APPENDIX 7
LANDSCAPE PLAN
Spanish Castle Resort

Landscape Plan

May 2014
1. OVERVIEW

The Spanish Castle Resort and Spa is a master planned resort located in Douglas County along the Columbia River. The primary purpose of this landscape plan is to provide an overall description of the landscape program for the project, summarizing the landscaping framework and standards. This summary will facilitate project review and guide decisions in developing a conceptual/schematic design. Details on implementing this program will be provided in plans submitted for each element of the Spanish Castle Resort development.

The Spanish Castle Resort landscaping will be designed to create an attractive community within the context of the native Columbia River landscape. Supplemental plantings will enhance and complement the transitional environment between the eastern Cascades and the Columbia Plateau.

The location of the project on the Columbia River is an enviable setting with stunning views and desirable home sites. The following presents the framework for all landscaping within the project including the overall landscaping plan for community spaces and private lands. This technical memo provides information for minimum water use landscaping (xeriscaping) for the resort area, guidance for design and installation, identifies pertinent Douglas County Code requirements, and provides a recommended plant list.
2. **PLANNING FRAMEWORK**

The scope of this plan covers both the public realm, including the street character of the project, and the private spaces. Landscaping for individual lots will complement the landscape schemes established in the public spaces. Planting and water management standards are intended to apply to both public spaces and individual private lots, encouraging ecologically-conscious practices that will help individual lot owners choose a more sustainable lifestyle for themselves and the community. The landscape design for Spanish Castle represents part of the overall development plan that will help to enhance the community with natural elements, appropriate for the region. Proper planting and water management will contribute to both the desirability and livability of the development.

The design of landscaping within the project can be environmentally sensitive and contextual in order to protect the surrounding natural environment and fit into the overall character of the area. Regionally appropriate plants and water conserving landscape practices should be applied and serve as strong unifying elements throughout the public realm and can be further incorporated into the front yards of private homes.

3. **WATER USE FRAMEWORK**

Landscape improvements will be designed with water-efficiency as a goal, as measured by an annual water budget to facilitate water conservation. These guidelines can apply to the design of all regulated landscapes:

- Landscapes should use the following xeriscape design principles to facilitate water conservation:
  (a) Well-planned planting schemes;
  (b) Appropriate turf selection to minimize the use of bluegrass;
  (c) Use of mulch to maintain soil moisture and reduce evaporation;
  (d) Zoning of plant materials according to their microclimatic needs and water requirements;
  (e) Improvement of the soil with organic matter if needed;
  (f) Efficient irrigation systems; and
  (g) Proper maintenance and irrigation schedules.
- Plants of any water need may be used in the landscape, providing the total annual water use does not exceed the desired overall irrigation regimes desired for each lot or tract type.
• Plants having similar water use should be grouped together in distinct hydrozones. High hydrozones should be separated from Low and Very Low hydrozones by Moderate hydrozones whenever possible.
• Plants should be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged. The planting of trees is encouraged where appropriate and with context-sensitive species.
• Strips less than 8 feet wide should be landscaped with Low or Very Low water plants.
• Soil preparation should be suitable for the plants. This generally means adding organic material for High and Moderate water zones, but not for Low and Very Low water zones.

4. **SOIL DISTURBANCE**

All portions of a lot or tract where existing vegetative cover is removed or soil is disturbed, that are not otherwise proposed to be covered by improvements or landscaping will be successfully reclaimed through revegetation with a mix of native, adaptive and drought tolerant grasses and ground covers such as those found in Section 9 below. The density of the reestablished vegetation must be adequate to prevent soil erosion and invasion of weeds after one growing season. Erosion and sedimentation control measures should be maintained until the revegetation is adequate to prevent soil erosion. Some slopes and soils typical of Spanish Castle struggle to support vegetation, and these areas may require rockeries and non-vegetative erosion control strategies.

5. **OPEN SPACE**

Open Space is held in common for the purposes of buffering environmentally sensitive areas adjacent to the project development areas while allowing limited passive uses including walking, running, hiking, wildlife and scenery viewing. Landscaping of open space tracts should be predominantly native and drought tolerant species in accordance with the seed mixes to be applied in accordance with the reclamation and revegetation standards.

6. **PRIVATE LANDSCAPING**

Landscaping of homes and businesses is the greatest contributor to the overall character of a community. It is very important to establish consistency in landscaping while allowing flexibility to allow variety and individuality. The landscape design of private areas should emphasize efficient water management and the use of regionally appropriate plant and landscape materials.
7. SCREENING TYPES AND STANDARDS (DCC 20.40.030 AND 20.40.040)

The following is an excerpt from DCC 20.40.030 that should be used as a guide for landscaping screen types.

All proposed plant material, sizes and characteristics shall be in accordance with general accepted landscaping standards and requirements of the industry, the American Association of Nurserymen Standards (ANSI 2601-1973) and other accepted practices. The landscaping types required are set forth below:

A. Type I: Screen. Type I landscaping is intended to provide a very dense sight barrier to significantly separate incompatible uses. Existing natural buffers are encouraged but may need additional width or be augmented with additional landscaping features which may be selected to provide the required sight barrier.
   1. All plant materials and living groundcover must be selected and maintained so that the entire landscape area will be covered a minimum of 75 percent within 5 years, with maximum coverage in eight years.
   2. Any combination of trees (deciduous or evergreen), shrubs, earthen berms and related plant materials or design, provided that the resultant effect is sight-obscuring from adjoining properties.
   3. All trees and shrubs must be capable of growing to a minimum of six feet and three and one-half feet in height respectively.

B. Type II: Streetscape. Type II landscaping is intended to create a visual separation between uses from roads, and create visually aesthetic roadway corridors to help promote linkages between neighborhoods, commercial, industrial and recreational areas.
   1. Deciduous trees and a combination of shrubs and/or groundcover as set forth herein:
      a. Trees shall be a minimum of six feet in height at the time of planting;
      b. Planted at intervals no greater than fifty foot centers; and
      c. Trees shall not be located closer than three feet to the curb and/or a sidewalk
   2. Shrubs shall be a minimum of one and one-half feet in height at the time of planting and may be dispersed throughout the landscaped planting area or in confined pockets or nodes.
   3. Groundcover shall be designed to cover sixty percent of the required area. Groundcover shall consist of grass, shrubs, vines or other similar living groundcover. The remaining area may be covered with bark, rock or other similar material. These areas may also contain trees, shrubs, and other permitted plant materials and pedestrian amenities (i.e. benches); however, areas planted in grass shall be designed and constructed in a manner that will make possible normal maintenance such as mowing and watering. Groundcover shall be planted so that a minimum of seventy-five percent of the area is covered at maturity within five years.

C. Type III: Perimeter Landscaping. Type III landscaping is intended to provide landscaping on the perimeter boundary of the site and provide a visual separation of uses from adjacent uses and parking areas.
   1. A combination of deciduous and/or evergreen trees, shrubs and groundcover.
      a. No more than 60 percent of the trees shall be deciduous;
      b. Trees shall be a minimum of six feet in height at the time of planting; and
c. Planted at intervals no greater than thirty feet on center, unless plantings are clustered into groups, then the planting intervals shall be planted at intervals no greater than 90 feet.

2. Shrubs shall be a minimum of one and one-half feet in height at the time of planting with approved living ground cover. Plant materials shall be planted so that the ground will be covered a minimum of seventy-five percent within five years.

3. Earthen berms with grass, vegetative groundcover or other landscaping features should be designed with the required landscaping standards of DCC Chapter 20.40, provided the resultant effect would provide a pedestrian friendly environment and visual relief where clear sight is required and can be achieved.

D. Type IV: Landscaping, Open. Type IV landscaping is intended to provide visual relief where clear sight is desired, pedestrian plazas, green areas, around signs, intersections, buildings or other similar areas.

1. A combination of evergreen or deciduous trees or shrubs and groundcover planted adjacent to buildings, structures or other features in the following areas and shall meet the criteria as prescribed herein:
   a. At the main entrance and frontage of the building;
   b. Adjacent to a public road; and/or
   c. Adjacent to designated public spaces, plazas and/or patios; and
   d. Around signs or other features.

2. A minimum of thirty percent of the area as measured along the length of a building or structure shall be planted and landscaped in areas identified in subsections (D)(1)(a) through (d) of this section.

3. The landscape area shall not be located greater than fifteen feet from the building or structure.

4. Accessory buildings associated with the primary use shall be exempt from the above requirements, except as provided elsewhere in this title.

5. Landscaping located at road intersections or within a clear view triangle shall not exceed three and one-half feet in height as measured from road grade and shall meet the minimum criteria established in DCC Chapter 18.16 for clear view triangle.

E. Type V: Landscaping, Parking. Type V landscaping is intended to provide visual relief and shade in parking areas. Up to one hundred percent of the required trees proposed for the parking area may be deciduous.

1. Required Amount.
   a. If the parking area contains less than 50 parking spaces, at least seventeen and one-half square feet of landscape area must be provided as described in subsection (E)(4) of this section for each parking stall proposed.
   b. If the parking area contains more than fifty, but less than one hundred parking spaces, the director shall determine the required amount of landscaping by interpolating between seventeen and one-half and thirty-five square feet for each parking stall proposed. The area must be landscaped as described in subsection (E)(4) of this section.
   c. If the parking area contains more than ninety-nine parking spaces, at least thirty-five square feet of landscaping must be provided as described in subsection (E)(4) of this section for each parking stall proposed.
2. Each area of landscaping must contain at least one hundred square feet of area and dimension shall not be less than four feet in any direction. The area must contain at least one tree six feet in height and with a minimum size of one and one-half inches in caliper measured six inches above existing grade if deciduous at the time of planting. The remaining ground area must be landscaped with plant materials.

3. A landscaped area must be placed at the interior end of each parking row in a multiple lane parking area. Each area must be at least four feet wide and must extend the length of the adjacent parking stall(s).

4. One shade tree shall be planted within the interior of the off-street parking area for every ten parking stalls.
   a. All landscaped islands must have a minimum depth of topsoil of two feet for shrubs and four feet for trees, unless poor drainage conditions exist which would require modifications which shall be approved by the review authority.
   b. All landscaped islands shall be planted with a combination of shade trees, shrubs or living groundcover, this area may contain ornamental trees and shrubs if appropriate. All planting must be in the central portion of the island.
   c. Screen planting of a dense evergreen material not less than five feet in height at the time of maturity shall be provided in any locations where lights from vehicles within the off-street parking area may shine directly into windows of adjacent residential buildings. In lieu of screen planting, up to fifty percent of the required landscaping may be subtracted when a solid rock, masonry or wood fence is constructed, provided the fence is not less than 42 inches high nor more than five feet high.
   d. A screen planting of dense evergreen material not less than five feet high at the time of planting shall be required where overhead illumination is located within the off-street parking area and may shine directly into windows of adjacent residential buildings. The review authority may require a greater height if it is determined that the screen planting of five feet high does not properly screen the overhead illumination from adjacent residential buildings. Parking lot lights will not be permitted to shine over property boundaries.

The following is adapted from DCC 20.40.040 and should be used as the Spanish Castle Resort landscape screening standards.

Landscaping shall be provided as set forth below:

A. Landscaping Designations and Minimum Width. The standards listed below indicate the type and width of landscaping required for various proposed uses, depending on the land use of adjacent parcels.
   1. Type IV landscaping shall be provided for all buildings, structures, signs, road intersections and plaza/green areas as set forth in DCC Section 20.40.030(D) above, except when associated with single family residential dwellings.
   2. Type V landscaping shall be provided for all off-street parking areas as set forth in DCC Section 20.40.030(E) above.
   3. For parcels with commercial development:
      a. Front yard: Minimum ten-foot width, Type II landscaping; or Type IV landscaping if a pedestrian plaza or green area is provided.
b. Rear yard: Minimum five-foot width, Type III landscaping; or minimum twelve-foot width, Type I landscaping if adjacent to single-family residential parcels.

c. Side yard: Minimum five-foot width, Type III; or minimum twelve-foot width, Type I landscaping if adjacent to single-family residential parcels.

d. Adjacent to buildings or structures: Minimum five-foot width, Type IV landscaping, except when used in conjunction with a pedestrian plaza or green area.

4. For parcels with multifamily residential development: The minimum landscaping width along the rear and side yards may be reduced to five feet if an ornamental wall or fence is constructed in conjunction with the landscaping required. This provision shall not apply to the perimeter rear or side property lines adjacent to single-family residential parcels.

   a. Front yard: Minimum eight-foot width, Type II landscaping.
   b. Rear yard: Minimum ten-foot width, Type III landscaping; or minimum fifteen-foot width, Type I landscaping if adjacent to single-family residential parcels.
   c. Side yard: Minimum ten-foot width, Type III landscaping; or minimum fifteen-foot width, Type I landscaping if adjacent to single-family residential parcels.

8. **PRINCIPLES AND GUIDELINES FOR WATER CONSERVATION**

This section focuses on eight “principles” that act as goals for planting and irrigating. Each principle offers a series of design recommendations and techniques in the form of “guidelines”. The guidelines function as steps to achieve the goals. Each guideline is not imperative but still important to ensure healthy plant growth, reduced water waste and increased cost savings over time. The following principles, if used properly, will help to create a useful, efficient and enjoyable landscape.

**8.1 Principle #1 – Plan and design landscaping comprehensively.**

*Guidelines*

A. Start with an inventory and analysis plan of the site that identifies “existing conditions.” Conditions such as drainage areas, sun exposure, soil types, good views, existing plants, etc. will affect how the site is used. Next develop a list of activities and areas, also called a “program,” expected to occur on the site. For example a backyard program might include a lawn play area, dog run, dining patio, barbecue grill, shade trees and shrub beds. Continue by diagramming possible locations for the program activities, while also providing access and traffic patterns or screening as needed. Finally, use this information to develop a plan that integrates plants into the overall scheme.

B. Now with your overall plan, consider options on how you would like to conserve water. Several recommendations for water conservation are addressed throughout this document.
C. Calculate the water requirements for your landscape using a water budget worksheet. Try not to exceed an average total of 15 gallons per square foot annually.

D. Incorporate trees into the landscape to provide shade, reduce stormwater runoff, stabilize soil and protect against wind. Shorter, less dense trees may work best in the Spanish Castle Resort context with the arid climate and emphasis on the vistas of the Columbia River.

E. When designing plant placement on slopes, place lower-water demand plants at the tops of slopes and higher-demand plants at the bottom.

8.2 Principle #2 - Evaluate soil and improve, if necessary.

Guidelines
A. Soil suitability for planting should be evaluated to identify potential soil amendments that may improve plant health and survival.

B. Strip and stockpile existing topsoil prior to major site re-grading. Following completion of grading, replace topsoil and improve soil for planting with suitable soil amendments.

C. Improve soil as suitable before planting and installing the irrigation system. Soil improvement promotes better absorption of water, improved water holding capacity and drainage of the soils. It also allows for better oxygen transfer within the root zone.

D. Add organic material to the plant hydrozones, but only as needed. This typically means adding organic material for High and Moderate water zones, but not for Low and Very Low water zones. pH-balanced examples of organic materials are compost (from plants), sphagnum peat and animal manure (other than cow or horse).

E. Soil preparation should include the breaking up and loosening, or scarification, of soil to 6 inches, with incorporation of organic amendments, fertilizer, etc. as specified by a landscape designer, landscape architect or soil analysis.

8.3 Principle #3 - Create efficient turf areas.

Guidelines
A. Include turf areas where they provide defined functions (i.e., recreation, traffic areas, etc.). Plantings of trees, shrubs, ground covers and flowers are best separated from grass so they can be watered separately. Often, portions of turf areas can be replaced with more water-efficient ground covers and mulches.

B. When selecting turfgrass, consider the use, aesthetic and design goals of the site, estimated water use and maintenance budget. Alternative grass types, such as tall fescue, buffalograss, blue grama and
wheat grass, may provide lower water and maintenance needs than bluegrass. In areas where irrigation is not planned for instance, a mix of mainly native bunch and sod-forming grasses might be used.

C. Avoid using turf in areas less than 8 feet wide and on slopes steeper than 3:1. These areas require inefficient irrigation sprays. Consider using drip-irrigated shrubs or groundcovers with Low or Very Low water requirements as alternatives. A special exception may be streetscape tree lawns, where turfgrass may be most appropriate with careful consideration and monitoring of potential irrigation inefficiencies.

D. Some sites and turf areas with difficult irrigation or maintenance concerns may perform better with low water grass types or groundcovers. Consider street rights-of-way, industrial sites, drainage ways and natural areas for such alternative grasses. (See Principle #8 below.)

8.4 **Principle #4 - Use appropriate plants and group according to their water need, i.e. “hydrozoning”.

**Guidelines**

A. Plants with lower water requirements, such as native species adapted to the climate, should be considered. However, other plants can have a place in xeriscape designs, even if they require larger amounts of water. The key is to use those plants in appropriate locations and not to interplant them with others that have very different, lower water requirements. In effect, the grouping of plants into “hydrozones” based on their water requirements allows them to be irrigated efficiently. A detailed list of xeriscape landscape plants and their respective water requirements by “hydrozone category” is included in Section 1.9.

B. Group plants with like water needs together. Plants located within the drip line for large, mature trees and shrubs should have similar water requirements as the trees and shrubs. (A drip line is considered the outermost circle on the ground where water drips from the leaves of a tree or shrub canopy above.)

C. Plants of any water need may be used in the landscape, providing the total annual water use does not exceed water allowance for the ET (Evapo-Transpiration) reference location.

D. High water zones should be separated from Low and Very Low water zones by Moderate water zones whenever possible.

E. Select plants that are well adapted to the climate, topographic and geologic conditions of the site.

F. Select plants with lower water requirements for areas with southern and western exposures.

G. Strips less than 8 feet wide should be landscaped with Low or Very Low water plants. (See Principle #3 above.)
8.5  Principle #5 - Water efficiently with a properly designed irrigation system.

Guidelines
A. Irrigate according to the water need of each hydrozone, not solely on a fixed schedule. Well-planned sprinkler systems can save water when properly installed and operated. Turf areas should be watered separately from beds. Shrubs, flowers and ground covers can be watered more efficiently, by less frequent irrigation that is allowed to penetrate the root zone more deeply. (See Principle #4 above.)

B. Consider plant water requirements in irrigation design schemes.

C. Take into account the hydraulic principles when designing the irrigation system. Generally these principles deal with water volume, pressure and patterns of movement.

D. Install an irrigation controller that offers flexible programming. Landscapes should not need as much supplemental watering during a rainy period. Rain or moisture sensors are available to coordinate with controllers, and some controllers are self-adjusting based on weather conditions.

E. Ensure that the irrigation system is installed per plan and is accurate.

F. Provide “as-built” drawings of irrigation system after installation with dimensions shown for irrigation components. Such drawings will help to find and correct problems in the future.

G. Operate irrigation systems to maximize irrigation water efficiency.
8.6 Principle #6 - Use mulches to reduce surface evaporation of water and weeds.

Guidelines
A. Mulched planting beds are an ideal replacement for expansive turf areas. Mulches protect and reduce temperature extremes in the soil, minimize evaporation, reduce weed growth and slow erosion. Mulches also provide landscape interest. Organic mulches are typically bark chips, wood grindings, chopped leaves or pole peelings. Inorganic mulches include rock and various gravel products.

B. Organic mulches are generally recommended for the most benefit of the plants, but the roots of some plants perform better with inorganic mulch. Landscape professionals can help determine suitable mulches for selected plants. Inorganic mulches may also be preferred as more stable in especially windy locations, areas requiring high maintenance or those apt to erosion.

C. Place mulch directly on the soil or on breathable fabric. Do not use solid sheet plastic beneath mulched areas, as these keep out water and air – both of which are vital to plant health.

D. All plantable areas not covered with turf should be covered with a minimum of four inches (4”) of a suitable mulch to retain water, and inhibit weeds.

E. Mulching exceptions for Low and Very Low hydrozones should be considered.

8.7 Principle #7 - Practice appropriate landscape maintenance.

Guidelines
A. Proper pruning, weeding, mowing and fertilization, plus attention to the irrigation system, are needed to maximize water savings. Regular maintenance of planting and irrigation system preserves the intended beauty of the landscape, and saves water and maintenance costs through efficient operations. Always water according to hydrozone need and current soil moisture conditions, rather than according to a rigid schedule.

B. Landscapes should be maintained to ensure water efficiency. A regular maintenance schedule should include but not be limited to checking, adjusting, and repairing irrigation equipment; resetting the automatic controller; aerating turf areas; replenishing mulch; fertilizing; pruning, and weeding in all landscaped areas.

C. Whenever possible, repair of irrigation equipment should be done with the originally specified materials or their equivalents so that original performance and efficiency can be maintained for longer periods.

8.8 Principle #8 – Preserve existing landscape and natural areas.

Guidelines
A. Where possible preserve existing native remnant plant communities and site conditions that support them.
B. Where possible preserve healthy trees – established plants have often developed a root system that is adapted to lower water conditions.

C. Local native plants and plants with documented lower water requirements should be given priority in landscape design. A native plant is a species that “occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human action” (Federal Native Plant Conservation Committee, 1994). A local native plant is derived from “a population or ecotype of the native plant species that was grown from genetically local plant materials”.

D. Use of native plants in the landscape supports local biodiversity, helps sustain local wildlife, enhances recreation experience, supports remnant native plant communities and reduces water consumption.

E. All landscapes have the potential to impact native plant communities through transport of seeds and plant propagules by wind and storm drainage. Landscapes adjacent to native sites are particularly critical due to the potential of direct spread, but all projects (public or private) should not harbor or install exotic horticultural plant species that are known to be invasive and therefore threaten natural areas.

F. Landscapes adjacent to native areas should emphasize the use of species with low fuel volume of low flammability. Mowing management can be used to limit build up of flammable plant materials.

G. Remove species that are designated state noxious weeds, especially ornamental species such as purple loosestrife, oxeye daisy, tamarisk, myrtle spurge and yellow toadflax.

9. **DOUGLAS COUNTY LOW WATER AND XERIC LANDSCAPING (DCC 20.40.060D)**

The following is an excerpt from the Douglas County Code 20.40.060D that should be used as guidance for developing xeriscaping.

1. **Plant Selection, sizing, and minimum area coverage.**
   
   a. Inert groundcover such as bark, decorative rock, decomposed rock, or partially buried rock features may be incorporated into the landscape design. Shrub and living groundcover coverage standards may be reduced so that a minimum of fifty percent of the ground will be covered within five years of installation, for Type II, III, and V landscaping.

   b. Plant lists. The intent of the plant material list is to include as a design feature of this section. The plant material list is a guide to plants that require less water and is not intended as the final species list, the use of plants native to North Central Washington and drought tolerant-low water use plants appropriate for this area. This plant material maximizes use of rainwater, reduces general maintenance needs, and reflects the natural surroundings of the region. Landscape plans under this section should consist of plant material identified within the recommended plant lists and/or plant
resources provided in this section or plant materials demonstrated by a design professional that require less than 18 inches of water annually as provided below:

1. Native plants or common drought tolerant-low water use plants identified by a landscape architect; certified horticulturalist; or a biologist, botanist or ecologist with a degree in biology or ecology or a closely related field and a minimum of 5 years of work professional experience in Eastern Washington working in a position closely associated with native plant species; and

2. Native and drought tolerant-low water plants list maintained by Douglas County Land Services, as amended.

c. Turf or grass species requirements. Cool season grasses that are not drought tolerant shall not exceed 25% of the landscaped area. Alternative drought tolerant species may be used and can exceed the 25% threshold. These species, or equivalent species determined by a landscape architect or horticulturist, include warm season grasses such as Buffalo Grass and Blue Grama, or cool season grasses such as Reveille and Tall Fescue. Where turf or grasses are planted that require over 18 inches of water annually, a minimum width of 8’ should be required in order to provide for the efficient application of irrigation. Widths less than 8’ are permitted when turf drip systems are utilized.

2. Soil Amendments and mulching within required landscape areas. Components of landscape areas which will be planted with native grasses, native forbs or native perennials may not require the application of soil amendments or mulch, when the landscape plan designer determines that these materials are not necessary for the long term survival of these native species based upon an analysis of existing site conditions and soil characteristics.

3. Irrigation and water use for landscape features.

a. All landscaped areas must have installed a permanent underground irrigation system with an automatic controller plus an overriding rain switch, or an alternative irrigation method which provides sufficient water to ensure that the plants will establish and remain healthy. Stormwater collection is one alternative source of irrigation water that may be utilized in certain areas. Irrigation systems should be adjusted seasonally to accommodate changing weather conditions.

b. The use of drip, bubbler, or subsurface drip systems shall be required for landscaping. Fixed or rotary spray heads are only permitted for lawn areas. Turf drip systems are encouraged.

c. Runoff and overspray. Soil types and infiltration rate shall be considered when designing irrigation systems. All irrigation systems should be designed to avoid runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks roadways or structures. Proper irrigation equipment and schedules, including repeat cycles, should be used to closely match application rates to infiltration rates to minimize runoff. Special attention should be given to avoid runoff on slopes and to avoid overspray in planting areas in median strips.
d. Irrigation should occur during evening or morning hours and shall not occur between the hours of 10:00 AM and 6:00 P.M. Watering schedules should apply water in a manner that waters deeply and less frequently, providing for deeper root systems.

e. Water features may be permitted where it can be determined that other water minimizing techniques have been used to compensate for the additional water use, i.e. only draught resistant turf species are utilized in the landscape areas. Water features shall have re-circulating water systems. NOTE: Water features are not allowed in Douglas County right-of-way.

f. Irrigation systems within County right-of-way will be managed according to a Franchise Agreement with Douglas County.

4. Pruning and Maintenance:

a. Pruning. Pruning of trees should be consistent with the standards of the International Society of Arboriculture, as of (date of ordinance adoption), http://isa-arbor.com/. Some low water and xeric plants will require a programmatic approach to pruning for the long term health and sustainability of the plant. Where such pruning is necessary, pruning guidelines should be provided to the property owner or developer within the maintenance plan described within section b. below.

b. Maintenance shall be in conformance with the maintenance provisions of Section 20.40.070. Drought tolerant plant selections typically require less maintenance activities. However, a programmatic approach to the long term application of appropriate fertilizers and/or natural compost material to vegetation onsite will assist with the long term sustainability of vegetation and decrease watering needs. The submission of landscape plans shall include a plan component which outlines recommendation for a long term maintenance plan that addresses fertilizers and/or compost material application appropriate to the landscape material chosen.

5. Comparable water use design

a. Plants with similar water requirements should be grouped together in distinct hydrozones. Plants should be selected appropriately based upon their adaptability to the climatic, geological, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged. Different areas receive different amounts of light, wind and moisture. Grouping together plants with similar sunlight and water requirements will minimize water waste. Place moderate water use plants in low lying drainage areas, near downspouts or along the side of other plants. Turf areas will require the most water, and shrub and perennial beds will require less water. Dry, sunny areas support low water use plants that grow well in this region’s climate.
## 10. PLANT LIST - EASTERN WASHINGTON

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Height</th>
<th>Hydro-zone</th>
<th>Exposure</th>
<th>Comments</th>
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<td></td>
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</tr>
<tr>
<td>Western juniper</td>
<td>Juniperus occidentalis</td>
<td>20’</td>
<td>A</td>
<td>S</td>
<td>Evergreen, cinnamon to gray-brown bark</td>
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<tr>
<td>Ponderosa pine</td>
<td>Pinus ponderosa</td>
<td>100’</td>
<td>A, D</td>
<td>S</td>
<td>Long needles, orange-brown to brown bark, very tall tree</td>
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<td>Quaking aspen</td>
<td>Populus tremuloides</td>
<td>30’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Heart-shaped leaves flutter in wind, turn gold in fall</td>
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<tr>
<td>Chokecherry</td>
<td>Prunus virginiana</td>
<td>20’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Large clusters of white flowers, red fruit in early summer</td>
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<td>Hawthorn</td>
<td>Crataegus douglasii</td>
<td>10-20’</td>
<td>A</td>
<td>S, PS</td>
<td>White flowers, small black fruit, can form thickets, thorny</td>
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<tr>
<td>Water birch</td>
<td>Betula occidentalis</td>
<td>25-50’</td>
<td>M</td>
<td>S, PS</td>
<td>Smooth dark reddish-brown bark</td>
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<td>Garry oak</td>
<td>Quercus garryana</td>
<td>25-45’</td>
<td>A, D</td>
<td>S</td>
<td>Dark green leathery leaves, red in fall, acorns</td>
</tr>
<tr>
<td><strong>Shrubs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sagebrush</td>
<td>Artemisia tridentata</td>
<td>2-6’</td>
<td>D</td>
<td>S</td>
<td>Gray-green leaves</td>
</tr>
<tr>
<td>Bitterbrush</td>
<td>Purshia tridentata</td>
<td>2-6’</td>
<td>D</td>
<td>S</td>
<td>Dark green leaves, yellow flowers in spring</td>
</tr>
<tr>
<td>Green rabbitbrush</td>
<td>Chrysothamnus viscidiflorus</td>
<td>2-3’</td>
<td>D</td>
<td>S</td>
<td>Green leaves, yellow flowers in fall</td>
</tr>
<tr>
<td>Gray rabbitbrush</td>
<td>Ericameria nauseosa</td>
<td>2-4’</td>
<td>D</td>
<td>S</td>
<td>Gray-green leaves, yellow flowers in fall</td>
</tr>
<tr>
<td>Purple sage</td>
<td>Salvia dorri</td>
<td>2-4’</td>
<td>D</td>
<td>S</td>
<td>Minty smell, purple blossoms in spring into summer</td>
</tr>
<tr>
<td>Snowberry</td>
<td>Symphoricarpos albus</td>
<td>3-4’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Pink blossoms in spring, white berries in fall</td>
</tr>
<tr>
<td>Snow buckwheat</td>
<td>Eriogonum niveum</td>
<td>1-2’</td>
<td>D</td>
<td>S</td>
<td>Pinkish-white flowers in fall, grayish-white foliage</td>
</tr>
<tr>
<td>Rock buckwheat</td>
<td>Eriogonum sphaerocephalum</td>
<td>1-2’</td>
<td>D</td>
<td>S</td>
<td>Yellow flowers in late spring, rounded shape</td>
</tr>
<tr>
<td>Mock orange</td>
<td>Philadelphus lewisii</td>
<td>5-12’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Wonderfully fragrant flowers</td>
</tr>
<tr>
<td>Golden currant</td>
<td>Ribes aureum</td>
<td>6’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Golden flowers and berries in spring</td>
</tr>
<tr>
<td>Nootka rose</td>
<td>Rosa nutkana</td>
<td>4’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Pink simple roses, red hips in fall</td>
</tr>
<tr>
<td>Serviceberry</td>
<td>Amelanchier alnifolia</td>
<td>8-20’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Multiple stems, beautiful white flowers, small black fruit</td>
</tr>
<tr>
<td>Hazelnut</td>
<td>Corylus cornuta</td>
<td>3-12’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Multiple stems, small edible nuts, catkins in spring</td>
</tr>
<tr>
<td>Red-osier dogwood</td>
<td>Cornus stolonifera</td>
<td>8-12’</td>
<td>M</td>
<td>S, PS</td>
<td>Multi-stemmed shrub, red bark in winter, white berries</td>
</tr>
<tr>
<td>Elderberry</td>
<td>Sambucus nigra</td>
<td>10-15’</td>
<td>A, M</td>
<td>S, PS</td>
<td>Multiple stems, hanging clusters of edible blue berries</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Height</td>
<td>Sunlight</td>
<td>Zones</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------</td>
<td>--------</td>
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<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sumac</td>
<td><em>Rhus glabra</em></td>
<td>8-12’</td>
<td>A, M</td>
<td>S</td>
<td>Divided leaves turn brilliant red in fall, red seeds form stalk</td>
</tr>
<tr>
<td>Kinnickinnick</td>
<td><em>Arctostaphylos uva-ursi</em></td>
<td>8-12”</td>
<td>A, M</td>
<td>S, PS</td>
<td>Evergreen groundcover, white flowers, red berries</td>
</tr>
<tr>
<td><strong>Bunchgrasses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bluebunch wheatgrass</td>
<td><em>Pseudoroegneria spicata</em></td>
<td>1-3’</td>
<td>A</td>
<td>S</td>
<td>Straight stems with dense seed heads, clump up to 1’ across</td>
</tr>
<tr>
<td>Sandberg’s bluegrass</td>
<td><em>Poa secunda</em></td>
<td>8-12”</td>
<td>A, D</td>
<td>S</td>
<td>Small clumps, stems twice as tall as leaf blades</td>
</tr>
<tr>
<td>Squirreltail</td>
<td><em>Elymus elymoides</em></td>
<td>1-2’</td>
<td>D</td>
<td>S</td>
<td>Tufted large seed heads look like a squirreltail</td>
</tr>
<tr>
<td>Indian ricegrass</td>
<td><em>Achnatherum hymenoides</em></td>
<td>1-2’</td>
<td>D</td>
<td>S</td>
<td>Seeds in a cloud above numerous fine leaves</td>
</tr>
<tr>
<td>Needle and thread grass</td>
<td><em>Hesperostipa comata</em></td>
<td>2-3’</td>
<td>A, D</td>
<td>S</td>
<td>Tall with very thin leaf blades and long awns on pointed seeds</td>
</tr>
<tr>
<td>Sand dropseed</td>
<td><em>Sporobolus cryptandrus</em></td>
<td>1-2’</td>
<td>A</td>
<td>S</td>
<td>Greens up later in spring, loosely open seed head, sandy soil</td>
</tr>
<tr>
<td>Idaho fescue</td>
<td><em>Festuca idahoensis</em></td>
<td>1-2’</td>
<td>A</td>
<td>S, PS</td>
<td>Dense clump of fine graceful blue-green leaves, likes more moisture than some grass</td>
</tr>
<tr>
<td>Basin wildrye</td>
<td><em>Leymus cinereus</em></td>
<td>4-6’</td>
<td>M</td>
<td>S</td>
<td>Very tall bunchgrass with wide leaf blades, with coarse seed heads</td>
</tr>
<tr>
<td><strong>Perennials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yarrow</td>
<td><em>Achillea millefolium</em></td>
<td>1-2’</td>
<td>A</td>
<td>S</td>
<td>Finely dissected leaves with white flowers in flattened head</td>
</tr>
<tr>
<td>Munroe’s globemallow</td>
<td><em>Sphaeralcea munroana</em></td>
<td>1-2’</td>
<td>A</td>
<td>S</td>
<td>Orange flowers, gray-green leaves, blooms longer in gardens</td>
</tr>
<tr>
<td>Carey’s balsamroot</td>
<td><em>Balsamorhiza careyana</em></td>
<td>1-3’</td>
<td>D</td>
<td>S</td>
<td>Large yellow flowers, green tough leaves</td>
</tr>
<tr>
<td>Oregon sunshine</td>
<td><em>Eriophyllum lanatum</em></td>
<td>8-18”</td>
<td>A</td>
<td>S</td>
<td>Yellow flowers, grayish fuzzy foliage</td>
</tr>
<tr>
<td>Hoary aster</td>
<td><em>Machaeranthera canescens</em></td>
<td>1-3’</td>
<td>A</td>
<td>S</td>
<td>Purple daisy flowers in the fall, reseeds readily, biennial, more compact in drier soil</td>
</tr>
<tr>
<td>Silky lupine</td>
<td><em>Lupinus sericeus</em></td>
<td>24”</td>
<td>D, M</td>
<td>S</td>
<td>Clusters of blue-white flowers above silvery leaves</td>
</tr>
<tr>
<td>Camas</td>
<td><em>Camassia quamash</em></td>
<td>18”</td>
<td>A, M</td>
<td>S, PS</td>
<td>Pale to dark purplish blue flowers</td>
</tr>
<tr>
<td>Thread-leafed daisy</td>
<td><em>Eriogon filifolius</em></td>
<td>18”</td>
<td>D</td>
<td>S</td>
<td>1” white to pale pink daisy flowers fade, thread-like leaves</td>
</tr>
<tr>
<td>Linear-leaf daisy</td>
<td><em>Eriogon linearis</em></td>
<td>12”</td>
<td>D</td>
<td>S</td>
<td>Yellow daisy flowers, leaves narrow and fuzzy</td>
</tr>
<tr>
<td>Showy penstemon</td>
<td><em>Penstemon venustus</em></td>
<td>24-30”</td>
<td>A</td>
<td>S</td>
<td>Large blue to lavender flowers</td>
</tr>
<tr>
<td>Lance-leaved stonecrop</td>
<td><em>Sedum lanceolatum</em></td>
<td>3-8”</td>
<td>D</td>
<td>S</td>
<td>Yellow flowers, succulent leaves</td>
</tr>
<tr>
<td>Bitterroot</td>
<td><em>Lewisia rediviva</em></td>
<td>2-3”</td>
<td>A</td>
<td>S</td>
<td>Pink large flowers in early spring, dormant in summer</td>
</tr>
</tbody>
</table>

*SPANISH CASTLE RESORT*
*LANDSCAPE PLAN*
*Page | 16*
Hydrozones
A = adaptable       S = full sun
D = prefers dry     PS = partial shade
M = prefers moist

Modified from “Landscaping with
Native Plants in the Inland Northwest”
By Tonie Fitzgerald

<table>
<thead>
<tr>
<th>Sandy soil</th>
<th>Rocky soil</th>
<th>Moist soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western juniper</td>
<td>Ponderosa pine</td>
<td>Quaking aspen</td>
</tr>
<tr>
<td>Bitterbrush</td>
<td>Garry Oak</td>
<td>Chokecherry</td>
</tr>
<tr>
<td>Sagebrush</td>
<td>Western juniper</td>
<td>Water birch</td>
</tr>
<tr>
<td>Purple sage</td>
<td>Sagebrush</td>
<td>Mock orange</td>
</tr>
<tr>
<td>Rabbitbrush</td>
<td>Rock buckwheat</td>
<td>Golden currant</td>
</tr>
<tr>
<td>Snow buckwheat</td>
<td>Bottlebrush squirreltail grass</td>
<td>Red-osier dogwood</td>
</tr>
<tr>
<td>Sandberg’s bluegrass</td>
<td>Sandberg’s bluegrass</td>
<td>Idaho fescue</td>
</tr>
<tr>
<td>Squirreltail grass</td>
<td>Bitterroot</td>
<td>Basin wildrye</td>
</tr>
<tr>
<td>Indian ricegrass</td>
<td>Lance-leaved stonecrop</td>
<td>Yarrow</td>
</tr>
<tr>
<td>Needle and thread grass</td>
<td>Purple sage</td>
<td>Showy penstemon</td>
</tr>
<tr>
<td>Sand dropseed</td>
<td>Indian ricegrass</td>
<td></td>
</tr>
<tr>
<td>Yarrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Munroe’s globemallo</td>
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</tr>
</tbody>
</table>
11. SPANISH CASTLE RESORT PLANTING SCHEMES

Landscaping will vary in the different areas of Spanish Castle Resort. Key public areas, such as entry gateways and commercial areas, will exhibit more formal planting schemes, while on some of the open areas and hillsides, landscaping will be more minimal and be designed to blend into the natural vegetation. Areas along public roadways will use varying rock displays and other landscaping elements that require little to no irrigation and minimal maintenance and blend in with the natural landscape. Plant species in all areas will draw from the Eastern Washington Plant list identified previously and add other compatible plants for variety and visual interest. A landscape plan is to be prepared for each phase of development; however, there is no requirement for individual lot landscape plans. Several representative planting schemes are described below in more detail.

11.1 Developed Areas

11.1.1 Public Spaces

Public spaces (not including roadways) in the Spanish Castle Resort will be important to provide for recreation needs for residents who will have limited individual lawns and shady areas. In the public spaces, grass, shade trees, shade structures and picnic areas will provide these landscape amenities where views will not be blocked and irrigation and maintenance plans can be developed.

11.1.2 Residential

Residential yard landscaping will also be appropriate for the arid region, including xeriscape and rockeries as much as possible. Because it will be difficult to provide significant watering on many of the hillsides with the soil types present, residences will not have large lawn areas, but will instead emphasize patios and deck areas.

a. Landscaping is required in front and corner front yards.
b. Plant materials must be selected for drought tolerance and adaptability to the Spanish Castle Resort environment.
c. Use of turf in the landscape should be as limited as possible to avoid the need for irrigation.
d. Turf is not permitted on slopes exceeding 10 percent.
e. Irrigation systems must have application rates that do not exceed the infiltration rate of the soil. Avoid runoff and overspray.
11.1.3 Commercial

Commercial areas will be developed with an “oasis” feel—providing more lush landscaping with trees and shrubs. Maintenance will be easier in the commercial areas (with fewer property owners), so comprehensive watering plans and consistent plantings will facilitate these plantings. Rocks will be used in areas where watering is less desirable and to provide transitions on the edges to the natural landscape.

11.2 Roadways

11.2.1 Spanish Castle Resort Entry Road

The main entry road into Spanish Castle Resort—Spanish Castle Road—will be designed with two distinct landscaping schemes, one for intersections/gateway features, and one for the more rural sections between intersections. Most landscaping is anticipated outside County right-of-way. Where landscaping is within the right-of-way, a Franchise Agreement will be executed with the County and a planting plan submitted for County review. Maintenance of clear zones is required.

11.2.1.1 Spanish Castle Resort Entry Road – Intersections

Intersections along Spanish Castle Road will be treated as gateway features—opportunities to provide identifiable decision-point locations. These locations will be more densely landscaped with bunching grasses, shrubs, street trees and rockeries to reflect the local basalt outcroppings.

11.2.1.2 Spanish Castle Resort Entry Road – Rural Sections

On rural sections of Spanish Castle Road, plantings will take into account the sloping hillsides (which are significant in places) and focus on providing a transition from the road edge to the natural environment along the upper and lower portions of Spanish Castle Road, and provide a buffer between adjacent residential uses in the center section of the road.
11.2.2 Spanish Castle Resort Collector

Resort collector road landscaping will be similar to the rural sections of Spanish Castle Road, focused on providing either (1) a transition to the natural landscape in less developed areas of the project and (2) a landscape buffer where residential land uses are adjacent to the roadway. Efforts will be made to incorporate local rock and significant outcroppings into the landscaping plan.

11.2.3 Spanish Castle Resort Private Residential Street

Spanish Castle Resort is being developed to take advantage of the vistas of the Columbia River as well as the surrounding natural environment. The layout of residential streets will provide lots with views where possible, and landscaping plantings will maintain the vistas. Street trees will be limited to maintain views, and will be appropriate for the arid climate. Streets may use rock extensively along the road shoulders to provide for drainage and minimize maintenance.