

UNIFIED DEVELOPMENT CODE COMMITTEE A G E N D A

**UNIFIED DEVELOPMENT CODE COMMITTEE
REGULAR MEETING
WEDNESDAY, APRIL 13, 2016
9:00 AM**

**COUNCIL CHAMBERS
CITY HALL
201 S. CORTEZ STREET
PRESCOTT, ARIZONA
(928) 777-1207**

The following agenda will be considered by the **UNIFIED DEVELOPMENT CODE COMMITTEE** at its **REGULAR MEETING** to be held on **WEDNESDAY, APRIL 13, 2016, at 9:00 AM**, in the **COUNCIL CHAMBERS, CITY HALL**, located at **201 S. CORTEZ STREET**. Notice of this meeting is given pursuant to *Arizona Revised Statute*, Section 38-431.02.

- I. CALL TO ORDER**
- II. ATTENDANCE**

MEMBERS

Tom Menser, Chairman
Len Scamardo, Vice-Chairman
Jim Lamerson, Councilman

Steve Blair, Councilman
Greg Lazzell, Councilman
George Sheats

III. REGULAR ACTION ITEMS

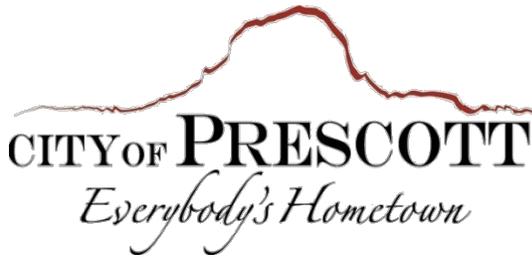
- 1. Approval of the March 30, 2016 Minutes
- 2. Continued discussion of Proposed General Engineering Standards
- 3. Discussion of LDC Amendments (Landscape & Wildland Urban Interface Map)

IV. ADJOURNMENT

CERTIFICATION OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Prescott City Hall and on the City's website on April 6, 2016 at 5:00 p.m. in accordance with the statement filed with the City Clerk's Office.

Darla Eastman, Administrative Specialist
Community Development Department



UNIFIED DEVELOPMENT CODE
 REGULAR MEETING
 MARCH 30, 2016
 PRESCOTT, ARIZONA

DRAFT MINUTES of the PRESCOTT UNIFIED DEVELOPMENT CODE COMMITTEE REGULAR MEETING held on MARCH 30, 2016 at 9:00 AM in COUNCIL CHAMBERS ROOM, CITY HALL, 201 S. CORTEZ STREET, PRESCOTT, ARIZONA.

I. CALL TO ORDER

Chairman Menser called the meeting to order at 9:00 a.m.

II. ATTENDANCE

BOARD MEMBERS	STAFF MEMBERS
Tom Menser, Chairman	Tom Guice, Community Development Director
Len Scamardo, Vice-Chair	George Worley, Planning Manager
George Sheats	Frank Hall, Community Planner
Councilman Lamerson	Darla Eastman, Administrative Specialist
Councilman Blair	
Councilman Lazzell	

III. REGULAR ACTION ITEMS

1. Approval of the March 2, 2016 Minutes

Mr. Lazzell, MOTION to approve the March 2, 2016 meeting minutes. Mr. Sheats, 2nd. VOTE 6-0; passed.

2. Continued discussion of Proposed General Engineering Standards (GES)

Henry Hash, Director of Public Works, thanked the Commissioners, staff, and Sandy Griffis, Yavapai County Contractor's Association for their support and time at the last meeting. Gwen Rowitsch reviewed the proposed changes and modifications to several chapters of City Code, including the Land Development Code as part of the adoption process of the GES. She stated that in addition to the changes to the City Code and LDC, the Financial Assurances and the Quad City Standard Details were included for review.

Tom Deveroux, Prescott Contractor, stated that he is proud of the subdivisions he has built and the ones he has been involved in. He said that there are many things that concern him with the proposed GES and the main item is Section 601P, Roadway Prism that was obviously copied from the City of Mesa's GES where they are working with "onion fields" that are perfectly flat ground. He then recited the first sentence from the LDC that states the purpose is to maintain the integrity of natural ground, the rock, trees, and the landscape. He said that blasting the right-of-way out to the property line is unnecessary and you wouldn't have a lot that anyone would want to buy. He continued by saying that it is his understanding that [Public Works] is going to allow a waiver for the one he is currently involved in, the Preserve at Prescott, and that

he takes offense to that. Because what that says to him is that everything we have done in the past is wrong and now [Public Works] is going to make it right. That means none of the subdivisions he has worked on would have been built if the new GES was in place.

Mr. Deveroux continued to give examples to Commission of how the roadways are designed currently and compared them to how the GES is requiring future roadways to be built. He stated that another example of how the GES mitigates the increase of cost and time on his projects and the prescription may not be effective and it puts more and more burden on the developer in turn passes the costs to the customer. Mr. Deveroux said that he feels that the design engineers who develop any project should have more say and shouldn't have their hands tied, as well as, in all the categories of the GES.

The Committee members then discussed the GES in more detail. The Committee wants to hear more about what doesn't work for the developers and what will assist them in project development. They are trying to figure out what will the 5% of the developers who oppose the GES and what can we do to fix the issues before we send it out as part of the Code based on the input we receive. The goal is to develop a set of standards for all the engineers to follow so that there is not mis-interpretation for the majority of the categories in the GES. Eventually these projects will be turned over to the City for maintenance.

Currently, they are seeing many of the projects that should last for 25 years needing repair or replacement within 5-7 years. The Committee has asked City staff to develop these standards so the project doesn't come back for the City to pay again. Another discussion item was that they did not want to see developers flatten the topography just to make it easier to put in utilities and other infrastructure. The designers who work with Prescott's unique landscape to build beautiful structures should be commended. If standards are written in a book, there may not be flexibility for someone with a unique situation to have the ability to work around it.

The Committee agreed that they do not support a document that doesn't have flexibility for unique situations, and if there is a unique situation the developers should not have to ask for a waiver. They also agreed that a special meeting with all the stakeholders to go through the GES and the changes that are being proposed would be beneficial. Another discussion by the Committee of the GES was that Prescott has various landscapes, soils and within the City and one standard will not fit into every site. There needs to be a review and dialogue for each site as to what will be accurately designed. If the bar needs to be raised on standards of the products that is different than infrastructure design.

Henry Hash commented that the Public Works staff have been more transparent than ever and have provided the best communication in the development of the GES. There have been many public meetings for months inviting contractors, developers, and engineers to attend and provide comments. The GES has changed dramatically in the past few months with all the comments by the stakeholders are included. He said he was very surprised to hear that contractor's were contacting the Committee members with questions about design standards. Mr. Hash stated that it is our intent is to provide our City with the best customer service we can provide and on day one, stakeholders know exactly what the City expects so there are no surprises, delays or extra costs.

The Committee continued to discuss the issues with the GES and what it requires and the lack of flexibility written within it. Mr. Hash stated that the Committee requested that staff develop the standards to protect the City against project failures. However, the Committee wants developers to be able to make changes at will and go the less expensive route. Unfortunately,

we can't have it both ways, he said, and he is going with what works best for the City and what will last. The standard changes over the years because our climate changes, population, infrastructure, and many other factors that would make the need for change.

Sandy Griffis, Yavapai County Contractor's Association, stated that we have had many meetings and have worked on hundreds of issues with developers, builders, architects, and surveyors (Public Works, YCCA, and stakeholders) and have solved many of those issues and have made corrections. Ms. Griffis stated that she feels there are "two elephants left in the room," and I don't know which of the two or what percent makes up the 5% who we do not have on board. Those elephants are the required use of ductile iron pipe (dip) on water installations; and rubber gasket reinforced concrete pipe (rgrcp) on all culvert and storm drain installations. The engineers in the community want to use pvc and hdpe or a cmp product. This is the case where one size does not fit all. By going to this "Cadillac-type" of material, we are losing our competitive edge in the City of Prescott when the price of building structures goes up. However, there needs to be decision of what type of products the GES requires, when to use it, and how to use it and it make it financially manageable for this community. She stated that products fail, but sometimes it's how it's installed and that will be an issue in the future.

The Committee decided that due to time constraints, the continued discussion of the GES, the sign regulations and remaining agenda items will be continued to be discussed at the next meeting on April 13, 2016. The Committee also requested that staff review and identify the changes in the UDC due to the GES standards.

3. Continued discussion of Revision of Sign Regulations

George Worley reviewed the Sign Regulations staff report and stated that a presentation was made to the Commission regarding changes to the sign code for a couple of reasons. They were initially triggered by the changes to the City's dis-allowance of the right-of-way signs. Also, to re-focus Prescott's sign code on the acceptable time, place and manner criteria are significant and resulted in staff considering a major conceptual change in the way signs are regulated and to simplifying the sign code.

Mr. Worley continued to discuss the sign codes and the two general categories, permanent and temporary within permanent signs into commercial zoning districts and residential zoning districts and then a further breakdown into free-standing and building-mounted signs. Temporary signs are broken down into commercial uses and residential uses.

The Committee discussed signs on commercial property and they felt it should be up to the property owner to decide what signs will go on the property and how many. Also the Committee discussed vegetation on the signs and if vines were allowed to grow over the sign and should they stay up if it's not visible to the public.

Mr. Scamardo, MOTION to forward the Revision of Sign Regulations to the next meeting of the Planning & Zoning Commission and for staff to review the section on vegetation and placing signs on commercial property should be at the owners' discretion. Mr. Lazzell, 2nd. VOTE 6-0; passed.

4. Residential Density in the Downtown Business District

Frank Hall reviewed the staff report and stated that the purpose of the proposed amendment to the Land Development Code (LDC) is to increase the multi-family residential density standard in the Downtown Business District (DTB). He said that currently, the increase in lot area needed for more than three (3) units decreases when open space or recreational amenities are included in the multi-family development. Mr. Hall provided an example of a fourth multi-family unit with a courtyard or gym would require the lot to be 8,150 square feet. He said that all other residential types permitted in the DTB district do not have a recreational or open space amenity requirement. The proposed amendment, if approved, would permit up to nine (9) multi-family dwelling units on a 7,500 square foot lot as compared to the current limit of three (3) units for the same size lot. It also complies with the goals of the General Plan to preserve the identity and image of downtown as a historic area and to encourage an expansion of the mix of commercial and residential uses in the downtown area.

Mr. Lazzell, MOTION to forward the the Residential Density in the Downtown Business District item be forwarded to the next meeting of the Planning & Zoning Commission. Mr. Scamardo, 2nd. VOTE 6-0; passed.

The Committee then decided that due to time constraints, the discussion of the GES and the LDC Amendments will be continued at the next meeting on March 30, 2016.

IV. CITY UPDATES

V. SUMMARY OF CURRENT OR RECENT EVENTS

VI. ADJOURNMENT

Tom Menser, Chairman adjourned the meeting at 11:25 a.m.



Darla Eastman,
Administrative Specialist

Tom Menser, Chairman



Public Works Department

433 N. Virginia Street
Prescott AZ 86301
928-777-1130

DATE: April 7, 2016
TO: Planning & Zoning Commission
FROM: Public Works Department
SUBJECT: General Engineering Standards (GES)

The development of the General Engineering Standards (GES) began in 2009. The GES is a technical document that will provide owners, developers and contractors with direction, construction requirements and the City's expectations for the development of infrastructure improvements. The GES will work together with the Land Development Code (LDC) and includes the following:

1. Introduction
2. Grading
3. Drainage
4. Water
5. Wastewater
6. Transportation and Traffic
7. Dry Utilities
8. Survey
9. Alterations & Modifications
10. Record Drawings (As-Built)
11. Quad City Standard Details

The City currently uses a variety of County, State and Federal standards as the basis for development of infrastructure improvements, outlined in Article 1 of the GES. The "Local Standards" include the GES, as well as several chapters of Prescott City Code. Therefore, several amendments to the City Code, including the LDC, are required as part of the adoption of the GES. Any changes to the LDC require a public hearing and recommendation by the P&Z Commission before being considered by the City Council.

The GES was originally drafted by City staff and subsequently reviewed by a committee in 2010, consisting of several local engineering firms. A separate committee was formed in 2012 for the review of Article 3, Drainage. Three public open house meetings were held to introduce the documents to all interested stakeholders in September and October of 2015, which yielded many discussions and comments. The Yavapai County Contractors Association (YCCA) also performed an extensive review of the GES in 2015-16 and formed their own committee made up of contractors and developers. In all, over 200 comments were received. Every comment was considered and/or discussed and many changes to the document were made.

The public review process continued at the March 2, 2016 meeting of the Unified Development Committee (UDC) where Public Works staff gave a general overview of the General Engineering Standards (GES) document. At the March 30, 2016 meeting of the UDC, the Committee took public input on the document(s). Key discussion items from the public included:

1. The use of Rubber Gasket Reinforced Concrete Pipe (RGRCP), High Density Polyethylene Pipe (HDPE) or Corrugated Metal Pipe (CMP) for use as a material for stormwater
2. Thickness of roadway base material and thickness of asphalt from 3" to 4"
3. The use of Ductile Iron Pipe (DIP) or Polyvinyl Chloride (PVC) Pipe for use as a material for water mains

On April 13, 2016, the UDC will conduct an additional meeting where Public Works staff will review the proposed changes and modifications to the LDC with the UDC Committee. The results of this meeting will be shared with the P&Z Commission at the meeting of April 14, 2016.

Changes to the City Code and LDC are necessary to accommodate the adoption of the GES. Items that are now requirements in the GES will be removed from the LDC and a reference to the GES inserted. Additionally, references to the "Engineering Services Department" will be replaced with the "Public Works Department" or the "City Engineer", as appropriate.

The materials distributed to the Commission include the draft of the GES as well as the sections of the City Code that are proposed to be modified. The City Code amendments, including the LDC are at the back of the book and separated with orange page dividers. Words that are UNDERLINED are proposed to be new text and ~~STRIKETHROUGH~~ is proposed to be deleted.

The following is a summary of the major items to be changed in the City Code and Land Development Code:

Title 2, Chapter 2-1, Departments/Public Works

- Minor definition changes

Title 8, Chapter 8-1, Public Ways & Property/Sidewalks

- Reference to YAG standards for construction of sidewalks deleted. Refer to GES, Article 1.

Title 8, Chapter 8-2, Public Ways & Property/City Right of Way

- Removed safety guidelines when working in the right of way and separation between utilities as these items are now in the GES.
- Right-of Way Permit fee proposed to be increased from \$20 to \$50.
- Location of bus benches subject to approval of Public Works Director.

Title 10, LDC, Article 6/General Development Standards

- Off-street Parking & Loading for workforce housing reduced from 2 parking spaces to 1 per dwelling unit, plus .50 guest spaces up to 20 spaces maximum.
- Off-Street Parking & Loading, Sec. 6.2. There is no street cross section for an alley. Improvement requirements for alleys are now described in LDC 6.2.5.A.2.
- Access Management, LDC, Sec. 6.3 modified to reflect GES standards or references to GES.
- Fences and Walls, LDC, Sec 6.4 clarified the height of retaining walls that need a building permit.
- Landscaping & Screening, LDC, Sec. 6.5

- Added reference to Arizona Department of Water Resources (ADWR) Low Water Use Drought Tolerant Plant List and deleted reference to ADWR Plant list for the AMA.
- Referenced the new Sanitation Dumpster detail, including screening in COP Standard Detail 144P.
- Drainage, Floodplains & Drainageways, LDC, Sec. 6.6
 - References to the Drainage Criteria Manual are deleted. It is being replaced with the GES, Article 3.
 - Drainage detention basin references are deleted. Detention basin criteria is in the GES.
- Site Disturbance, Grading and Restoration Standards, LDC, Sec. 6.7
 - Site disturbance may only occur with a grading permit.
 - Grading permits may be issued with a preliminary plat or preliminary development plan approved by the Community Development Director.
 - Single site development is expanded to clarify when financial assurances are required. Single-family homes are exempt from financial assurances.
 - Bank stabilization is clarified to include multi-family development and single-family parcels that are part of a larger plan of development.
 - Added language to increase the financial assurance amount withheld when permanent stabilization is not established at the conclusion of the project. Added flexibility for actual cost or 20%, whichever is less.
- Hillside Development Standards, LDC, Sec. 6.8
 - Language related to size of driveway culverts is deleted. Culvert sizing is in the GES.

Title 10, LDC, Article 7/Subdivision & Land Split Standards

- Subdivision and Land Split Design Standards, LDC, Sec. 7.4
 - Language added to clarify that P&Z and Council may waive requirements of Subdivision Code, with the exception of the standards of the GES.
 - References to YAG standards are deleted and GES, Article 1 added.
 - Street classifications are now included in the GES and Table 7.4.3.L.
 - There is no street cross section for alleys. Improvement requirements are described in LDC 6.2.5.A.2. and 7.4.3.I.
 - Table 7.4.3.L was updated to reflect new street cross-sections.
 - Sidewalks section updated to clarify requirements and to be consistent with GES.
 - Bikeways and multi-use paths updated to clarify requirements and to be consistent with new street cross-sections.
 - Added flexibility to allow fences in a drainage easement when subsurface conveyance of the 100-year storm is provided.
 - Clarification of how utility easements are measured. No change in size.
 - Added language for backflow prevention.
 - Location and placement of street lights is deleted from LDC. Refer to GES, Article 6.
 - Clarification provided for placement of survey monuments and corner markers. Reference to the new Quad City Standard Detail 120Q "Survey Marker" was added.
- Subdivision and Land Split Improvement Guarantees, LDC, Sec. 7.6
 - The requirements for Financial Assurances were moved to the GES, Section 1.4. The language requiring financial assurances is still in the LDC in several locations.

Title 10, LDC, Article 8/Review Bodies

- "City Engineer" to replace "Engineering Services Director".

Title 10, LDC, Article 9/ Administration and Procedures

- Reference to GES and clarification of erosion controls versus a stormwater pollution prevention plan was added to “Site Disturbance and Grading Permit” section of the LDC.
- Clarification added to “Subdivision Plat Review” for information needed on the plan. These changes are a reflection of the items listed in the GES.
- Change in the language to the surveyor’s certificate on the final plat for clarity.
- Added language regarding the subdivision boundary of the plat.
- Added language requiring flood zone information on the plat.
- Added language requiring flow arrows for drainage be added to the plat.
- Electronic survey datum requirements deleted from LDC. Refer to the GES, Article 8.
- Language added to clarify that Council may waive requirements of Subdivision Code, with the exception of the standards of the GES.

Title 10, LDC, Article 11/ Definitions

- Several definitions in the LDC are no longer applicable and proposed to be deleted.
- Several definitions in the LDC were modified to meet current standards or to be consistent between the different chapters of City Code.

Title 16, Chapter 16-1, Street & Utility & Drainage Regulations/Standard Specifications & Detail Drawings & Uniform Standard Specifications for Public Works Construction

- This section is being deleted in its entirety and replaced with the GES, Article 6.

Title 16, Chapter 16-2, Street & Utility & Drainage Regulations/Drainage Regulations

- This section is being deleted in its entirety and replaced with the GES, Article 2 & 3.

Title 16, Chapter 16-3, Street & Utility & Drainage Regulations/Drainage Criteria Manual

- This section is being deleted in its entirety and replaced with the GES, Article 3.
-

In addition to the changes to the City Code, the following items are also included in this packet:

General Engineering Standards, Article 1, Introduction

- Article 1 has been reprinted for the committee due to the addition of Section 1.4, Financial Assurances.

General Engineering Standards, Appendix B, Standard Details

- Quad City Standard Details are complete and a part of this packet for review.

MEETING DATE: 3/30/2016

DEPARTMENT: Community Development

AGENDA ITEM: Amendment to Land Development Code Landscaping regulations and Wildland Urban Interface map

Approved By:

Date:

Director:	Guice, Tom		3-15-16
Planning Manager:	George Worley		3/15/16

Introduction

In association with the Land Development Code (LDC) amendments required by the proposed adoption of General Engineering Standards (GES), a number of other amendments appear to be appropriate to address other aspects of the LDC. These include a proposed change to the landscaping requirements for commercial and industrial developments to require low water use plants from the Arizona Department of Water Resources (ADWR) list of drought tolerant plants, and a possible amendment to the Wildland Urban Interface (WUI) map to include some portion of the recent Deepwell Ranch annexations.

Background

The LDC currently recommends using plants from an incorporated list for commercial development projects. It also contains an older version of the ADWR Low Water Use Drought Tolerant Plant List in Appendix C for reference. Given the significant efforts of the City to appropriately manage water resources, changing LDC language to make the use of ADWR approved plants in all future commercial project landscaping may be appropriate. The proposed amendment would refer to the current edition of the ADWR list and would make it mandatory for all new commercial developments to use only approved plants from the list.

As a result of the recent annexations west of SR 89 and north of Pioneer Parkway, the Fire Department is evaluating the need to amend the WUI map to appropriately classify portions of the annexed area as subject to the WUI code requirements.

Attachments

1. Draft LDC Section 6.5 landscaping code language with updates
2. Current LDC plant list to be deleted
3. ADWR Low Water Use Drought Tolerant Plant List
4. Draft Wildland Urban Interface map

Sec. 6.5 / Landscaping and Screening

6.5.1 / Purpose

This article provides standards for the installation and maintenance of landscaping, walls and screening devices in order to preserve and enhance the natural environment and beauty of the city, to minimize the adverse effects of development, and to promote the general welfare of the citizens of Prescott. Landscaping materials, including ground cover, shrubs, and trees facilitate the control of erosion and the reduction of glare and dust, and soften the visual impact of building masses. Walls and screening devices allow the separation of potentially incompatible uses and the buffering of road noise and intensive activities.

Commentary:

The goal of these regulations is to create pedestrian shade, screen parking lots and provide a high quality appearance along the public rights-of-ways.

Landscaping, walls and screening devices together, help to effectuate privacy, logical development, and enhancement of property values. In order to preserve the unique natural character of the city, these standards emphasize the retention of native trees, shrubs, rock formations, and other natural site features. To conserve water resources, use of drought tolerant plant materials and efficient irrigation systems is encouraged required. See Section 6.5.5 C for acceptable plant materials. Commercial, multifamily and subdivision-wide landscaping plans may require submittal of a water demand analysis to verify water usage and necessary meter size determination.

6.5.2 / Applicability

This Section shall apply to:

- A. All new multi-family and nonresidential development;
- B. Change of use from residential to nonresidential where City approvals are required;
- C. Change of use from single-family to multi-family residential where City approvals are required; and
- D. Expansion, remodeling, and renovation of existing buildings on a lot or building tract, or a related or stand alone parking lot shall provide an amount of landscaping and screening commensurate with the level or scale of the improvements.

Commentary:

Expansions, remodeling and renovations should provide commensurate landscaping. For example, an addition that represents a 25 percent increase in floor area relative to the existing improvements shall prompt a requirement to provide a 25 percent increase in the lot or building tract's deficient landscaping and screening.

6.5.3 / General Requirements

A. Landscape and Site Plan

All proposed buildings and uses shall be shown on a landscape and site plan prepared by an Arizona registrant, unless waived by the Community Development Director. Landscaping shall be installed per approved plan unless otherwise modified by the Community Development Director. All landscape and site plans shall indicate:

1. Location of existing and proposed buildings, parking areas, drainage and street improvements;
2. Location of existing trees outside of building footprints;
3. Locations and general types of landscaped treatment areas -- i.e., lawn areas, low-water use areas, and inorganic areas;
4. Proposed plant or inorganic materials to be used in each treatment area;
5. Underground irrigation systems to be used in each planted area; and
6. Curbs, walls and screening devices.
7. Permanent slope stabilization requirements.

B. Location of Utilities and Drainage Facilities

1. Existing and Proposed utilities shall be located, when possible, so that their installation will not adversely affect vegetation to be retained on a site.

2. Drainageways and detention basins may be located within landscaped areas when designed compatible with the planted area and plant species, in accordance with the City of Prescott General Engineering Standards.

C. Installation

Landscaping, underground irrigation systems, walls and screening structures shall be installed in accordance with the approved landscape or screening plan prior to issuance of a final Certificate of Occupancy for the building or use. The Building Official may grant a temporary Certificate of Occupancy for up to 6 months when a performance bond is provided by the applicant to guarantee the completion of any incomplete landscape or screening improvements.

D. Maintenance Requirements

1. Unless otherwise specified, the maintenance of landscaping in the public right-of-way is the responsibility of the adjacent property owner, whether an individual, corporation, or homeowner's association.
2. Landscaped areas shall be reasonably maintained by the owner or the lessee of the property, including pruning, trimming, weeding, and other requirements necessary to create an attractive appearance for the development. Lack of maintenance of required landscaping material shall constitute a violation of this Code.
3. Plant materials not surviving shall be replaced within 90 days of its demise.

E. Landscaping in Rights-of-way

Approval of the Public Works Director is required prior to placing landscaping and other improvements in rights-of-way.

F. Irrigation

All required landscaped areas shall include a permanent, underground water irrigation system as defined herein to insure the long-term health and growth of the landscape. Irrigation system design shall take into consideration the water-demand characteristics of plant or landscape materials used. Alternative irrigation systems may be approved the Community Development Director subject to proven effectiveness.

Commentary:

Xeriscape plants, high water use plants and inorganic materials (like gravel) obviously have different irrigation needs. This section reminds the reader that respective water requirements of alternative landscape materials should be taken into consideration when designing irrigation systems. See also Appendix C for drought tolerant plants required within public rights-of-way.

G. Site Disturbance

Any portion of a site disturbed by site preparation and/or construction, especially cut or fill slopes, shall be adequately revegetated and stabilized, prior to issuance of a Certificate of Occupancy in accordance with the City of Prescott General Engineering Standards.

6.5.4 / Existing Vegetation – Replacement and Credits

- A. To the extent practical, existing significant landscape features shall be preserved and incorporated into the final landscape and site plans. Existing landscaping may be used to meet the requirements of this Code if it meets the purpose and intent of this article and is included on the approved landscape plan. Such vegetation shall be protected during all phases of site development and given sufficient area and means for growth and water absorption. A credit of up to a 200 percent may be allowed toward shrubs otherwise required pursuant to Sec. 6.5.5, Minimum Landscaping Standards; Sec. 6.5.8, Screening Standards; and Sec. 6.5.6, Parking Area Landscaping, for every shrub greater than 2 square feet that is preserved or transplanted.

Commentary:

For example, if a total of 20 inches of tree caliper are removed from outside the building footprint, a minimum of 10 inches must be replaced; preserving and/or transplanting 5 inches would meet the replacement requirement.

- B. The tree replacement requirement shall be 50 percent of the total caliper of trees removed from outside of the building envelope. A 200 percent credit toward the tree replacement requirement shall be granted for retaining and preserving healthy trees 4" or greater in caliper size, excluding Siberian Elm. This tree credit shall also count toward required landscaping in Sec. 6.5.5, Minimum Landscaping Standards; Sec. 6.5.8, Screening Standards; and Sec. 6.5.6, Parking Area Landscaping. Trees to be preserved shall be adequately protected from vehicles, undermining or collapse.

6.5.5 / Minimum Landscaping Standards

All undeveloped areas of each lot or tract and the adjacent right-of-way or parkway shall be landscaped with trees, shrubs, grasses, ground cover and other organic and assorted inorganic materials that create an attractive appearance in accordance with the requirements of this Section; provided, however, smooth concrete or asphalt surfaces are not landscaping. Clustering of trees and shrubs is encouraged.

A. Trees, Shrubs, and Grasses

Recommended plant materials for on-site landscaping are listed in the [Arizona Department of Water Resources Low Water Use Drought Tolerant Plant List \(See Appendix C\). Plant Palette below.](#) Minimum landscaping shall include the following frequency and size of plantings:

1. Trees

One tree shall be utilized per 25 linear feet (in no case closer than 25 feet apart) of required landscaped area.

2. Shrubs

Four shrubs per 250 square feet (or fraction thereof) of required landscaped area shall be provided.

3. Grasses, ground covers, and inorganic materials

Any combination of grasses, ground covers, and inorganic materials may be used for the balance of the required landscaping at the developer's discretion, however, a dressing of gravel, decomposed granite or mulch shall be required to hold moisture, slow runoff, and restrain weed growth. Such dressing material shall be selected and sized to withstand potential removal by wind and stormwater flows.

B. Plant Types/Minimum Plant Sizes

The following minimum plant size requirements shall apply in all cases:

Table 6.5.5B

PLANT TYPE/ MINIMUM PLANT SIZES	
Deciduous Trees	One to 1.5 inch caliper (measured one foot above ground)
Evergreen Trees	5 feet tall
Shrubs	5-gallon container size + 18 inches tall
Woody Ground Cover	1-gallon container with 12 inch spread

C. Landscape Plant List

1. Public Rights-of-Way

~~See Appendix C for a list of required plants compiled by the Arizona Department of Water Resources for the Prescott AMA. These plant species are required for use within any public right-of-way where potable water is utilized for irrigation.~~

2. All Other Applicable Properties and Public Rights-of-Way

~~Plants used to satisfy landscape requirements other than public rights-of-way are not specified in the interest of property owner discretion and creativity. However, please see the recommended plant list, or Plant Palette, in the Commentary following: shall be limited to those listed in the current Arizona Department of Water Resources Low Water Use Drought Tolerant Plant List.~~

Delete Table

Commentary: Use of locally appropriate shrubs, trees and grasses or plants with low-water demand characteristics is encouraged, but not required, in all cases in order to minimize the consumption of water. Recommended (not required) plant materials for general landscaping include the following (Plant Palette):

NATIVE OR NATURALIZED TREES AND SHRUBS

Chaparral Zone:

- Acer negundo/Box elder - 2
- Cercocarpus ledifolius/Mountain mahogany - 4,5
- Cowania mexicana stansburiana/Cliff rose - 5
- Cupress arizonica/Arizona cypress - 2
- Juniperus deppeana/Alligator juniper - 2
- Pinus edulis/Pinon pine - 3
- Platanus wrightii/Arizona sycamore - 2
- Quercus gambelii/Gambel oak - 3

Appropriate Non-Native Chaparral Zone Trees and Shrubs Include:

- Acer glabrum/Rocky Mt. Maple - 3
- Elaeagnus angustifolia/Russian olive - 3
- Fraxinus velutina/Arizona ash - 2
- Robinia ambigua 'Idahoensis'/Idaho Locust - 3
- Salix matsudana 'Navajo'/Desert Willow - 2

Non-Native Deciduous Trees

- Acer palmatum/Japanese maple - 3
- Cercis occidentalis/Eastern redbud - 3
- Juglans nigra/Black walnut - 1
- Liquidambar styraciflua/American sweetgum - 1
- Malus floribunda/Flowering crabapple - 3
- Populus tremuloides/Quaking aspen - 2
- Prunus spp./Flowering cherry - 3
- Pyrus calleryana/Flowering pear - 2
- Quercus palustris/Pin oak - 2
- Quercus rubra/Red oak - 1
- Rhus typhina/Staghorn sumac - 3
- Salix caprea/Pussy willow - 3
- Sorbus aucuparia/Mountain ash - 2
- Tilia tomentosa/Silver linden - 2

Non-Native Deciduous Shrubs:

- Amelanchier laevis/Serviceberry - 3
- Berberis thunbergii/Redleaf barberry - 6
- Caragana arborescens/Siberian peashrub - 4
- Chaenomeles speciosa/Flowering quince - 6
- Cotoneaster horizontalis/Creeping cotoneaster - 6
- Cotoneaster microphyllus/Rockspray cotoneaster - 6
- Euonymus alata/Winged euonymus - 4
- Forsythia suspensa/Forsythia - 6
- Kolkwitzia amabilis/Beauty bush - 4

Ponderosa Pine/Gambel Oak Zone:

- Cupress arizonica/Arizona cypress - 2
- Juniperus scopularium/Rocky Mt. Juniper - 2
- Pinus ponderosa/Ponderosa pine - 1
- Quercus gambelii/Gambel oak - 3
- Cedrus Deordora/Deordora Cedar
- Picea Pungens/Blue Spruce

Appropriate Non-Native Ponderosa Pine /Gambel Oak Zone Trees and Shrubs Include:

- Crataegus spp./Hawthorn - 3
- Pinus nigra/Austrian pine - 2
- Pinus sylvestris/Scotch pine - 1
- Leland Cypress - 2
- Emerald Isle Cypress - 3

Non-Native Evergreen Trees

- Pinus latifolia/Lodgepole pine - 1
- Pinus monticola/White pine - 1

Non-Native Evergreen Shrubs

- Artemisia tridentata/Big sagebrush - 5
- Atriplex canescens/Four-wing saltbush - 6
- Fallugia paradoxa/Apache plume - 6
- Juniperus spp./Juniper - varies
- Mahonia aquifolium/Oregon grape - 5
- Pinus mugo/Mugho pine - 4
- Pyracantha coccinea/Firethorn - 4
- Santolina chamaecyparissus/Lavendar cotton -
- Yucca baccata/Datil Yucca - 6

- Potentilla fruticosa/Cinquefoil - 6
- Prunus virginiana/Choke cherry - 3
- Rhamnus frangula 'Columnaris'/Tallhedge buckthorn - 3
- Rhus glabra/Smooth sumac - 4
- Ribes spp./Currant - 6
- Rosa rugosa/Rose - 6
- Sambucus canadensis/Elderberry - 4
- Syringa vulgaris/Common lilac - 4
- Viburnum opulus/European cranberry - 4

Lonicera fragrantissima/Winter honeysuckle - 5

Weigela florida/Flowering weigela - 6

Philadelphus coronarius/Sweet mockorange - 4

Buddleia davidii/butterfly bush - 4

Key to plant height at maturity:

1 - Large Canopy Trees range >60'

3 - Small Canopy Trees range 30'-60'

5 - Understory Trees range 15'-30'

2 - Tall Shrubs range 8'-15'

4 - Medium shrubs range 5'-8'

6 - Low Shrubs range 2'-5'

6.5.6 / Parking Area Landscaping

Parking lot landscaping shall be subject to the following minimum standards:

A. Parking Lot Perimeters

1. Street Frontages

- a. All parking lots adjacent to a street shall be landscaped with a minimum width of 10 feet on site (measured from the right-of-way edge), with plantings as specified in Sec. 6.5.5, Minimum Landscaping Standards. Right-of-way edges shall be cleaned up and integrated with the street frontage landscaping. The minimum landscape strip may be reduced along part of the frontage provided an average landscaped width of 10 feet is maintained along the overall frontage.
- b. In addition, parking areas with street frontages longer than 200 feet shall be screened from street view to a height of 3 feet with a masonry wall, berm or dense landscaping, or a combination of 2 or more of these elements. Such walls shall utilize materials and otherwise be designed to be compatible with the architecture of the principal structure on the site. Landscaping shall be provided adjacent to the outside of such walls with plantings as specified in Sec. 6.5.5, Minimum Landscaping Standards.

2. Other Parking Perimeters

Non-frontage perimeters of a parking lot shall be landscaped with a 5 foot wide landscape strip with plantings as specified in Sec. 6.5.5, Minimum Landscaping Standards. This minimum landscape strip may be reduced to 3 feet when a minimum 3-foot high wall is provided in accordance with Sec. 6.5.6A.1.b., above.

3. Transfer of Required Landscaping

The Community Development Director may approve the transfer of required parking area landscaping from required locations to other locations on the site, provided the purpose for this section is achieved.

4. Landscape Protection

All landscaped areas adjacent to vehicular parking and access areas shall be protected by 6-inch vertical concrete curbing, 6-inch pre-cast bumpers, or similar materials in order to control storm water flows and minimize damage by vehicular traffic. Vehicles may overhang landscaped areas up to 2-feet into landscaped areas that are at least 5-feet wide, but may not overhang sidewalks and other pedestrian walkways. This provision applies equally to vehicle display areas.

B. Landscaped Islands

Parking lots with more than 50 spaces shall provide landscaped parking islands according to the following standards:

1. All landscaping parking islands shall be a minimum of 4 feet wide and contain a minimum of 40 square feet in area; provided, however, landscape islands may be aggregated into fewer and larger islands that meet overall planting and area standards.

Low Water Use Drought Tolerant Plant List

Official Regulatory List for the Arizona Department
of Water Resources, Prescott Active Management Area



2200 East Hillisdale Road
Prescott, AZ 86301

Photo - Jim Morgan

(928) 778-7202
www.azwater.gov

LOW WATER USE DROUGHT TOLERANT PLANT LIST

OFFICIAL REGULATORY LIST FOR THE ARIZONA DEPARTMENT OF WATER RESOURCES PRESCOTT ACTIVE MANAGEMENT AREA

This is an official regulatory list that was developed to guide the regulated community in choosing low water use and drought tolerant landscaping plants. Within the Prescott AMA, all plants irrigated with groundwater within any publicly owned right-of-way of a highway, street, road, sidewalk, curb or shoulder which is used for travel in any ordinary mode, including pedestrian travel, may be used only if the plants are listed on the ADWR Low Water Use Plant List (or any subsequent modifications to the list) for the Prescott AMA. Per the Third Management Plan, the director may waive this requirement under special circumstances. This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way.

This list can also be used as a resource for residents and businesses that are interested in conserving water through low-water-use landscaping. These plants can be grown in the Prescott area with no-to-moderate supplemental irrigation once the plant is established. All plants listed can grow with less water than traditional high water use landscape plants and do not require more than the Prescott AMA criteria for low water use plants: a maximum of 12 inches of supplemental irrigation on an annual basis, not including rainfall.

Individuals wishing to add or delete plants from the list may submit an application for modification to the Prescott AMA office for consideration. The list will be amended as appropriate. The list and application may be downloaded from the ADWR website at www.azwater.gov.

An advisory committee reviews all applications for modification and submits recommendations to the AMA Director for final consideration.

The Prescott AMA extends its gratitude to the following members of the Plant List Advisory Committee for their generous contribution of time and expertise:

Dusty Eiker, Mountain West Landscape Resources
Charlie Hildebrandt, Mountain Path Landscaping
Steve Morgan, T. Barnabas Kane & Associates
Jeff Schalau, University of Arizona – Yavapai County Cooperative Extension
Nichole Trushell, Highlands Center for Natural History
Harold Watters, Watters Design & Garden Center

Cover Photo: Special thanks to Jim Morgan of Wings of Nature, Wildlife Photography and Recordings, for the use of his photo: Mexican cliff rose, *Cowania mexicana stansburiana*

DEFINITIONS AND KEY TO SYMBOLS

Water Use
 The amount of supplemental irrigation that may be needed on an annual basis under normal precipitation conditions once the plant is established. During an abnormally dry year, it may be necessary to increase irrigation to achieve average annual precipitation in addition to the suggested supplemental irrigation.

1 = 0 - 4 inches
 2 = 5 - 8 inches
 3 = 9 - 12 inches

Note: 0.62 gallons of water is equivalent to one inch of precipitation on one square foot of soil.

Botanical Name

International binomial system in which the first name represents genus, and the second, species. Additional words may be added to the name to describe further subdivisions.

Common Name

The non-scientific name by which a species of plant is known.

Local Zone

Area(s) within the Prescott AMA where the plant will usually succeed and where it should not require more water than the amount of supplemental irrigation indicated under Water Use:

G = Grassland - 4,400' - 5,000' (average annual rainfall 10 - 14 inches)
 T = Transition - Pinyon Juniper/Chaparral/Oak Woodland - 4,400' - 6,000' (average annual rainfall 12 - 16 inches)
 P = Ponderosa/Montane - 5,500' - 7,800' (average annual rainfall 16 - 20 inches)

Spreads in Cultivated Areas

Plant may aggressively spread by seed, sucker or other method in prepared, irrigated areas. Invasive species have been purposely left off this list.

Seasonal Color

The season(s) in which the plant shows color in the form of blooms or foliage. Details regarding bloom and foliage color are included in the Comments column.

W = Winter
 SU = Summer
 SP = Spring
 F = Fall

Evergreen or Deciduous

E = Evergreen - has foliage that persists and remains green throughout the year
 D = Deciduous - loses foliage at the end of the growing season
 S = Semi-deciduous - partially loses foliage at the end of the growing season
 SC = Succulent - has thick, fleshy, water-storing leaves or stems

Origin

Area or country to which the plant is native

N = North
 W = West
 CA = California
 N Am = North America
 Med = Mediterranean
 S = South
 C = Central
 Mtn = Mountain
 S Am = South America
 E = East
 MW = Midwest
 U.S. = United States
 Mex = Mexico

Comments

Includes notable information about the plant

TREES: Perennial woody plants having a main trunk and usually a distinct crown

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
2	<i>Albizia julibrissin</i>	Silk Tree, Mimosa	G,T	No	SU	D	Asia	Pink flower clusters
2	<i>Calocedrus decurrens</i>	Incense Cedar	G,T,P	No		E	W U.S.	
2	<i>Cedrus atlantica</i>	Atlas Cedar	G,T,P	No		E	Middle East	
2	<i>Cedrus deodara</i>	Deodar Cedar	G,T,P	No		E	Asia	
2	<i>Quercus occidentalis</i>	Common Hackberry	G,T,P	No	F	D	E U.S.	Gold foliage in Fall
1	<i>Quercus reticulata</i>	Western Hackberry	G,T,P	No	F	D	W U.S.	Gold foliage in Fall
3	<i>Cercis canadensis</i> 'Oklahoma'	Oklahoma Redbud	T,P	No	SP	D	MW U.S.	Intense fuchsia blooms, waxy green leaves
1	<i>Chilopsis linearis</i>	Desert Willow	G	No	SP/SU	D	SW U.S.	White to pink blooms
2	<i>Chitalpa tashkentensis</i>	Chitalpa	G,T	No	SP/SU	D	Hybrid	Pink blooms, Chilopsis/Catalpa cross
3	<i>Cotinus coggygria</i>	Purple Smoke Tree	G,T,P	No	SU/F	D	Eurasia	Purple foliage, red to orange in Fall, smoke-like flowers
3	<i>Crataegus laevigata</i>	English Hawthorn	G,T,P	No	SP/F	D	Med	White to pink blooms in Spring, yellow foliage in Fall
3	<i>Crataegus coccinea</i>	Scarlet Hawthorn	G,T,P	No	SP/F	D	MW U.S.	Rosy pink blooms in Spring, yellow foliage in Fall
2	<i>Cupressus arizonica</i>	Arizona Cypress	G,T	No		E	SW U.S.	
3	<i>Fraxinus velutina</i>	Arizona Ash	G,T	No	F	D	SW U.S.	Gold foliage in Fall, F. v. Modesto is a popular variety
3	<i>Gleditsia thacanthos inermis</i>	Thornless Honey Locust	G,T,P	No	F	D	MW U.S.	Yellow foliage in Fall, colored leaved varieties available
2	<i>Juglans major</i>	Arizona Walnut	G,T,P	No	F	D	SW U.S.	Yellow foliage in Fall
1	<i>Juniperus deppeana</i>	Alligator Juniper	G,T,P	No		E	SW U.S.	
1	<i>Juniperus monosperma</i>	One-seed Juniper	G,T,P	No		E	SW U.S.	
1	<i>Juniperus osteosperma</i>	Utah Juniper	G,T,P	No		E	SW U.S.	
1	<i>Juniperus scopulorum</i>	Rocky Mountain Juniper	G,T,P	No		E	W U.S.	
2	<i>Juniperus virginiana</i> 'Cupressifolia'	Hillspire Juniper	G,T,P	No		E	E U.S.	

November 2006

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
TREES (continued):								
3	<i>Koeleruteria paniculata</i>	Goldenrain Tree	G,T,P	No	SP/F	D	Asia	Bright yellow blooms in Spring, gold foliage and reddish seed pods in Fall
3	<i>Malus</i> spp.	Flowering Crabapple	G,T,P	No	SP/F	D	N Hemisphere	Intense white to red blooms in Spring, colorful foliage in Fall
2	<i>Picea densata</i>	Black Hills Spruce	G,T,P	No		E	N U.S.	
2	<i>Pinus aristata</i>	Bristlecone Pine	T,P	No		E	W U.S.	
2	<i>Pinus edulis</i>	Pinyon Pine	G,T,P	No		E	SW U.S.	
2	<i>Pinus heldreichii</i>	Bosnian Pine	G,T,P	No		E	Europe	
2	<i>Pinus monophylla</i>	Singleleaf Pinyon Pine	G,T,P	No		E	SW U.S.	
3	<i>Pinus nigra</i>	Austrian Pine	G,T,P	No		E	Europe	
2	<i>Pinus ponderosa</i>	Ponderosa Pine	T,P	No		E	W U.S.	
2	<i>Pinus sylvestris</i>	Scotch or Scots Pine	G,T,P	No		E	Europe	
2	<i>Pistacia chinensis</i>	Chinese Pistache	G,T	No	F	D	China	Orange to red foliage
2	<i>Prunus emarginata</i>	Bitter Cherry	G,T,P	No	SP	D	W U.S.	White blooms
3	<i>Prunus padus</i>	Mayday Tree	G,T,P	No	SP	D	Eurasia	White blooms
3	<i>Prunus serotina</i>	Black Cherry	G,T,P	No	SP	D	MW, E U.S.	White blooms
2	<i>Prunus virginiana demissa</i>	Western Chokecherry	G,T,P	No	SP	D	W U.S.	White blooms
1	<i>Quercus arizonica</i>	Arizona White Oak	T,P	No		D	SW U.S.	Leaves drop May/June, refoliate early Summer
2	<i>Quercus buckleyi</i>	Texas Red Oak	G,T,P	No	F	D	S U.S.	Red foliage
1	<i>Quercus emoryi</i>	Emory Oak	T,P	No		D	SW U.S.	Leaves drop May/June, refoliate early Summer
1	<i>Quercus gambelii</i>	Gambel Oak	P	No		D	SW U.S.	
3	<i>Quercus lobata</i>	California White Oak	G,T	No		D	CA	
3	<i>Quercus macrocarpa</i>	Bur Oak	T,P	No	F	D	N Am	Yellow and brown foliage

November 2006

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
TREES (continued):								
2	<i>Quercus virginiana</i>	Southern Live Oak	G,T,P	No		E	SE U.S.	Heritage is a good cultivar.
2	<i>Rhus typhina</i>	Staghorn Sumac	G,T,P	Yes	F	D	N Am	Red to orange foliage
2	<i>Robinia ambigua</i>	Locust	G,T,P	No	SP	D	Hybrid	Pink to purple blooms, some cultivars subject to breakage
2	<i>Robinia pseudoacacia</i>	Black Locust	G,T,P	No	SP	D	E, C U.S.	White blooms
2	<i>Sophora japonica</i>	Japanese Pagoda Tree	G,T,P	No	SP	D	Asia	Yellow blooms, persistent seed pods
1	<i>Ulmus parvifolia</i>	Chinese Elm	G,T	No		D	Asia	Attractive mottled bark
SHRUBS: Woody plants of relatively low height, having several stems arising from the base and lacking a single trunk; a bush								
1	<i>Acacia greggii</i>	Catclaw	G,T	Yes	SP	D	W U.S.	Yellow blooms
1	<i>Agave parryi</i>	Century Plant	G,T,P	No		SC	SW U.S.	Blooms after twenty years
2	<i>Amelanchier laevis</i>	Serviceberry	G,T,P	No	SP/F	D	E U.S.	Write to pink colored blooms in Spring, yellow to orange foliage in Fall
2	<i>Amelanchier utahensis</i>	Utah Serviceberry	G,T,P	No	SP	D	W U.S.	White blooms
2	<i>Amorpha fruticosa</i>	False Indigo	G,T,P	No	SP/F	D	E U.S.	Purplish blue blooms in Spring, yellowish foliage in Fall
1	<i>Arctostaphylos</i> spp.	Manzanita	T,P	No	SP/SU	E	W U.S.	Pink blooms
1	<i>Artemisia frigida</i>	Fringed Sage	G,T,P	Yes	SP	E	W U.S.	Yellow blooms
1	<i>Artemisia ludoviciana</i>	Prairie Sage	G,T,P	Yes	SP	E	W U.S.	Yellow blooms
1	<i>Artemisia 'Powis Castle'</i>	Powis Castle	G,T,P	No		E	Hybrid	Silver foliage
1	<i>Artemisia tridentata</i>	Big Sagebrush	G,T,P	No	SP	E	W U.S.	Yellow to green blooms, very fragrant after rain
1	<i>Atriplex canescens</i>	Four-wing Saltbush	G,T,P	No		E	W U.S.	Persistent seeds of interest
2	<i>Buddleia davidii</i>	Butterfly Bush	G,T,P	No	SU/F	D	China	White to purple blooms June - October
1	<i>Caesalpinia gilliesii</i>	Bird of Paradise	G,T	Yes	SP/SU	D	S Am	Yellow blooms with long red stamens

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
SHRUBS (continued):								
1	<i>Caragana arborescens</i>	Siberian Peashrub	G,T,P	No	SP/SU	D	Asia	Yellow blooms, attracts grasshoppers
2	<i>Caryopteris x clandonensis</i>	Blue Mist	G,T,P	Yes	SU	D	Hybrid	Blue blooms, attracts bees
1	<i>Ceanothus fendleri</i>	Fendler's Buckbrush	T,P	No	SU	E	W.U.S.	White blooms, thorny
1	<i>Ceanothus greggii</i>	Desert Ceanothus, Mojave Buckbrush	G,T,P	No	SU	E	W.U.S.	White blooms, thorny
1	<i>Ceanothus integerrimus</i>	Deer Brush	G,T,P	No	SU	E	W.U.S.	White blooms, attractive growth form
1	<i>Cercocarpus betuloides</i>	Birch Leaf Mountain Mahogany	G,T,P	No	F	E	W.U.S.	Fall seeds with feathery tails
1	<i>Cercocarpus ledifolius</i>	Curt-leaf Mountain Mahogany	G,T,P	No	F	E	W.U.S.	Fall seeds with feathery tails
1	<i>Cercocarpus montanus</i>	Mountain Mahogany	G,T,P	No	F	D	W.U.S.	Fall seeds with feathery tails
2	<i>Chaenomeles speciosa</i>	Flowering Quince	G,T,P	No	SP	D	Asia	White to red showy blooms
1	<i>Chamaebatia millefolium</i>	Fernbush	G,T,P	No	SU	S	W.U.S.	White blooms, needs excellent drainage, prefers alkaline soil
1	<i>Encarnia nauseosa (Chrysothamnus nauseosus)</i>	Gray Rabbit Brush	G,T,P	Yes	SU	E	W.U.S.	Yellow blooms
2	<i>Cotoneaster glaucophyllus</i>	Gray Cotoneaster	G,T,P	No	SP/WI	E	Asia	White blooms in Spring, red berries in Winter
2	<i>Cotoneaster horizontalis</i>	Rock Cotoneaster	G,T,P	No	SP/WI	E	Asia	White blooms in Spring, red berries in Winter
2	<i>Cotoneaster lacteus</i>	Parney Cotoneaster	G,T,P	No	SP/WI	E	Asia	White blooms in Spring, red berries in Winter
2	<i>Cotoneaster microphyllus</i>	Little-leaf Cotoneaster, Rockspray Cotoneaster	G,T,P	No	SP/WI	E	Asia	White blooms in Spring, red berries in Winter
1	<i>Dasyllon wheeleri</i>	Sotol, Desert Spoon	G,T	No	SU	SC	SW U.S.	White flower spike, long spiny foliage
1	<i>Elaeagnus pungens</i>	Silverberry	G,T	No	WI	E	Asia	Small white fragrant blooms, multicolored foliage
1	<i>Ephedra viridis</i>	Mormon Tea	G,T	No	SP	E	SW U.S.	Yellow blooms, green stem structure
1	<i>Ericameria laricina</i>	Turpentine Brush	G,T	No	SU/F	S	SW U.S.	Yellow blooms
1	<i>Fallingia paradoxa</i>	Apache Plume	G,T,P	Yes	SP	S	SW U.S.	White blooms, pink feathery seed head
1	<i>Krascheninikovia lanata (Ceratoles lanata)</i>	Winterfat	G,T,P	No	F	E	W.U.S.	Spike-like woolly white seed head

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
SHRUBS (continued):								
2	<i>Forestiera neomexicana</i>	Desert Olive	G,T,P	No	SP/F	D	SW U.S.	Yellow fragrant blooms in Spring, yellow foliage in Fall, attracts birds
2	<i>Forsythia x intermedia</i>	Forsythia	G,T,P	No	SP	D	Hybrid	Profuse yellow blooms
1	<i>Garrya wrightii</i>	Wright's Silk Tassel	T,P	No		E	SW U.S.	Will grow in full shade
1	<i>Hesperaloe parviflora</i>	Red Yucca	G,T,P	No	SU	SC	N Mex	Yellow or red blooms
2	<i>Holodiscus dumosus</i>	Mountain Spray	G,T,P	No	SP/F	D	Mtn U.S.	White blooms in Spring, orange to red foliage in Fall
2	<i>Juniperus</i> spp.	Juniper (Shrubs)	G,T,P	No		E	Various	Select suitable cultivar for application
3	<i>Kolkwitzia amabilis</i>	Beauty Bush	G,T,P	No	SP	D	China	Yellow center with pink bloom
3	<i>Lonicera fragrantissima</i>	Winter Honeysuckle	G,T,P	Yes	SP	S	Asia	White fragrant blooms
2	<i>Lonicera tatarica</i>	Tatarian Honeysuckle	G,T,P	No	SP	D	Asia	White to pink blooms
1	<i>Maclura pomifera</i>	Oseage Orange	G,T,P	Yes	F	D	S U.S.	Can produce large inedible fruit, thorny hedgerow shrub
2	<i>Mahonia aquifolium</i>	Oregon Grape	G,T,P	Yes	SP/WI	E	NW U.S.	Yellow fragrant blooms in Spring, burgundy foliage in Winter
1	<i>Mahonia fremontii</i>	Fremont Barberry	G,T	No	SP	E	SW U.S.	Yellow blooms
1	<i>Nolina microcarpa</i>	Beargrass	G,T,P	No	SU	E	SW U.S.	Interesting white flower stalk
1	<i>Opuntia</i> spp.	Prickly Pear, Chollas - hardy species only	G,T,P	No	SU	SC	SW U.S.	Showy cactus blooms, colors vary
2	<i>Philadelphus microphyllus</i>	Little-leaf Mock Orange	T,P	No	SU	D	SW U.S.	White fragrant blooms
2	<i>Physocarpus monogynus</i>	Mountain Ninebark	T,P	No	SP/F	D	W U.S.	White to pink blooms in Spring, red to orange foliage in Fall
2	<i>Potentilla fruticosa</i>	Shrubby Cinquefoil	G,T,P	No	SU	D	W U.S.	Showy yellow blooms all Summer in sun
2	<i>Prunus pumila</i> v. <i>besseyi</i> (<i>Prunus besseyi</i>)	Western Sand Cherry	G,T,P	No	SP	D	W U.S.	White blooms
3	<i>Prunus x cistena</i>	Cistena Plum	G,T,P	No	SP/SU/F	D	Hybrid	Pink fragrant blooms in Spring, purple foliage in Summer, red foliage in Fall
2	<i>Prunus tomentosa</i>	Nanking Cherry	G,T,P	No	SP	D	Asia	White fragrant blooms, exfoliating bark
1	<i>Purshia mexicana</i> (<i>Cowania mexicana</i>)	Cliffrose	G,T,P	No	SU	E	SW U.S.	White fragrant blooms

November 2006

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
SHRUBS (continued):								
2	<i>Pyracantha</i> spp.	Firethorn	G,T,P	No	SP/F	E	Med	White blooms in Spring, colorful fruit in Fall, thorny bird habitat
1	<i>Quercus turbinella</i>	Scrub Live Oak	G,T,P	No		E	SW U.S.	Drought deciduous, acorns attract wildlife
1	<i>Rhamnus californica</i>	California Buckthorn	G,T,P	No	SU	E	SW U.S.	Tolerates shade, colorful dark red berries
1	<i>Rhamnus crocea</i>	Hollyleaf Buckthorn	G,T	No	SU	E	SW U.S.	Tolerates shade, colorful bright red berries
1	<i>Rhus aromatica</i>	Gro-low, Fragrant Sumac	G,T,P	Yes	SP/F	D	E U.S.	Yellow blooms in Spring, red foliage in Fall
1	<i>Rhus glabra</i>	Smooth Sumac	G,T,P	Yes	SU/F	D	N Am	Red fruit in Summer, red foliage in Fall
1	<i>Rhus trilobata</i>	Three Leaf Sumac	G,T,P	No	SU/F	D	SW U.S.	Red fruit in Summer, red to orange foliage in Fall
1	<i>Robinia neomexicana</i>	New Mexico Locust	G,T,P	Yes	SP/F	D	SW U.S.	White to pink blooms in Spring, yellow foliage in Fall
2	<i>Rosa rugosa</i>	Rugosa Rose	G,T,P	No	SP	D	Asia	Colors vary, colorful rose hips
2	<i>Salvia greggii</i>	Autumn Sage	G,T	Yes	SU/F	S	SW U.S.	Red to pink blooms, attracts hummingbirds, insects
2	<i>Santolina chamaecyparissus</i>	Gray Santolina, Lavender Cotton	G,T,P	No	SU	E	Med	Yellow blooms, full sun, cut back for best results
1	<i>Spartium junceum</i>	Spanish Broom	G,T,P	Yes	SP	E	Med	Yellow blooms, green stem structure
1	<i>Yucca</i> spp.	Yucca	G,T,P	No	SP/SU	SC	SW U.S.	Showy cream blooms on stalk, zone hardiness depends on species
GROUNDCOVERS: Low-growing dense growth of plants								
VINES: Weak-stemmed plants that derive support from climbing, twining, or creeping along a surface								
2	<i>Cotoneaster dammeri</i>	Lowfast Cotoneaster	G,T,P	Yes	SP/F	E	China	White blooms in Spring, red berries in Fall
2	<i>Jasminum nudiflorum</i>	Winter Jasmine	G,T,P	Yes	SP	E	China	Yellow blooms
2	<i>Juniperus horizontalis</i> 'Blue Chip'	Blue Chip Juniper	G,T,P	Yes		E	N Am	Blue foliage turns violet in Winter
2	<i>Juniperus sabina</i> 'Buffalo'	Buffalo Juniper	G,T,P	Yes		E	Eurasia	
3	<i>Lonicera japonica</i> 'Halliana'	Hall's Honeysuckle	G,T,P	Yes	SP/SU	S	Asia	White to yellow fragrant blooms
1	<i>Mahonia repens</i>	Creeping Oregon Grape	T,P	Yes	SP/SUMI	E	W U.S.	Yellow blooms in Spring, purple fruit in Summer, burgundy foliage in Winter

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
GROUNDCOVERS & VINES (continued):								
3	<i>Parthenocissus inserta</i>	Woodbine	T,P	Yes	F	D	N Am	Early red foliage
3	<i>Parthenocissus quinquefolia</i>	Virginia Creeper	T,P	Yes	F	D	N Am	Early red foliage
3	<i>Parthenocissus tricuspidata</i>	Boston Ivy	T,P	Yes	F	D	Asia	For best results plant in the shade
2	<i>Teucrium chamaedrys 'prostratum'</i>	Gemander	G,T,P	Yes	SU	E	Eurasia	Pink blooms
2	<i>Thymus praecox arcticus</i>	Creeping Thyme	G,T,P	Yes	SU	E	Eurasia	White to pink blooms, water use varies by soil conditions
GRASSES: Characterized by slender leaves, called blades, which usually grow arching upwards from the ground								
Cool Season Grasses: Prefer supplemental irrigation January - March								
1	<i>Aristida purpurea</i>	Purple Three-awns and varieties	G,T,P	No	SU	S	SW U.S.	Purple seed heads
1	<i>Festuca glauca</i>	Blue Fescue	G,T,P	No		S	Eurasia	Blue foliage year round
1	<i>Koeleria cristata</i>	Junggrass	G,T,P	No		S	W U.S.	
1	<i>Nassella tenuissima</i>	Mexican Feather Grass	G,T,P	No	SU	S	SW U.S.	Delicate wispy golden to pink flower spikes
1	<i>Pascopyrum smithii</i>	Western Wheatgrass	G,T,P	No	SU	S	W U.S.	Blue-green foliage
Warm Season Grasses: Prefer supplemental irrigation June - August								
1	<i>Bothriochloa barbroidis</i>	Cane Beardgrass	G,T,P	No	F	S	SW U.S.	Cream seed heads
1	<i>Bouteloua curtipendula</i>	Side-Oats Grama	G,T,P	No		S	SW U.S.	
1	<i>Bouteloua eriopoda</i>	Black Grama	G,T,P	No		S	SW U.S.	
1	<i>Bouteloua gracilis</i>	Blue Grama	G,T,P	No		S	SW U.S.	
1	<i>Bouteloua hirsuta</i>	Hairy Grama	G,T,P	No		S	SW U.S.	
1	<i>Eragrostis intermedia</i>	Plains Lovegrass	G,T,P	No		S	SW U.S.	
1	<i>Helictotrichon sempervirens</i>	Blue Oat Grass	G,T,P	No		S	Eurasia	Blue foliage year round

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
GRASSES (warm season continued):								
1	<i>Andropogon scoparius</i> (<i>Schizachyrium scoparium</i>)	Little Bluestem	G,T,P	No		S	N Am	
1	<i>Lycurus phleoides</i>	Wolftail	G,T,P	No		S	SW U.S.	
1	<i>Muhlenbergia capillaris</i> 'Regal Mist'	Regal Mist Deergrass	G,T,P	No	F	S	SE U.S.	Pinkish airy flower spikes
1	<i>Muhlenbergia emersleyi</i>	Bullgrass	G,T,P	No	F	S	SW U.S.	Cream feathery flower spikes
1	<i>Muhlenbergia lindheimeri</i> 'Autumn Glow'	Autumn Glow Muhly	G,T,P	No	F	S	SW U.S.	Grayish flower spikes
1	<i>Muhlenbergia rigens</i>	Deergrass	G,T,P	No	F	S	SW U.S.	Showy creamy yellow flower spikes
1	<i>Sporobolus airoides</i>	Alkali Dropseed, Alkali Sacaton	G,T,P	No		S	SW U.S.	Robust, requires deep soil
1	<i>Sporobolus cryptandrus</i>	Sand Dropseed	G,T,P	No		S	SW U.S.	
1	<i>Sporobolus contractus</i>	Spike Dropseed	G,T,P	No		S	SW U.S.	
PERENNIALS: Flowering for several to many growing seasons								
2	<i>Achillea millefolium</i>	White Yarrow	G,T,P	No	SP/SU	N/A	Eurasia	White blooms
2	<i>Agastache cana</i>	Texas Hummingbird Mint	G,T,P	No	SU	N/A	SW U.S.	Varying reddish to pink, needs full sun
2	<i>Asclepias tuberosa</i>	Butterfly Weed	G,T,P	No	SU	N/A	W U.S.	Showy orange blooms, attracts butterflies
2	<i>Baileya multiradiata</i>	Desert Marigold	G,T	No	SP - F	N/A	SW U.S.	Showy yellow blooms, needs full sun
2	<i>Berlandiera lyrata</i>	Chocolate Flower	G	No	SP - F	N/A	SW U.S.	Yellow rays with dark eye, needs full sun, frost tender above 5,000'
3	<i>Cleome spinosa</i>	Spider Flower	G,T,P	No	SU	N/A	S Am	White to pink blooms
2	<i>Coreopsis grandiflora</i>	Coreopsis, Tickseed	G,T,P	No	SU - F	N/A	SE U.S.	Yellow to orange daisy-like blooms
2	<i>Coreopsis tinctoria</i>	Plains Coreopsis, Golden Coreopsis	G,T,P	No	SU - F	N/A	N Am	Yellow to red daisy-like blooms, sometimes planted as an annual
2	<i>Datura wrightii metaloides</i>	Jimsonweed, Sacred Datura	G,T,P	No	SU - F	N/A	SW U.S.	Large white blooms, opens in evening, highly poisonous if ingested
2	<i>Eriogonum</i> spp.	Buckwheat	G,T,P	No	SU - F	N/A	SW U.S.	White to pink blooms in Summer turn burgundy in Fall

Water Use	Botanical Name	Common Name	Local Zone	Spreads in Cultivated Areas	Seasonal Color	Evergreen or Deciduous	Origin	Comments
PERENNIALS (continued):								
2	<i>Eschscholzia californica</i>	California Poppy	G,T,P	Yes	SP	N/A	CA	Yellow to orange blooms, often planted as an annual
2	<i>Gaillardia grandiflora</i>	Blanket Flower	G,T,P	Yes	SU - F	N/A	SW U.S.	Yellow to red blooms with maroon bands
1	<i>Gutierrezia sarothrae</i>	Snakeweed	G,T,P	Yes	SU - F	N/A	SW U.S.	Yellow blooms
2	<i>Helianthemum nummularium</i>	Sunrose	G,T,P	No	SP/SU	N/A	Europe	Pastel blooms
2	<i>Helianthus multiflorus</i>	Showy Goldeneye	G,T,P	No	SU	N/A	SW U.S.	Large daisy-like yellow blooms all Summer
2	<i>Iris germanica</i>	Bearded Iris	G,T,P	No	SP	N/A	Europe	Colors vary, javelina resistant
2	<i>Kniphofia uvaria</i>	Red Hot Poker	G,T,P	No	SP/SU	N/A	S Africa	Colors vary, attracts hummingbirds
1	<i>Linum lewisii</i>	Blue Flax	G,T,P	No	SU	N/A	SW U.S.	Blue blooms, opens in morning
2	<i>Melampodium leucanthum</i>	Blackfoot Daisy	G,T,P	No	SU	N/A	SW U.S.	White daisy-like blooms with yellow eye
1	<i>Mirabilis multiflora</i>	Giant 4 O'Clock	G,T,P	No	SU	N/A	SW U.S.	White to purple blooms, opens late afternoon, roots and seeds poisonous if ingested
3	<i>Monarda</i> spp.	Bee Balm	T,P	No	SU	N/A	E U.S.	Pink to red blooms
1	<i>Oenothera caespitosa</i>	White-Tufted Evening Primrose	G,T,P	No	SU	N/A	W U.S.	White blooms, opens in evening
1	<i>Oenothera speciosa (Oenothera biundulata)</i>	Mexican Evening Primrose	G,T,P	Yes	SU	N/A	SW U.S.	Pinkish blooms, a favorite of rabbits
1	<i>Penstemon</i> spp.	Penstemon	G,T,P	No	SU	N/A	W U.S.	Colors vary, select species by zone
1	<i>Perovskia atriplicifolia</i>	Russian Sage	G,T,P	No	SU	N/A	Asia	Profuse purple blooms
1-3	<i>Senecio</i> spp.	Groundsel	G,T,P	No	SU	N/A	Various	Colors vary, water use varies by species, select species by zone
1	<i>Tetaneuris acaulis (Hymenoxys acaulis)</i>	Angelita Daisy	G,T	No	SU	N/A	W U.S.	Yellow blooms, water sparingly
2	<i>Teucrium chamaedrys</i>	Germander	G,T,P	No	SU	E	Eurasia	Pink blooms
1	<i>Verbena rigida</i>	Verbena	G,T	No	SU	N/A	SW U.S.	Blue blooms
1	<i>Zinnia grandiflora</i>	Desert Zinnia	G,T	No	SP-F	N/A	SW U.S.	Yellow blooms with orange eye

6.10.3 / Wildfire Hazard Mapping

