If a customer's water consumption continues to exceed 130% of the Monthly Water Allowance after the additional audit described above, a penalty of \$500 shall be added to the customer's utility bill for each month that water consumption exceeds 130% of Monthly Water Allowance. After water consumption falls below the 130% threshold for two consecutive months during the normal irrigation season (April-October), any subsequent violations of the 130% threshold shall be considered a new penalty cycle beginning with Notification as described in section 89-6-711(b).

(e) **Administrative Review.** Within 30 days of receipt of penalty notification, a customer may request an administrative review by the City Manager or designated representative. The request shall include evidence that the excessive water use was due to circumstances beyond the customer's control. The City Manager or designated representative shall review the request and state the final determination within 30 days. The City Manager or designated representative may reduce or reverse the penalty if it is determined that excessive water use was beyond the customer's control.