

# LANDSCAPE VEGETATION

## **6.00 DESIGN STANDARDS**

### **6.01 PURPOSE**

The purpose of creating design standards for landscaping is to be consistent with the adopted Springfield Development Code (SDC), the Springfield Standard Construction Specifications, other Chapters of this Manual, and to provide standards for existing vegetation requirements. This Chapter will aid the develop community when they are required to provide, enhance or preserve vegetation and/or street trees. The Chapter provide standards that will ensure that City streets, urban waterways, stormwater quality facilities and natural resource areas are planted with healthy, vigorous trees, shrubs, grasses, and other vegetation chosen for aesthetics, appropriate conditions and locations, ability to filter and capture pollutants, suitability and other desired characteristics. A well-designed landscape layout will promote a quality image of Springfield, appreciate the value of neighborhoods, and enhance the removal of environmental pollutants.

Additionally, these standards have the objective to:

- Maximize efficient use of Springfield's natural riparian areas, natural resource areas, and wetlands;
- Promote the protection of Springfield's overall water quality and facilitate implementation of further water quality improvements;
- Be designed in a manner and use materials that allow efficient and economical future maintenance;
- Be designed using methods and materials to insure a minimum practical design life;
- Be designed based on land use, local climate, and local habitat diversity; and
- Provide clear vegetation and tree standards for section of the SDC pertaining to the Willamette Greenway Overlay District (3.3-300) and the Glenwood Riverfront Plan District (3.4-200).

### **6.02 GENERAL DESIGN CONSIDERATIONS**

When considering a landscape design, existing vegetation, desirable tree and vegetation species, locations, planting procedures, and plant establishment shall be taken into account. Vegetation type and species will be selected for appropriate locations suitable to vision clearance and overhead obstructions. Species with roots that will not cause damage to utilities, curbs, sidewalks streets or other infrastructure must be selected. Species selected for stormwater quality facilities must be suitable to the facility and remove target pollutants. The goal is to have appropriate vegetation growing after a 2-year period that will not be a nuisance or interfere with city infrastructure, neighboring utilities or existing native vegetation.

- A. *Street Trees:* Design plans for projects requiring street trees shall show the street tree locations in a shaded format on the street lighting plan to ensure street tree locations do not conflict with street lights. Trees shall be at least 20 feet from decorative post top mounted street lights, and 30 feet from cobra head street lights. All locations will need to take into consideration the presence of overhead power when choosing street trees.

Street trees shall not be planted in planter strips less than 4 feet wide. If the planter strip is less than 4 feet, tree placement shall be on the property side of the sidewalk.

Tree wells set in concrete or sidewalk areas shall be a minimum of 4 ft x 4 ft.

Street trees shall be planted at 30-foot intervals except where the planting interferes with traffic vision, street lighting, traffic signage, or public utilities, or as approved by the Street Supervisor, City Maintenance Division. When planting large canopy trees, tree spacing may be modified if approved by City. See Appendix 6A – Approved Street Tree List for the approved street tree species.

A Tree Felling Permit shall be applied for and obtained before removing more than five trees of five-inch diameter breast height (DBH) on private property. City of Springfield Development and Public Works Department staff is available to evaluate trees located on private property. Stormwater facilities located in the public street rights-of-way are not required to use evergreen trees to meet landscaping requirements.

- B. *Median and Planter Strips:* Landscape vegetation in median and planter strips includes shrubs, grasses, perennials, annual and/or flowers planted in rights-of-way. This does not include vegetation selected for stormwater quality facilities as described below. The abutting property owners are responsible to maintain vegetation in planter strips.

Vegetation selected for medians and planter strips in rights-of-way must be selected and located so that it does not impede vision of drivers, bicyclists or pedestrians at any vision triangle as listed in Springfield Development Code Section 4.2-130 Vision Clearance. Vegetation species in vision triangles is limited to species that at maturity will not be taller than 2.5 feet above the top of curb. The City Traffic Engineer has the discretion to require an elongated vision triangle based on traffic speed, road curvatures or extenuating circumstance that warrant an elongated vision triangle. Vegetation shall not be planted in medians less than 4 feet wide.

Vegetation in areas outside vision clearance areas will be limited to mature height of 4 feet unless the vegetation species has been selected for screening purposes which must be approved by the City Maintenance Division.

Vegetation species will be selected and located so that plants at maturity will not be allowed to extend past the back of curb and into the street. Species shall be selected appropriate to the Willamette Valley. Species native to the Willamette Valley are encouraged. If irrigation is not used, the species selection must be drought tolerant.

Landscaping projects over 2,000 square feet requires a landscape plan and must include elements that ensure landscape plant survival, species, location and plant material density. Projects greater than 2,000 square feet require not less than three species, unless turf grasses are used. Species with thorns, spikes or barbs are not desired and must have prior approval by the City Maintenance Division Street Supervisor. Plants listed by the Oregon Department of Agriculture as noxious (either A or B lists) or plants listed as invasive are prohibited.

Potted or container trees and/or shrubs located in rights-of-way are the responsibility of adjacent property owners and documented by agreement between the owner and the City. Location and species are to be approved in advance by the City.

C. *Stormwater Management Facilities:* All vegetated stormwater management facilities will require a landscape plan. The design must include elements that ensure landscape plant survival and overall stormwater facility functional success. Construction specifications and/or drawings need to include the following elements:

- An irrigation system for the plant establishment period and permanent long-term as needed based upon the selected vegetation. Note: public stormwater management facilities shall be designed so permanent long-term irrigation systems are not needed.
- A Landscape Plan showing the location of landscape elements, including size and species of all proposed plantings, and existing plants and trees to be preserved.
- A stormwater management matrix listing the facility square footage and the required numbers of plants required per plant type (Evergreen or Deciduous Trees, Large Shrubs/ Small Trees, etc.). Quantities shall be rounded to the integer.
- A stormwater management plant list/table, including scientific name, size at time of planting, quantity, type of container, evergreen or deciduous, appropriate planting season, proper location within facility where plants should be placed and other information in accordance with the facility-specific planting section, 2.9 in Chapter 2 of the Eugene Stormwater Management Manual, and landscape industry standards. See Appendix 6B – Springfield Vegetation List for approved plant species by facility type.
- Topsoil stockpile location(s), including source of topsoil, if imported. Include erosion protection plan and best management measures (BMPs) for Erosion Prevention and Sediment Control per the City’s Land Drainage and Alteration Program (LDAP).

Vegetation is a key element in the pollution reduction performance for many stormwater management facilities. The practices described in this Manual are based on experience and/or landscape industry standards for design and construction, and are required to be covered by a 2- year warranty period.

At the end of the first year and again at the end of the 2-year warranty period, all plants that do not survive must be replaced. Establishment procedures, such as control of invasive weeds, animal and vandal damage, mulching, re-staking, watering, and mesh or tube protection replacement, shall be implemented to the extent needed to ensure plant survival. Vegetation management after the warranty period is the responsibility of the property owner, Home Owners Association (HOA) or as specified in an Operations and Maintenance Agreement required in Chapter 3. Vegetation shall not become overgrown and shall be managed to include controlling noxious or invasive vegetation.

Designers may elect to use an Alternative Re-vegetation approach, which allows smaller materials to be planted in larger quantities. If this approach is chosen, the following practices shall apply:

- A 5-year warranty period from the time of plant installation shall be provided.
- Plants must be installed during the dormant season, typically defined as December through March.
- A survival rate of 75 % (no replacements) must be achieved for all bare root plants measured in the third and fifth year after installation. If the survival rate falls below this threshold, a number of additional plants, sufficient to meet the 75% survival rate must be installed. The number of additional plants required will be based on the mortality rate of the initial planting.
- Density and size of plantings shall be in accordance with the facility-specific planting section, 2.9 in Chapter 2 of the Eugene Stormwater Management Manual.
- Bare root seedlings must be dormant in order to harvest from farm sites for planting.
- All plants must be native from local seed and/or stock sources and found on the Springfield Vegetation List, Appendix 6B. A minimum of four different species of trees and shrubs must be used. At least half of the trees must be evergreen. Ground covers must be native grasses and wildflowers from local seed and/or stock sources.
- During the period between harvest and installation, the plants must be kept in a temperature controlled facility. Temperature must be kept between 33 and 36 degrees Fahrenheit, and plant roots must be kept moist at all times. Plants must be planted within 24 hours of removal from the temperature-controlled facility.

Stormwater facilities located in the public street right-of-way are not required to use evergreen trees to meet landscaping requirements. Also, all planting in the rights-of way and adjacent to rights-of-way shall use appropriate plantings that do not interfere with vision and sight clearances and will not become a nuisance growing out over the public sidewalks.

In some cases, other landscaping that is required by the Springfield Development Code may be counted toward meeting the facility-specific landscape requirements for stormwater management, if the plantings are located within the facility area. Similarly, in some cases, plantings that meet the schedules in this section (Stormwater Quality Facilities) may also meet other Springfield Development Code landscape requirements.

Selected plant material must be appropriate for soil, hydrologic, and other facility and site conditions. Each of the vegetated stormwater facilities may have individual planting requirements. The list of recommended and approved plants is provided in Appendix 6B –Vegetation List. Designers may select plant species not on the list, only if the plant is appropriate for this climate, meet the size criteria, and has received approval by the City. The appropriate sizing criteria for the plant materials listed in the individual facility landscaping requirements are described as:

*Large Grass-like Plant:* a large grass-like plant shall reach a minimum of over 1' in height at maturity and shall be grass-like in form.

*Shrub (Shrub vs. Large Shrub):* Shrubs are multi-stemmed woody plants. For the purposes of implementing this Manual, the term "shrub" refers to shrub species having a documented mature height of 12 feet and under. "Large shrub" refers to shrub species having a documented mature height greater than 12 feet.

*Trees (Large vs. Small):* For the purposes of implementing this Manual, the term "small trees" refers to tree species having a documented mature height of 20 feet and under. "Large trees" refer to tree species having a documented mature height greater than 20 feet.

It is recommended that planting design minimize the need for mowing, pruning, and irrigation. Stormwater quality facilities will be designed so that the use of fertilizers, pesticides, or soil amendments on a long-term basis is not needed or to be applied. Some facility agreements may restrict the use of fertilizers and pesticides. Additionally, some facilities may be located in drinking water wellhead protection areas where additional restrictions may apply. The City may approve the limited use of fertilizers and or pesticides based on the facility location and site conditions.

Grass or wildflower seed shall be applied at the rates specified by the suppliers. If plant establishment cannot be achieved with seeding prior to the completion of the project, the developer or owner shall at a minimum protect the facility against erosion by installing erosion blankets before water is allowed to enter the facility.

- D. *Riparian Areas along Rivers – Willamette Greenway and Local Water Quality Limited Waterways (WQLW):* The City's objectives for protecting riparian areas along rivers include preserving natural scenic, historic and recreational qualities of lands, protection from flooding and erosion, and preservation of native plant species and wildlife. The Willamette and McKenzie Rivers are both designated Water Quality Limited Waterways by the State and the City. Additionally, both Rivers have wetland areas along their banks. See Section(s) 4.3-115, 4.3-117, and 3.3 of the Springfield Development Code for Water Quality Protection, Willamette Greenway Overlay District and Natural Resource Protection Areas for additional regulations for work along river banks and riparian areas. Willamette Greenway vegetation standards will apply along the McKenzie River in regards to enhancement, bank or vegetation work.

Design plans shall include elements that ensure landscape plant survival. Construction specifications and/or drawings need to include the following elements:

- An irrigation system for the establishment period.
- A Landscape Plan showing the location of landscape elements, including size and species of all proposed plantings, and existing plants and trees to be preserved. Species selection shall be appropriate and native to the Willamette Valley and the surrounding native vegetation.
- A matrix listing the square footage and the required numbers of plants required per plant type (Evergreen or Deciduous Trees, Large Shrubs/ Small Trees, etc.). Quantities shall be rounded to the integer. Density and size shall be in accordance with facility-specific planting section, 2.9 in Chapter 2, Constructed Wetlands, of the Eugene Stormwater Management Manual.
- A plant list/table, including scientific name, size at time of planting, quantity, type of container, evergreen or deciduous, appropriate planting season, proper location within facility where plants should be placed and other information.

- Topsoil stockpile location(s), including source of topsoil, if imported. Include erosion protection plan and best management measures (BMPs) for Erosion Prevention and Sediment Control per the City's Land Drainage and Alteration Program (LDAP).

Vegetation survival and area stabilization are required to be covered by a 2-year warranty period. At the end of the first year and again at the end of the 2-year warranty period, all plants that do not survive must be replaced. Establishment procedures, such as control of invasive weeds, animal and vandal damage, mulching, re-staking, watering, and mesh or tube protection replacement, shall be implemented to the extent needed to ensure plant survival. Vegetation management after the warranty period is the responsibility of the property owner or as specified in an Operations and Maintenance Agreement required in Chapter 3.

Selected plant material must be appropriate for soil, hydrologic, and site conditions. The appropriate sizing criteria for the plant materials listed in landscaping requirements are described as:

*Large Grass-like Plant:* a large grass-like plant shall reach a minimum of over 1' in height at maturity and shall be grass-like in form.

*Shrub (Shrub vs. Large Shrub):* Shrubs are multi-stemmed woody plants. For the purposes of implementing this Manual, the term "shrub" refers to shrub species having a documented mature height of 12 feet and under. "Large shrub" refers to shrub species having a documented mature height greater than 12 feet.

*Trees (Large vs. Small):* For the purposes of implementing this Manual, the term "small trees" refers to tree species having a documented mature height of 20 feet and under. "Large trees" refer to tree species having a documented mature height greater than 20 feet.

It is recommended that planting design minimize the need for mowing and pruning. Areas should be designed so that the use of herbicides, fertilizers, pesticides, or soil amendments on a long-term basis is not needed or to be applied. Some sites may be located in drinking water wellhead protection areas where additional restrictions may apply. The City may approve the limited use of fertilizers and or pesticides based on the location and site conditions.

Grass or wildflower seed shall be applied at the rates specified by the suppliers. If plant establishment cannot be achieved with seeding prior to the completion of the project, the contractor shall at a minimum protect the facility against erosion by installing erosion blankets before the start of the wet weather season.

- E. *Natural Resource Areas and Local Wetlands:* Enhancement, vegetation and vegetation maintenance in resource areas shall be in accordance with Springfield Development Code Section 4.3-117 Natural Resource Protection Areas. Additionally, design plans and vegetation standards shall be in accordance with Section D above.

Density and size shall be in accordance with facility-specific planting section, 2.9 in Chapter 2, Constructed Wetlands, of the Eugene Stormwater Management Manual.

- F. *Riparian Areas along Urban Waterways*: Major waterways through urban areas are part of the City's stormwater conveyance system. Most of these urban waterways were either streams or irrigation channels at one time. Urban waterways move, slow and treat stormwater before infiltration or discharge to the rivers.

Some of Springfield's urban waterways are Natural Resource Areas and/or Water Quality Limited Waterways, and in these cases, Section(s) D and E above shall apply. Additionally, most major stormwater conveyance systems are in City ownership or in public rights-of-way. This section applies to systems located on privately owned land.

Since stormwater conveyance systems move water throughout the City and eventually discharge into the surrounding rivers it is important that vegetation that is planted along these systems do not produce invasive seed that will be transported downstream. Plants listed by the Oregon Department of Agriculture as noxious (either A or B lists) or plants listed as invasive are prohibited.

Vegetation planting standards shall be consistent with Section D above. Density and size shall be in accordance with Section, 2.9 Facility Specific Planting, Constructed Wetlands, of the Eugene Stormwater Management Manual.

#### **6.02.1 Existing Trees and Native Vegetation**

Trees:

Existing trees that meet standard tree requirements shall be evaluated for health and retention to meet the Springfield Development Code. Where practicable, the City desires to retain trees that are healthy, free of disease, and of befitting species. The trees retained should be an asset to the neighborhood before and after street construction. If the trees are in sound condition and Best Management Practices (BMP's) are employed in the field to minimize the stress of construction, the trees may be saved. Trees without adequate protection will become a liability and will die after a few years. BMP's to save existing trees must include, but not be limited to, the following methods:

- A. During initial planning phases of street design, determine which trees should be saved. If 2/3 of the root system can be protected from construction, the tree shall be considered for saving.
- B. Surround the trees with a fence along the drip line (edge of the tree canopy). As a minimum effort, this area shall be considered off limits to all construction activity.
- C. Apply a four-inch thick layer of chips or mulch around the tree roots to prevent compaction of the soil where construction machinery would cross the roots.
- D. Prune all roots encountered during construction using sharp tools.
- E. Trim low tree branches to prevent breakage.
- F. Design sidewalks of variable width, elevation, and direction to help save an existing tree.
- G. Tunnel or bore for utility installations rather than trenching around the trees.

*Vegetation:*

Existing native vegetation desired to be retained shall be free of disease, healthy and of a befitting

species and meet Springfield Development Code. If vegetation is in sound condition and Best Management Practices (BMP's) are employed in the field to minimize the stress of construction, the vegetation may be saved. Vegetation without adequate protection will die after a few months. BMP's to save existing vegetation must include, but not be limited to, the following methods:

- A. During initial planning phases determine what vegetation should be saved. If 2/3 of the root system can be protected from construction, the vegetation shall be considered for saving.
- B. Surround the area or vegetation with a fence. As a minimum effort, this area shall be considered off limits to all construction activity.
- C. Prune all roots encountered during construction using sharp tools.

### **6.02.2 New Street Trees and Right-of-Way Vegetation**

#### *Street Trees:*

New street trees shall be selected from the approved species list or as approved by the Public Works Maintenance Division Street Supervisor. Select healthy trees that are free of disease and have good form with a dominant central leader. Look for large root balls free of girding roots. Avoid trees with cankers, scars, and dead or broken branches. Acceptable trees for planter strips of varying widths are located in Appendix 6A - Approved Street Tree List. Street trees are not recommended in planter strips less than 4 feet wide as significant sidewalk damage generally occurs. When planter strips are less than 4 feet wide, trees shall be planted behind the sidewalks in adjacent yards. Where curbside sidewalks exist or are proposed, street trees can be selected from any approved category and shall be planted at least five feet back of sidewalk but not more than ten feet. In larger planting strips, plant the trees in the back half of the planter strip closest to the sidewalk. When selecting and planting trees in a Green Street project see Appendix 6A – Approved Street Tree List for acceptable Green Street tree species or Appendix 6B - Springfield Vegetation List.

#### *Right-of-Way Vegetation:*

The Public Works Maintenance Division Street Supervisor shall approve new vegetation in public rights-of-way. Select healthy stock free of disease and that have good form. Avoid vegetation with cankers, scars, and dead or broken branches. Native to the Willamette Valley is encouraged.

### **6.02.3 Acceptable Street Trees and Vegetation Lists**

See Appendix 6A - Approved Street Tree List for the appropriate and approved street tree species, suggested spacing and planting location.

See Appendix 6B - Approved Vegetation List for the appropriate and approved species, suggested spacing and planting location.

The Public Works Maintenance Division Street Supervisor shall approve median and right-of-way vegetation. Select healthy stock free of disease and that have good form. Avoid vegetation with cankers, scars, and dead or broken branches. Native to the Willamette Valley is encouraged.

In hillside developments with curbside sidewalks, use of native trees as street trees is encouraged. Note that native trees shall not be planted in the City right-of-way and shall be planted in adjacent yards. Trees shall be planted from five to ten feet back of the sidewalk, and root retainers shall be

used.

Refer to Chapter 7.00 HILLSIDE DEVELOPMENT; and Section 7.07 COMPLIANCE WITH GOVERNMENT AGENCIES, and related sub-sections of this Manual, for guidelines to native trees.

### Native Trees in Hillside Development

| Scientific Name                   | Common Name(s)                                   | Scientific Name                  | Common Name(s)       |
|-----------------------------------|--|----------------------------------|----------------------|
| <i>Abies amabilis</i>             | Pacific Silver Fir                               | <i>Pinus attenuata</i>           | Knobcone Pine        |
| <i>Abies concolor</i>             | White Fir  | <i>Pinus contorta</i> "contorta" | Shore Pine           |
| <i>Abies grandis</i>              | Grand Fir  | <i>Pinus contorta</i>            | Lodgepole Pine       |
| <i>Abies lasiocarpa</i>           | Alpine Fir                                       | <i>Pinus monticola</i>           | Western White Pine   |
| <i>Abies magnifica</i>            | Red Fir  | <i>Pinus ponderosa</i>           | Ponderosa Pine       |
| <i>Abies nobilis</i>              | Noble Fir  | <i>Pinus lambertiana</i>         | Sugar Pine           |
| <i>Acer glabrum</i>               | Rocky Mt. Maple                                  | <i>Pseudotsuga menziesii</i>     | Douglas Fir          |
| <i>Acer macrophyllum</i>          | Bigleaf Maple                                    | <i>Populus tremuloides</i>       | Quaking Aspen        |
| <i>Alnus rhombifolia</i>          | White Alder                                      | <i>Quercus garryana</i>          | Oregon White Oak     |
| <i>Alnus rubra</i>                | Red Alder  | <i>Quercus kelloggii</i>         | California Black Oak |
| <i>Arbutus menziesii</i>          | Madrone  | <i>Rhamnus purshiana</i>         | Cascara              |
| <i>Calocedrus decurrens</i>       | Incense Cedar                                    | <i>Sequoia sempervirens</i>      | Coast Redwood        |
| <i>Chamaecyparis Nootkatensis</i> | Nootka Cypress                                   | <i>Taxus brevifolia</i>          | Western Yew          |
| <i>Castanopsis chrysopylla</i>    | Chinquapin                                       | <i>Thuja plicata</i>             | Western Red Cedar    |
| <i>Cornus nuttallii</i>           | Pacific Dogwood,<br>Western Flowering<br>Dogwood | <i>Tsuga heterophylla</i>        | Western Hemlock      |
| <i>Fraxinus latifolia</i>         | Oregon Ash                                       | <i>Tsuga mertensiana</i>         | Mountain Hemlock     |
| <i>Lithocarpus densiflora</i>     | Tanbark Oak                                      | <i>Umbellularia californica</i>  | Oregon Myrtle        |
| <i>Picea breweriana</i>           | Brewer's Weeping<br>Spruce                       |                                  |                      |
| <i>Picea engelmannii</i>          | Engelmann Spruce                                 |                                  |                      |
| <i>Picea sitchensis</i>           | Sitka Spruce                                     |                                  |                      |

#### **6.02.4 Street Tree Size**

Street trees shall be two inch minimum caliper. Caliper is the stem diameter of the tree measured six inches above the root collar, which is the flare of tree bark at the base of the tree where the tree meets the dirt.

#### **6.02.5 Street Tree Location**

Street trees shall be planted at 30-foot intervals except where the planting interferes with traffic vision, street lighting, traffic signage, public utilities, or as approved by the City Public Works Maintenance Division Street Supervisor. When planting large canopy trees, tree spacing may be modified if approved by City. Trees locations shall be:

- A. A. 35 feet from the perpendicular curb line of street intersections or 25 feet from the inside intersection of the sidewalks.
- B. 5 feet from water meters or other utility fixture, 10 feet from any utility pole.
- C. 15 feet from alley intersections, 10 feet from driveway intersections.
- D. 20 feet from a decorative post top mounted street light, 30 feet from cobra head street lights.

#### **6.02.6 Tree Planting Procedures and Establishment**

Street trees shall be properly planted and watered to establish healthy trees. (See standard planting specification, Standard Drawing 2-2). The following methods shall apply:

- A. A planting pit shall be excavated large enough to accommodate the tree root retainers which shall be used whenever the tree(s) are planted within eight feet of a concrete surface. The retainer shall be placed against the concrete to prevent root evasion. Typically a retainer is placed on two sides of the tree. One retainer shall be set against the curb, the other against the sidewalk. The root retainer shall typically be 12 to 18 inches deep and two to four feet in length along the concrete structure. The root barriers shall be of a design similar to Tree Root Barriers by Deep Root or equivalent. Never encircle the root ball with a root barrier.
- B. Remove tree from burlap or container and place on solidly packed soil so that the root collar is slightly above the surrounding or anticipated grade.
- C. Insert aeration tubes on two sides of the tree. The tubes shall extend from the ground surface to the base of the root ball. This will allow evaporation of excess moisture and provide for efficient summer watering. The tube shall be filled with pea gravel. The minimum aeration tube specification is a three-inch perforated ADS drainpipe or equivalent.
- D. The tree shall be supported with two stakes on either side of the tree and tree ties. Stakes shall be an adequate size to support the tree.
- E. On a typical four-foot planter strip, plant trees at least 1½ feet from the sidewalk and 2½ feet from the curb. On larger planter strips, locate the trees in the back half of the planter strip closest the sidewalk.
- F. Place loose friable native backfill around the tree. If the excavation material is heavy clay, planter mix shall be used as backfill.
- G. Spread a two- to three-inch layer of mulch around the tree but keep mulch six inches from the trunk.
- H. Black plastic shall not be used as a weed barrier around trees as it promotes surface roots.
- I. Water the trees with ten to 20 gallons per week during the summer months of the first and second years. Use a hose at low trickle for several hours to provide deep root watering. This will encourage roots to grow deep rather than on the surface. Home irrigation systems are designed to water turf and shrubs, but not tree roots. Trees should be augmented with additional watering as needed throughout the growing season.
- J. Fertilizers shall not be used the first year of planting. A B1 vitamin shall be used to promote root growth.
- K. Street trees planted in the right-of-way shall be subject to a two-year warranty period. Trees shall be alive and in vigorous growing condition after two growing seasons. See City of Springfield Standard Construction Specifications for further information.

#### **6.02.6 Noxious Vegetation and Maintaining the Use**

Plants listed by the Oregon Department of Agriculture as noxious (either A or B lists) or plants listed as invasive will not be acceptable as plantings and must be managed.

It shall be the continuing obligation of the property owner to maintain the plantings required by this Chapter, in an attractive manner free of weeds and invading vegetation after the warranty period. In some cases Operation and Maintenance Agreements maybe in place that specify additional and/or specific management practices.

Vegetation management and maintaining the use shall be in accordance with Section 5.17-155 – Maintaining the Use, and Section 4.3-100 – Infrastructure Standards, of the Springfield Development Code.

DRAFT