City of Ripon

Design Guidelines for Residential Landscapes

City of Ripon
259 N. Wilma Avenue
Ripon, CA 95366
Phone: (209)599-2108

Section 1 - Residential Landscape Design

1. Summary

Water in California is a precious commodity that serves a variety of purposes. With an ever-growing population, the demand for water is outpacing the supply. Conservation is an important tool in ensuring that there is sufficient water to serve the needs of the state. This document provides direction for residential landscape design and maintenance practice to reduce the amount of water that is used for landscapes within the City of Ripon. As such, these guidelines provide direction for all new landscapes within the city with a special emphasis on residential landscape.

The following are the goals that these guidelines have been prepared to achieve:

A. Reduce the amount water used for landscapes when compared to historic landscape water usage.

B. Comply with the requirements of the State-mandated Water Efficient Landscape Ordinance (hereafter abbreviated to WELO) - AB 1881 that was most recently updated on December 1, 2015 when these guidelines were prepared.

C. Comply with the City of Ripon Municipal Code, as well as CBC and any other applicable codes and requirements. These guidelines have been prepared to supplement code requirements and not to supersede or replace them. Where there is a discrepancy, the code requirements shall take precedence over these guidelines.

D. Maintain the character of the City of Ripon through landscapes that blend with the historic character of Ripon while using less water.

E. Encourage landscape design to create useful spaces that enhance the usability and function of the landscape and accentuate the character of the adjacent architecture.

F. Provide additional environmental benefits such as less use of pesticides and fertilizers, production of less green waste, less use of fossil fuels used for mowing, and create positive habitat for birds.

2. Applicability

These guidelines are applicable to all new single-family home landscapes. These guidelines are primarily prepared for residential landscapes that exceed 500 square feet, but are less than 2,500 square feet in total landscape area size. Multi-family developments, such as apartments, condos, and other multi-unit residential shall submit detailed landscape plans for the entire project, substantially complying with all conepts within these guidelines. Landscapes over 2,500 square feet in size have additional requirements that they need to meet in order to be compliant with WELO. Additional requirements are described in greater detail in the specific sections.

Landscapes that are applicable to these guidelines include:

A. New landscapes for single family homes - front yards that exceed 500 sf.

B. Streetscapes - There is a subsection of these guidelines that provides direction for

the design of City-maintained landscapes along the sides of streets and medians. The guidelines shall be used in conjunction with the requirements of WELO.

All applicable landscapes shall be designed in plan form incorporating the design guidelines herein, and shall be submitted to the City of Ripon Community Development Department with the building permit application.

The Community Development Director may exclude or provide modified compliance requirements based on specific project conditions on a project-by-project basis.

3. Front Yard Landscape

The landscape is considered the 'front yard' if it fronts a street and is on the street side of a wall or fence and can be seen from the street. This is inclusive of traditional front yards where the door to the home and/or garage is located as well as side yards for corner lots. It does not apply to landscapes that front alleys. It may also apply to areas which front paseos, bike paths, and other public ways per the determination of the Community Development Director.

The front yard landscape is the most abundantly visible landscape within Ripon and offers the greatest opportunity to express the goals that were described in the opening section of these guidelines. Most front yard landscapes (but not all) have less than 2,500 square feet of landscape area. As such, they fall under the Prescriptive Method of compliance (Department of Water Resources Title 23, Chapter 2.7, Sections 490 - 497.2) with the requirements of WELO. Front yard landscapes that are larger than 2,500 square foot will also comply with the water restrictive requirements of WELO if they follow these guidelines, there are some additional requirements that are described later in the guidelines.

Front yards with a coordinated mix of different materials, plants and groundcovering.

The following guidelines offer typical materials and allowable percentages of those materials that may be used with the design of front yard landscapes. Multiple combinations may be used, but it is important that an overall cohesive design be created staying within the allowable percentages. It is NOT intended that all of the following materials be included in a single landscape design, but rather two to four combined to create an aesthetically pleasing, functional, low water use landscape that compliments the home and the surrounding area.

The recommendations and percentages provided below offer direction and set goals for landscape aesthetic and water usage; they are not intended to discourage or stifle creative design. Alternate materials, means of installation, and percentages can be submitted for review and approval by the Community Development Director. The design is still re-

quired to meet code requirements, but new materials may become available and special applications may require unique design solutions.

Hardscape items within the front yard such as driveways and sidewalks do not count toward the total landscape area.

4. Front Yard Design Guidelines

A. Lawn - Historically front lawns have been used extensively throughout Ripon and their use has set a character of the community as a whole. However, due to the water usage restrictions, they may no longer be used as extensively (at such a high percentage of the total front yard landscape area) as in the past. Lawns may be included and are encouraged in many areas, but to comply with WELO, natural grass lawns may not exceed 25% of the total landscape area.

Natural lawn	*0% min. requirement*
	25% max. allowed use

Using small areas of lawn help make a water-wise addition to the front entry.

B. Synthetic Lawn - The use of synthetic lawn is allowed within the front yard landscapes as a substitute for natural lawn. It must be a high quality product that has a natural lawn appearance and it shall be installed in a quality manner to comply with the installation recommendations and specifications of the manufacturer. Proper sub-base, fine grading, and edge securement (anchored screw strips) must be provided. Irrigation is not needed for synthetic lawn and may only be included per the approval of the Community Development Director if there is a special condition that requires a level of cleaning or cooling that is not typical for front yard usage.

Synthetic Lawn	*0% min. requirement*
	60% max. allowed use

Synthetic turf is a low maintenace, no-water alternative to natural turf.

C. Living Lawn Substitutes - Living groundcover plants that create a low and continuous groundcover may be used as a substitute for traditional natural lawn. These may include plant species that can take foot traffic and serve a similar purpose as a traditional natural lawn or they may include species that remain continuous and low, offering the uniform appearance of a lawn, but do not handle foot traffic as well. To qualify as a living lawn substitute the plant species must be able to fill in completely within one year, be evergreen, completely cover the ground without bare spots, be low (less than 8" height), able to be maintained at a relatively uniform height naturally or by infrequent mowing, and must be dense enough to discourage weeds. A living lawn substitute should consist of a single species of plant or a mixture of species that combine together to create a single uniform appearance (such as low-water use No-Mow Fescue blends). Multiple species may be used in multiple sweeps or masses of single species each to create a layered groundcover appearance. The water use requirements of the species used must be less than that of natural lawn (to qualify as a lawn substitute the species must be able to be hardy with water use of 60% or less of Kentucky Blue Grass). Areas of the lawn substitute may also be depressed to allow storm water to percolate into the soil (encouraged where appropriate), but plant species shall be selected that will be hardy to the wet winter soil.

Low water use lawn species (that looks and functions like traditional front yard lawns) may qualify as a 'lawn substitute' only if it can be proven that the water usage needs of the species meet the requirements of this section.

Possible living lawn substitute plant species include, but are not limited to:

- *Kurapia*
- *Native species no-mow fescue blend (red fescues)*
- *Juniper*
- *Asian Jasmine*
- *Cotoneaster*
- *Herniaria (Green Carpet)*
- *Chamomille*
- *Zoysia (Korean Grass)*
- *Ice Plant*

Living Lawn Substitute	*0% min. requirement* *60% max. allowed use*

Low growing groundcover can provide the lawn appearance without the maintenance or high water use.

D. Shrub and Groundcover - This is the portion of the landscape that is planted with shrubs and groundcover that create a layered appearance and consists of a combination of herbaceous and perennial plant species. These plantings typically provide the backdrop for the lawn and lawn substitute plantings and occur at a minimum directly in front of the home (foundation planting) and often along the fence and between front yards. Their use be greater than what has been traditionally provided due to the reduction in the amount of lawn that is allowed. Plant species shall be selected that have low and medium water use needs, provide a variety of sizes and color, create a layered and interesting year-round appearance, and have a mature size that is appropriate for their use. Plants should not require more than 30% of their foliage be removed in order to maintain their intended functional use (for example: don't use a species that has a mature size of 10' tall if it is intended to be maintained at 4' tall). Plants shall be installed at spacings that will allow them to grow together to completely cover the ground within 2-3 years (plants that have a mature spread of 3' should not be planted 4'-5' apart as they will never grow to touch each other). Also, plants should not be planted so close together that they overlap each other and become too overgrown and dense (model homes can be excluded from this requirement at the discretion of the Community Development Director). The design and selection of plant species and spacing shall be done in such a way that when the landscape is mature there are no bare spots and no need to replenish mulch for aesthetics. Areas of the shrub and groundcover may also be depressed to allow storm water to percolate into the soil (encouraged where appropriate), but plant species shall be selected that will be hardy to the winter wet soil.

Shrubs and Groundcover — *35% min. requirement*
100% max. allowed use

Shrubs and groundcover with different combinations of texture, color, size and shape provide interesting and aesthetic yards.

E. Impervious Hardscape - For the purposes of these guidelines the term impervious hardscape in this section refers to landscape elements that are constructed of concrete or have a concrete base or similar material that does not allow rain or irrigation water to flow through. Driveways and sidewalks that serve the function of the home are not considered to be landscape areas and are therefore not part of this section. Impervious hardscape consists of things such as colored and stamped concrete patios, concrete mow curbs, wet-set cobble, non-permeable interlocking pavers, stone or tile on concrete base, etc. These items may be incorporated into the landscape to compliment the planting areas and create functional space such as mow edges, walkways, aesthetic edges and transitions. They are not intended or allowed to be used to replace large areas of landscape. Their use and overall incorporation into the landscape is subject to the discretion of the Community Development Director.

Impervious Hardscape	*0% min. required* *20% max. allowed use*

Impervious hardscape areas can include paved seating areas, walkways or driveways, and can include a variety of materials to contrast and complement the planted landscape.

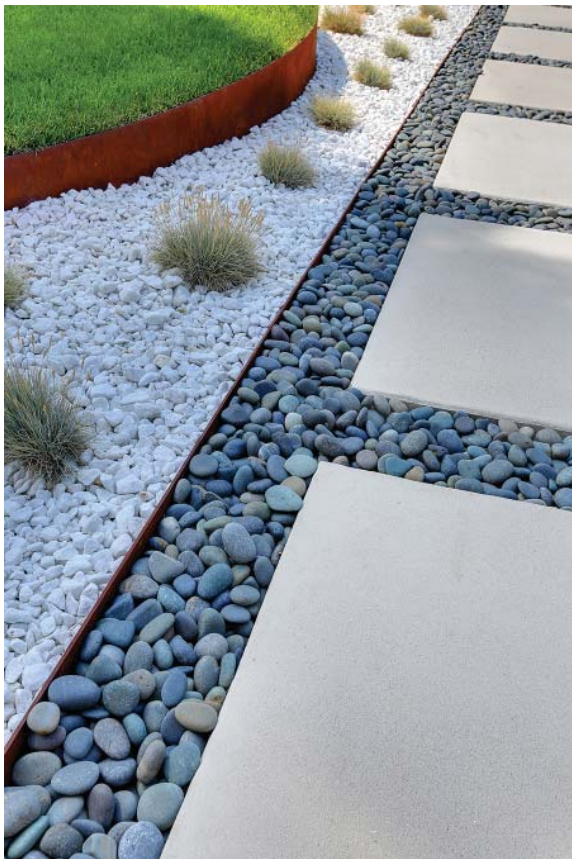
F. Walkable Permeable Groundcover - The use of small seating areas, patios, informal walkways, etc. are allowed to be part of the front yard provided that their design is integrated with the sidewalk layout (the sidewalk to the front door) and landscape design. The inclusion of functional space within the front yard that can be used like a porch and/or seating area is encouraged and fosters community interaction. Materials that qualify for this usage are permeable (meaning water can move through them to the soil below) and include Decomposed Granite (DG) (without stabilizer polymer binder), permeable pavers, stepping pads of concrete, stone, etc. with permeability between them, ornamental aggregate, pea gravel, and other similar paving substitute materials. The main classification for this is that the area covered by these materials serves a functional use such as patio, seating area, or walkway. Loose materials such as ornamental aggregate, DG, pea gravel, etc. should have a secure containment edging such as steel edging, redwood, or other acceptable containment edge.

Walkable Permeable Groundcover	*0% min. requirement* *30% max. allowed use*

Some paving can still let the water seep into the ground while allowing foot traffic. These spaces provide a function of allowing you to move through your yard easily and can be incorporated into the overall landscape aesthetic.

G. Permeable Non-Living Groundcover - This consists of landscape accent materials such as Decomposed Granite (DG), ornamental aggregate, cobble, boulders, river rock, pea gravel, tumbled glass mulch, and other non-living groundcover. This item is different from the Walkable Permeable Groundcover described above in that this material is provided in the design as an aesthetic treatment and not designed as a walkable functional element. This item consists of landscape elements such as dry creek beds, cobble edging, boulder accents, etc, and these items are not intended to replace large portions of the landscape, but rather, to accent and supplement them. The design is to be consistent with the overall design of the landscape and shall fit within the character of the surrounding community. When a dry stream bed is designed it should include a variety of cobble and boulder sizes, should be depressed into grade, and should be designed to appear as a natural component of the landscape. If the design is more contemporary, the use of these materials can take on a more contemporary aesthetic such as sweeps or bands. Where appropriate, items like a dry stream bed may also be used as a functional element to convey and/or percolate storm water. Increased size (as a percentage of the landscape area) may be approved by the Community Development Director if there is functional use such as storm water conveyance and percolation.

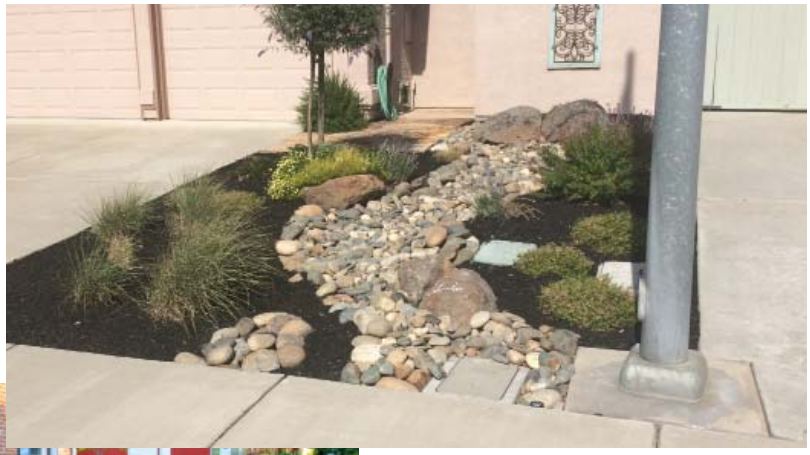
Permeable Non-Living Groundcover	*0% min. required* *25% max. allowed use*



Groundcover doesn't have to be plants. Different materials can be used to add interest to the landscape, provide a clean edge to a walkway, or to fill-in areas that are difficult to water or maintain.

H. Organic Mulch - Organic mulch (bark mulch) is to be used within the shrub and groundcover areas (Section 4-D) only and is NOT allowed as a landscape treatment without plants. It is required with the installation of shrubs and groundcover and may be needed for some living lawn substitute species. When organic mulch is used, it shall be installed at min. 3" depth. Per the shrubs and groundcover section, the plants are to be designed to grow together within 2-3 years; therefore, no organic mulch should be visible in 2-3 years.

Bark mulch conserves water and helps to keep weeds out while plants grow to maturity. The photo to the right shows mulch throughout the planter area in this still young landscape. Mulch is a supplement to the landscape and is not to be used as a groundcover in and of itself.



This

Not this

I. Accessories - Other landscape items such as low walls, seat walls, fences, art, containers, etc. may be incorporated into the landscape as part of a cohesive and comprehensive landscape design. They may be included, but are not required, to the extent allowed by current codes and CC&Rs and per the discretion of the Community Development Director.

Decorative containers add architectural interest and a place for splashes of color to enhance front entry.

Fences or low wall should complement the home and accent the design. Full screening, such as shown below, may be appropriate for rear yards but is to be avoided in front yard landscapes.

This

Not this

J. Trees - Trees are an integral part of any landscape design and shall be included with all landscape design plans. In many cases the inclusion of trees is required by code and/or development agreements. Trees provide shade that reduces heat gain, produce oxygen that mitigates green-house gas emissions, slow the process of rainwater entering the storm drain system, provide habitat for birds and other urban wildlife, and substantially enhance the character and livability of Ripon. Their inclusion in all landscape design is critical. Tree species shall be selected based on the space that is available and their intended overall size. Large trees in narrow planters, directly adjacent to overhead power lines, and directly adjacent to street lights shall be avoided. Similarly, trees shall be planted clear of underground utilities. But wherever achievable large spreading shade trees should be planted and enjoyed.

Trees are allowed in all of the living groundcover areas as described above. They may also be planted in synthetic lawn areas provided that a 3' - 6' diameter mulch ring is provided and irrigation is provided.

The use of high water using trees such as Redwood trees should be avoided. Often high water using trees have other undesirable qualities such as invasive roots, weak branches, and sometimes a shorter life span.

A list of recommended trees has been provided in Appendix A.

K. Soil amendments - all new planting areas shall be amended with at least four (4) cubic yards of compost to a depth of six (6) inches per 1,000 square feet of planting area. The soil amendments are not required for non-planted areas such as synthetic lawn, cobble, etc.

L. Soil Testing - For landscapes larger than 2,500 square feet a soil analysis is required to be performed by an accredited soil testing lab. The soil sample is to be taken from the landscape area that will be amended. The recommendations of the soil test shall be incorporated into the soil at the rates as recommended.

The results of the soil test shall be provided to the Community Development Director or with a statement signed by the developer that the soil was amended per the recommendations of the report.

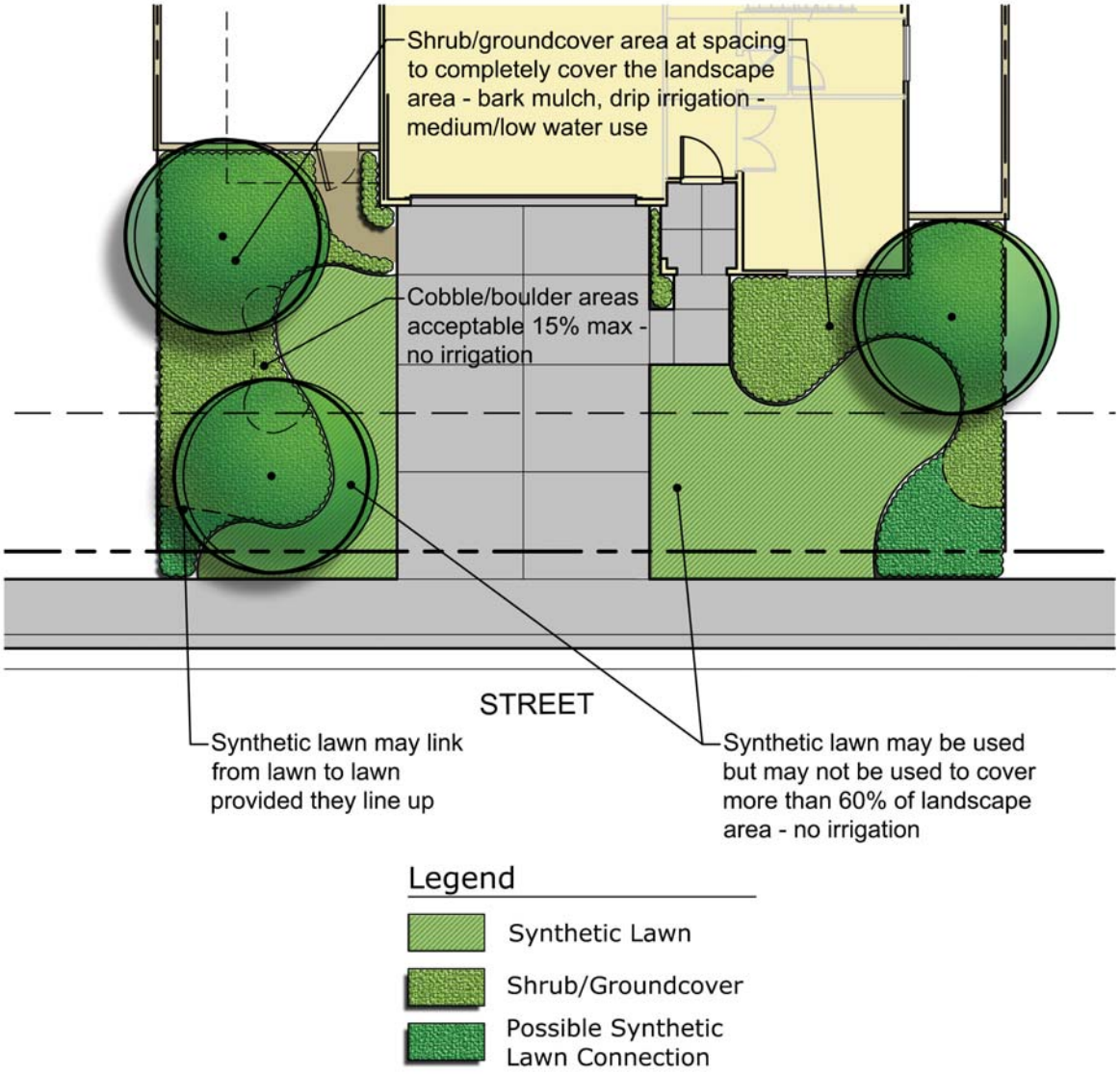
The soil test shall include the following information:

- Soil texture
- Infiltration rate
- pH
- Total soluble salts
- Sodium
- Percent organic matter
- Recommendations for amendment, if any.

Front Yard Landscape - Concept #1
Natural Turf and Plants

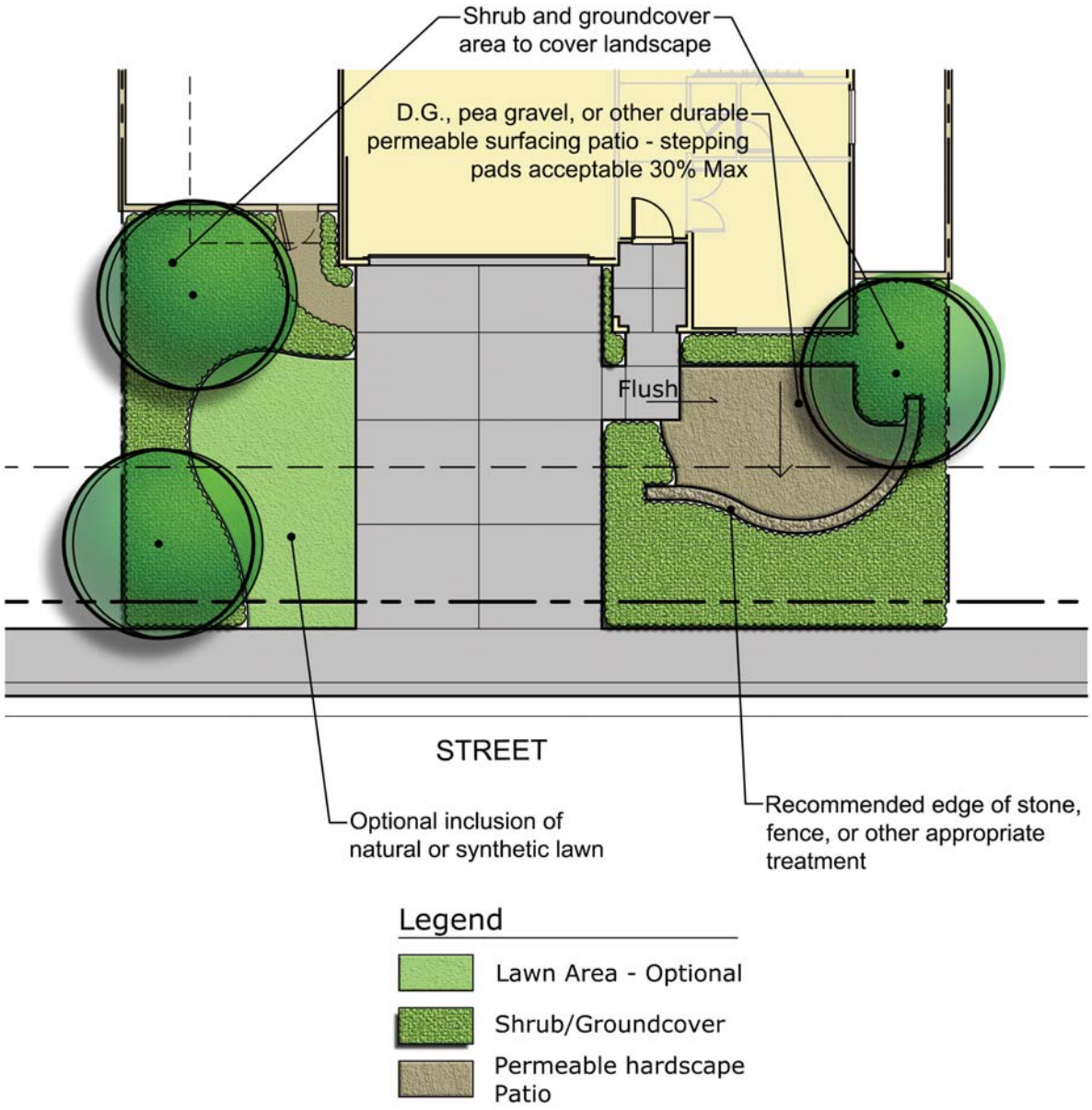
This landscape uses the maximum allowed amount of natural turf with a mix of trees, shrubs and groundcover areas and cobble fields to complete the landscape.

Front Yard Landscape - Concept #2
Synthetic Turf and Plants



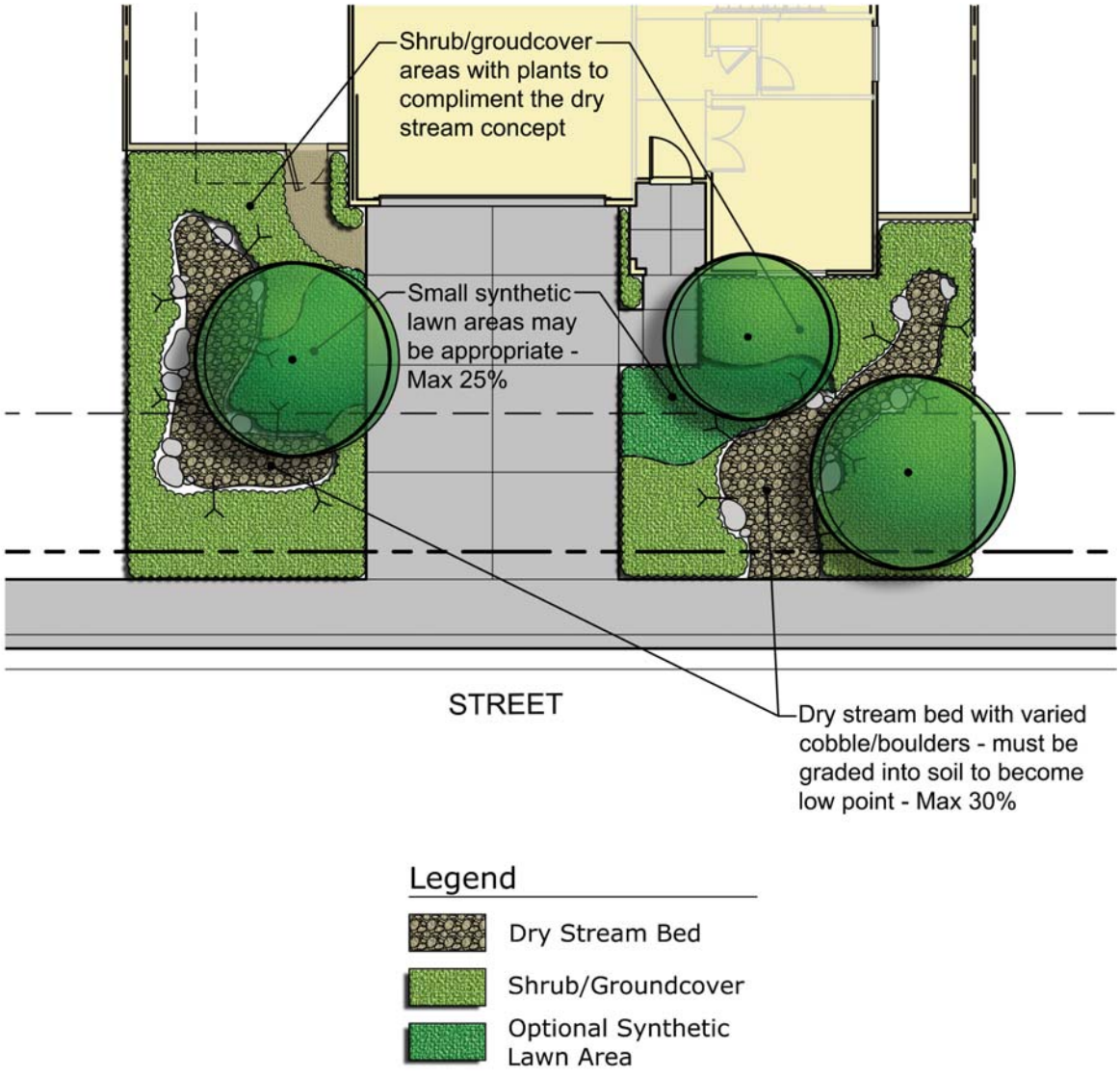
The above plan uses synthetic turf to provide a landscape with more turf area than is allowed by WELO. A blend of trees, shrubs and groundcover complement the design.

Front Yard Landscape - Concept #3
Small Patio Space



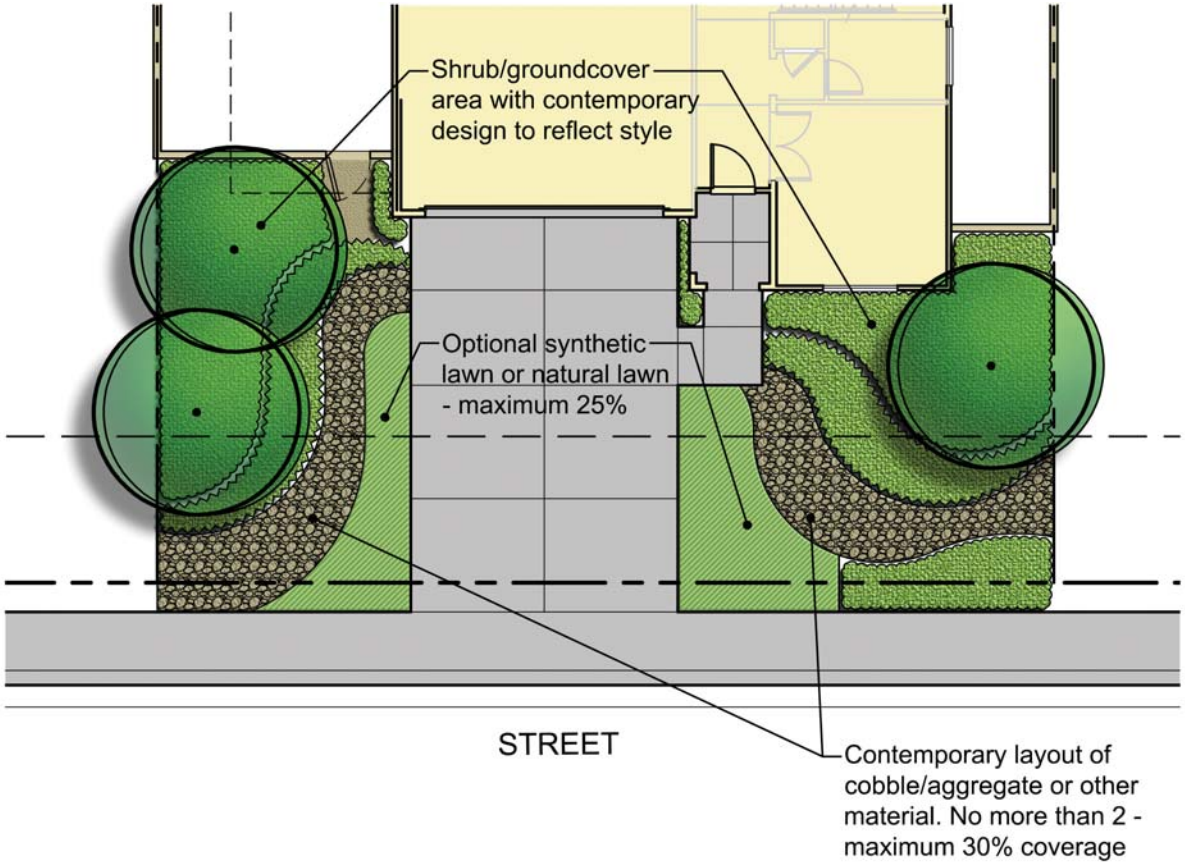
The plan above includes a small patio space to promote community interaction and provide additional spaces for resident's use throughout the year. Natural turf and landscaping fill out the remainder of the front yard.

Front Yard Landscape - Concept #4
Dry Stream Bed



A cobble and boulder dry stream bed theme provides an interesting structure to complement the trees, shrubs, ornamental grasses and groundcover of this landscape. The cobble areas and the lack of natural turf make this landscape theme lower in water use and maintenance demand.

Front Yard Landscape - Concept #5
Contemporary



This design uses strong forms and shapes and a limited palette of plants and materials to provide a more modern and contemporary landscape. Natural or synthetic turf is blended with masses of non-living groundcover as well as trees, shrubs, and groundcover.

5. Irrigation

All living plant landscape areas shall be provided with supplemental irrigation that is designed to be compliant with all applicable codes and requirements (WELO, CBC, and Ripon Municipal Code). Irrigation shall be designed to meet the water needs of the plants without providing more water than the plants need and without running off onto sidewalks and streets. Irrigation water shall be contained within the landscape area that it is intended to irrigate (no run-off). Following are goals and requirements of the irrigation system.

A. Plants with similar water usage needs shall be irrigated together and plants with different water needs shall be placed on separate circuits. For instance, lawn is higher water use, so it shall be on a separate circuit than a shrub area which has a lower water use need.

B. Irrigation water shall remain within the landscape area that it is intended to water. For instance, lawn irrigation shall not overspray into shrub areas or other areas that do not require irrigation.

C. The use of spray irrigation is discouraged. It may only be used for lawn areas (maximum 25% of the landscape area) and must be designed so that the spray does not overspray outside of the lawn area and does not create run-off. Only irrigation nozzles that use larger water droplet size such as rotator nozzles, Precision nozzles, and other nozzles approved by the Community Development Director are allowed. Traditional spray irrigation provides too much mist and does not meet the efficiency requirements of WELO and if therefore not allowed.

D. All spray heads must be installed with an integral check valve that stops water from draining out of the pipes through the low head.

E. The use of drip and/or low flow bubbler irrigation is encouraged for all landscape areas and is required for all non-lawn irrigation. The use of subsurface drip is encouraged for lawn areas.

F. There shall be a manual shut off valve at the point of irrigation service connection - this allows the irrigation system to be shut off separate from any other water needs (such as the water used inside the house).

G. The irrigation controller shall be multi-programmable and shall incorporate sensor input that automatically adjusts run times based on actual plant water needs.

H. A sensor shall be installed with each controller that uses current weather or soil moisture information to inform the controller on current water needs so that the controller can automatically adjust the run times.

I. The irrigation system shall be operated based on irrigation times that are allowed by the City.

6. Irrigation Products

The following is a list of recommended irrigation equipment and products to be used in typical residential landscapes. Not all products are appropriate for every landscape and there may be some products available (or developed after these guidelines were written) that meet or exceed the requirements of these guidelines and may be appropriate for use. Irrigation should be designed by a qualified irrigation designer that understands the equipment that is available and the requirements of WELO and the City of Ripon. However, the following may be used as a checklist and the use of the following equipment will meet the requirements of these guidelines. All equipment shall be installed per the recommendations and specifications of the manufacturer.

A. Controller
   Hunter X-Core and Pro-C
   Rainbird ESP-RZX, ESP-Me and ESP-SMTe
   Toro Evolution

Controller - helps to provide the right amount of water

B. Weather Sensor - Select a weather sensor that corresponds with the selected controller. Most weather sensors are available in a wireless version.
   Hunter Solar-Sync
   Rainbird ET Manager
   Toro Climate-Logic

C. Valves
   Hunter residential models
   Rainbird residential models
   Toro residential models

Weather sensor - helps your controller run only when needed

Remote control valve - allows you to separate your landscape into different watering zones and to be tied to the controller for automatic watering

D. Overhead spray heads for lawn area (max. 25% of landscape area)
   Hunter MP Rotator nozzles on PRS40 spray body
   Rainbird rotator nozzle on 1800 series spray body
   Toro Precision Rotator nozzles on 570Z-PRX spray body

Pop up spray heads (commonly called sprinklers) come in water efficient models to help irrigate larger uniform areas such as turf or lawn substitutes

E. Subsurface drip - Can be used for all landscape areas. The drip emitters are embedded into the tubing. This type of system is designed to provide emitters every 12” or 18” on center to evenly cover the landscape area with emitters. Provide separate circuits for different water use plants (lawn separate from shrubs).

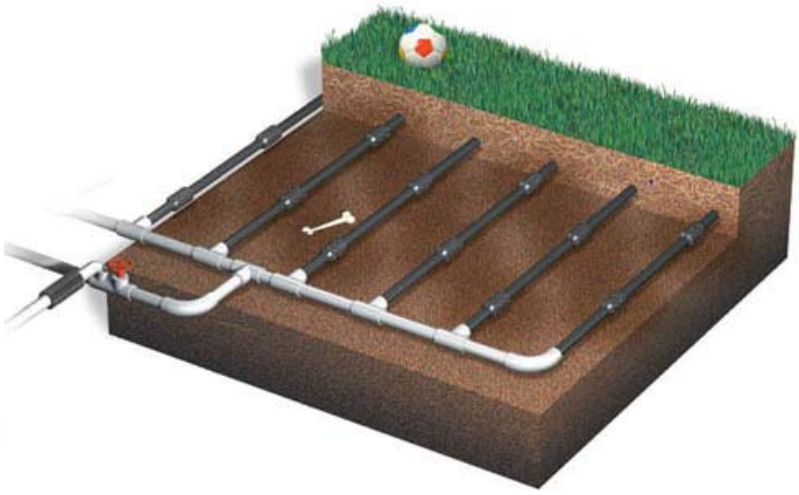
For lawn areas use 12” on center in-line emitters with in-line tubing placed at 12” on center. Bury all drip tubing for lawn and groundcover areas 2” deep.

For shrub areas use 18” on center in-line emitters with in-line tubing placed at 18” on center.

Include flush valves, air vacuum relief valves, and filters at the valve as recommended by the manufacturer.

Product

- Toro DL2000
- Netafim
- Rainbird XFS
- Hunter PLD



F. Drip emitters - Appropriate for shrub and groundcover areas. This type of system provides water at each plant only and does not provide irrigation water where there are not plants. It is not good for plants that spread by branches rooting to the ground as they spread out. Place spot drip emitters at each plant. Best to provide two to three emitters at each plant 3” - 9” away from the base of the plant. Drip tubing may be placed on the surface of the soil with mulch over the top. Staple the tubing to the ground every 4’ to 6’.

G. For irrigation systems that serve landscape areas over 2,500 square feet there are additional requirements that must be met to be compliant with WELO.

Flow sensor: a flow sensor is required at the irrigation point of connection and shall be tied to the controller per the manufacturer's specifications. Each controller manufacturer also provides a flow sensor that will work with their controller. It is a wire connection.

Controller: The controller needs to be upgraded so that is can read and react to the information provided by the flow sensor.

Meter: A separate meter is required for the irrigation system. For residential use this can be a sub-meter that monitors just the irrigation water usage separate from the domestic.

Irrigation Audit: After the irrigation system has been installed, an irrigation audit is required by a certified irrigation auditor. If any portion of the irrigation system needs to be revised to be compliant with WELO, the work shall be completed and demonstrated to the auditor. The report that shows compliance with WELO shall be forwarded to the Community Development Director.

City of Ripon Water Efficient Landscape Ordinance
Project Information and Checklist
Residential

This form is to be filled out and submitted with the completed landscape plans to the City of Ripon Community Development Department as well as any fees and other application forms that may be required by the City: *City of Ripon Community Development Department, 259 N. Wilma Ave, Ripon, CA 95366, 209-599-2108.*

Project Information:

Address of Project Site (Home) _____

Applicant Name _____

Applicant Address _____

Applicant Phone Number _____

Applicant E-mail Address _____

Description of work being performed _____

_____

Total Square footage of new landscape (add A-F below) _____sf

The square footage of the driveways, patios, and walkways and other functional hardscape is not to be included in the square footages below.

A. Proposed natural lawn area _____sf _____% of total landscape area (may not exceed 25%)

B. Proposed synthetic lawn area _____sf _____% of total landscape area (may not exceed 60%)

C. Proposed shrub/groundcover area _____sf _____% of total landscape area (may not be less than 35%)

D. Proposed impervious landscape _____sf _____% of total landscape area
(any paving that water cannot pass through) (may not exceed 20%)

E. Proposed non-living permeable groundcover *(cobble, aggregate, DG)* _____sf _____% of total landscape area (may not exceed 30%)

F. Other Landscape Features _____sf _____% of total landscape area

Describe _____

Irrigation:

A. Type of irrigation being used for the lawn _____
(Pop-Up Spray, Rotator, Gear Rotor, Subsurface Drip, Other)

B. Type of irrigation used for the shrub/groundcover _____
(Rotator, Spot Drip Emitters, Subsurface Drip, Low Flow Bubblers, Other)

C. Type of water used for the irrigation system _____
(Domestic water meter, rain harvesting, well, other)

WELO Checklist

All of the following items must be incorporated into the landscape in order to be compliant with the Water Efficient Landscape Ordinance (WELO). This checklist is for residential projects that are greater than 500 sf and less than 2,500 sf.

Planting:

A.	Total landscape area is greater than 500 sf and less than 2500 sf	yes	no	na
B.	Natural lawn area does not exceed 25% of the total landscape area	yes	no	na
C.	Natural lawn that has spray irrigation does not exceed 25% (4:1) slope	yes	no	na
D.	Natural lawn that has spray irrigation is not less than 10' wide	yes	no	na
E.	At least 35% of the total landscape area is planted with shrubs/groundcover	yes	no	na
F.	All non-lawn plantings are low or medium water using	yes	no	na
G.	Plants species have been selected for the appropriate size of the space to reduce the need for pruning	yes	no	na
H.	Shrubs and groundcover areas have been planted at adequate spacing so that plants will touch within 3 years with no bare spots	yes	no	na

Irrigation:

I.	Pop-Up spray irrigation is used in natural lawn areas only and is not greater than 25% of the total landscape area	yes	no	na
J.	Pop-Up spray irrigation is not used in areas less than 10' wide and Slopes greater than 25% (4:1)	yes	no	na
K.	All spray heads have check valves to eliminate low head drainage	yes	no	na
L.	Irrigation controller is a 'smart' controller that uses sensors to adjust run times automatically (evapotranspiration or soil moisture sensors)	yes	no	na
M.	There is no overspray into hardscape from any irrigation	yes	no	na
N.	All shrub/groundcover areas are irrigated with drip or low flow bubblers	yes	no	na

Other:

O.	Synthetic lawn does not exceed 60% of the total landscape area	yes	no	na
P.	Organic mulch installed at min. 3" depth for all shrub/groundcover areas	yes	no	na
Q.	Impervious landscape areas (hardscape) does not exceed 20% of the total landscape area	yes	no	na
R.	Permeable paving such as permeable pavers, DG, aggregate does not exceed 30% of the total landscape area	yes	no	na
S.	Permeable Non-living groundcover such as cobble, dry stream beds, DG ornamental aggregate does not exceed 25% of the total landscape area	yes	no	na
T.	Soil amendments provided at 4 cubic yards per 1000 sf of landscape or per the recommendations of a soil fertility test from the site	yes	no	na

I certify that the preceding information is correct and I will comply with the WELO and Appendix D (Prescriptive Method) requirements

Signature of Property owner or authorized agent

Date

Section 2 – City Maintained Streetscape Landscape

1 Summary and Applicability

This section of the Design Guidelines is for the City-owned and maintained landscape that is developed by private developers associated with new streets for subdivisions. All streets that have landscape within the Right-of-Way are subject to these Guidelines.

The width of Rights-of-Way, roadways, sidewalks, bike paths, medians, travel lanes, landscape planters, and all other components of the City of Ripon vehicular circulation system remain per the zoning code, municipal code, and the direction of the Community Development and Public Works Directors. All City standard details and specifications remain intact and as they are. The purpose of these guidelines is to provide direction to developers in how the typical landscape spaces within the streetscape that are required to be improved per code and conditions of approval are to be designed. The type and overall concepts for planting and irrigation are included within these guidelines.

For the purposes of this document the term 'streetscape' and 'streetscape landscape' refers to all of the pervious portions of the right-of-way associated with a street. The roadway, curbs and gutters, sidewalks, sound walls and fences, street lights, signage, and utilities are not covered by these guidelines. The streetscape landscape includes the landscape areas in the median, side street landscape between the curb and sidewalk (parkway strip), and the landscape between the sidewalk and sound wall and/or right-of-way line. Streetscape landscape consists of trees, shrubs and groundcover, vines, non-living groundcover such as cobble and DG, irrigation systems, and the accessories needed such as root barriers, edging, etc.

2 Streetscape Design

The goal of these guidelines is to provide aesthetically pleasing and efficient streetscape landscape that is easy to maintain, uses a minimal amount of irrigation water while preserving the character of Ripon, and provides a safe and efficient vehicular and pedestrian circulation network. Following are the primary goals of the streetscape landscape:

A. All landscape installation shall provide a safe environment for vehicular and non-vehicular circulation for which the streetscape landscape is designed. All code requirements shall be adhered to and the landscape shall be modified as needed to meet all applicable codes.

B. Landscape shall be designed to meet the function of the intended use and not require substantial maintenance in order to maintain that use. For example, species selected for low groundcover shall be naturally low growing varieties that do not require pruning to be kept low; street trees shall not be low branching or suckering trees that require regular pruning to maintain clear visibility; tree species with invasive roots shall be avoided in narrow planters; wide spreading shrubs shall be avoided in narrow planters; etc.

C. Maintain clear view corridors at all street and driveway intersections per City requirements.

D. Street trees to be planted at appropriate branch height and spacing so that they do not interfere with vehicles and/or pedestrians, as well as clear of street lights and other utilities. To the greatest extent possible the spacing of street trees and street lights shall be designed together to provide cohesive layout that maintains street

tree and street light spacing without gaps in the rhythm of either. See Appendix A for minimum spacing of street trees.

E. There shall be a variety of plant species selected to meet the functional requirements such as vines, screen shrubs, groundcover, low accents plants, etc., but they shall be designed in broad masses or rows with a simple palette to avoid a 'busy' or overly intense planting layout. Simple clean lines of planting are preferred over a botanical wonderland.

F. Plant species shall be selected so that no more than 30% of the mature size of the plant needs to be removed in order to maintain the desired height and/or width.

G. Plant species shall be selected that are: appropriate for the climate (Sunset zone 8 and 14); are predominately low water use per WUCOLS 4; are non-invasive; do not freely sucker or have damaging roots; produce minimal seeds and/or pollen (allergens); do not harbor infesting insects; are safe (are not brittle and prone to breakage or wind damage); and are otherwise appropriate for public landscape.

H. Non-living groundcover such as cobble, DG, ornamental aggregate, etc. may be used in conjunction with overall planting design to provide for aesthetically pleasing landscape while lessening the need for long-term maintenance and irrigation water. Certain non-living groundcover requires the uses of a permeable woven filter fabric to inhibit weed growth, see additional information in paragraph 3.C.7 of Section 2.

I. Irrigation systems shall be designed to provide appropriate irrigation without overspray and run-off and installed with durable products that require minimal regular maintenance. Irrigation shall comply with all City standards and code requirements.

J. Where possible and where the landscape spaces are wide enough, it is encouraged to use the landscape to filter and retain some of the storm water run-off before entering the storm drain system (per the direction/discretion of the Public Works Director).

K. Street Trees: Street trees shall be planted to create a vibrant canopy for all streets. Street tress shall be located in planters of sufficient width for the mature size of the particular species. They shall be located at regular intervals and at uniform distance behind the curb so as to create the cadence, street presence, and shade canopy desired by the City. Species recommended for use as Street Trees on the various City streets (based on ROW widths and City Standards Details) are included in the Plant List provided as Appendix A. See Appendix A also for minimum planter width and recommended spacing of trees by species.

   Street trees shall be located in planters on both sides of the streets and within medians. Species within the medians do not need to be the same as the species along the curbs; however, species shall be selected to achieve a canopy and the species shall be consistent within a single median, or at a design otherwise approved by the Community Development Department. See exhibits B.1, B.2 and B.3 of Section 2.

   When required by the City, street trees shall be included in the front yards of lots and be located a minimum of 5' behind the sidewalk. Street trees in this condition shall be evenly spaced and adhere to the recommendations for spacing and minimum planter width provided in Appendix A. See also paragraph 3.C.1 in Section 2.

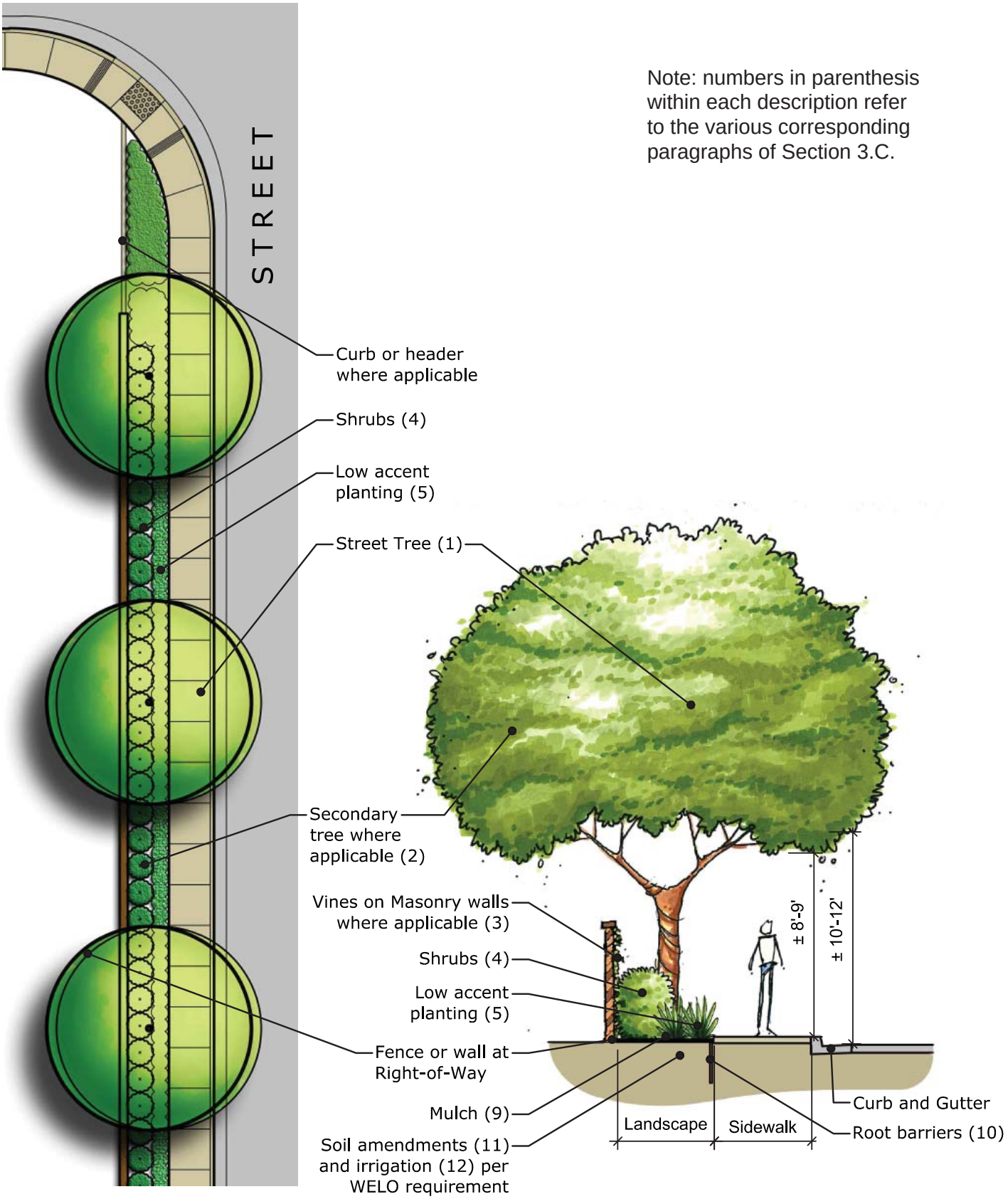
3 Typical Streetscape Conditions

The following are examples of typical streetscape conditions throughout the City of Ripon and common for residential streetscape development. The widths of sidewalks and landscape areas is per the requirements of each street per the City of Ripon. These example provide direction into how the landscapes within the various spaces are to be developed.

A. Side Street landscape – This is the area between the curb at the edge of the street and the right-of-way line and/or sound wall or fence. There is typically a pedestrian sidewalk and potential bike path. Landscape consists of street trees (shade) and secondary buffer trees (if the width allows), as well as vines on the wall, shrubs, and groundcover.

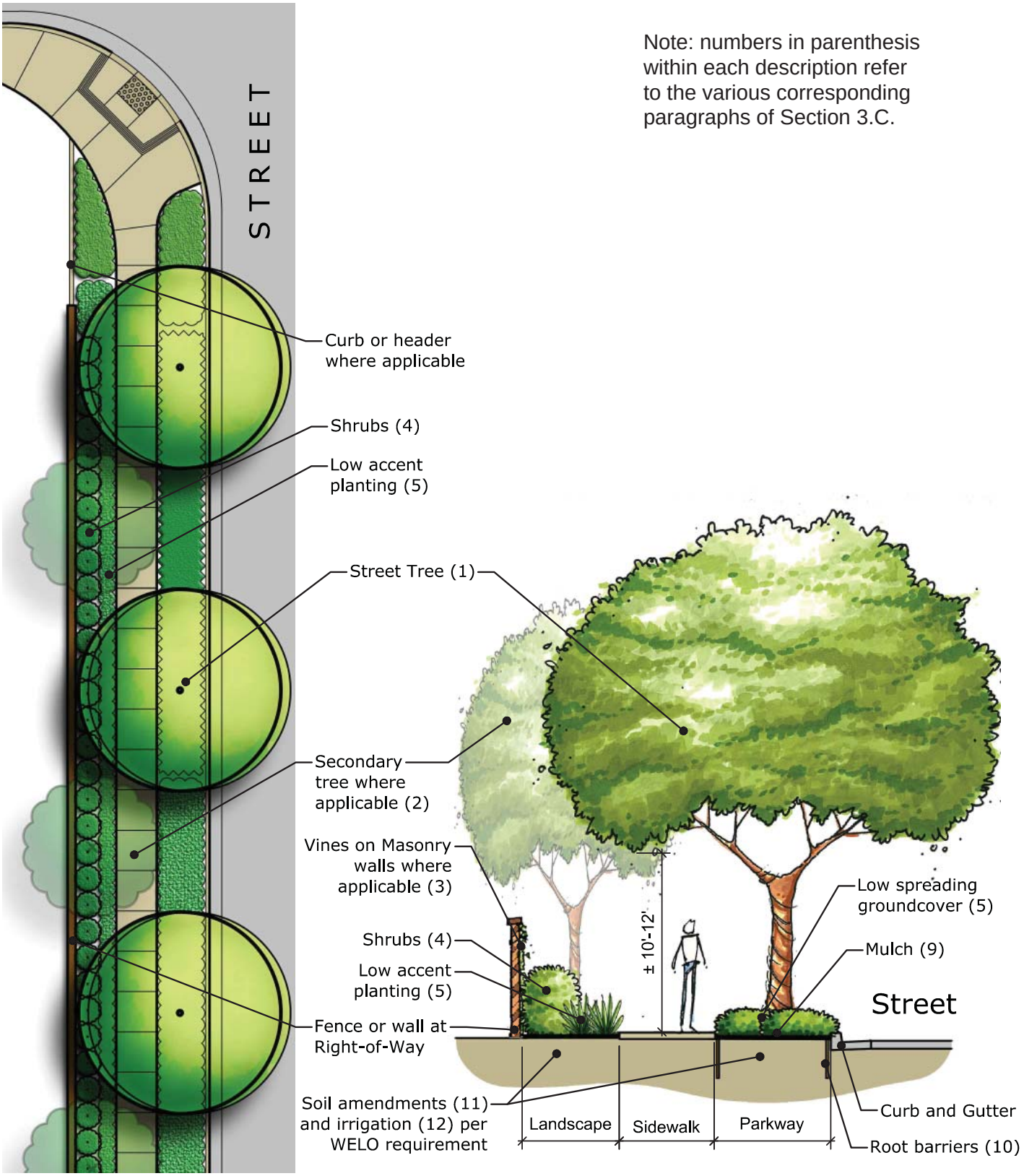
A.1 Standard Side Street Landscape

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.



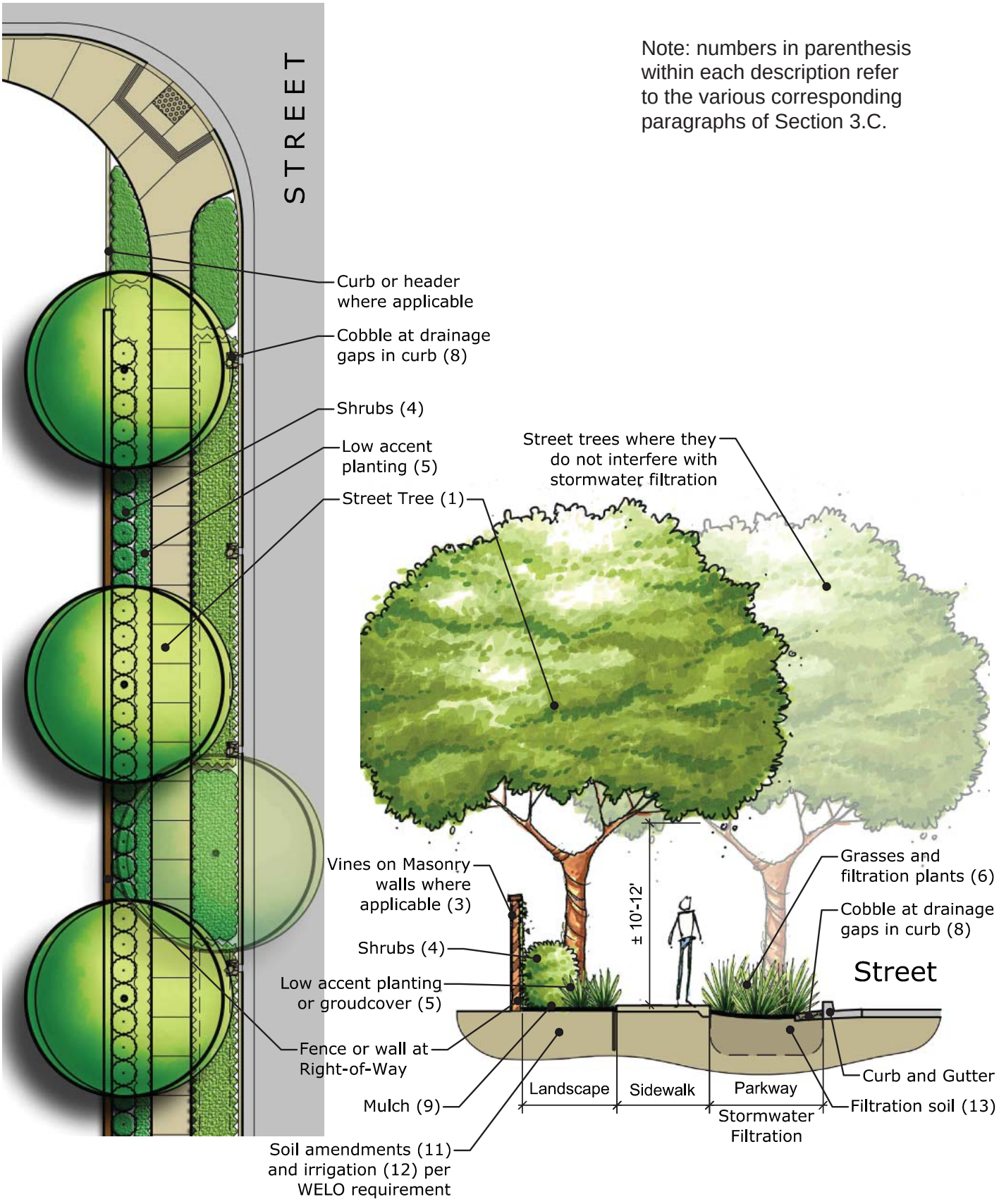
A.2 Standard Side Street Landscape with Parkway

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.

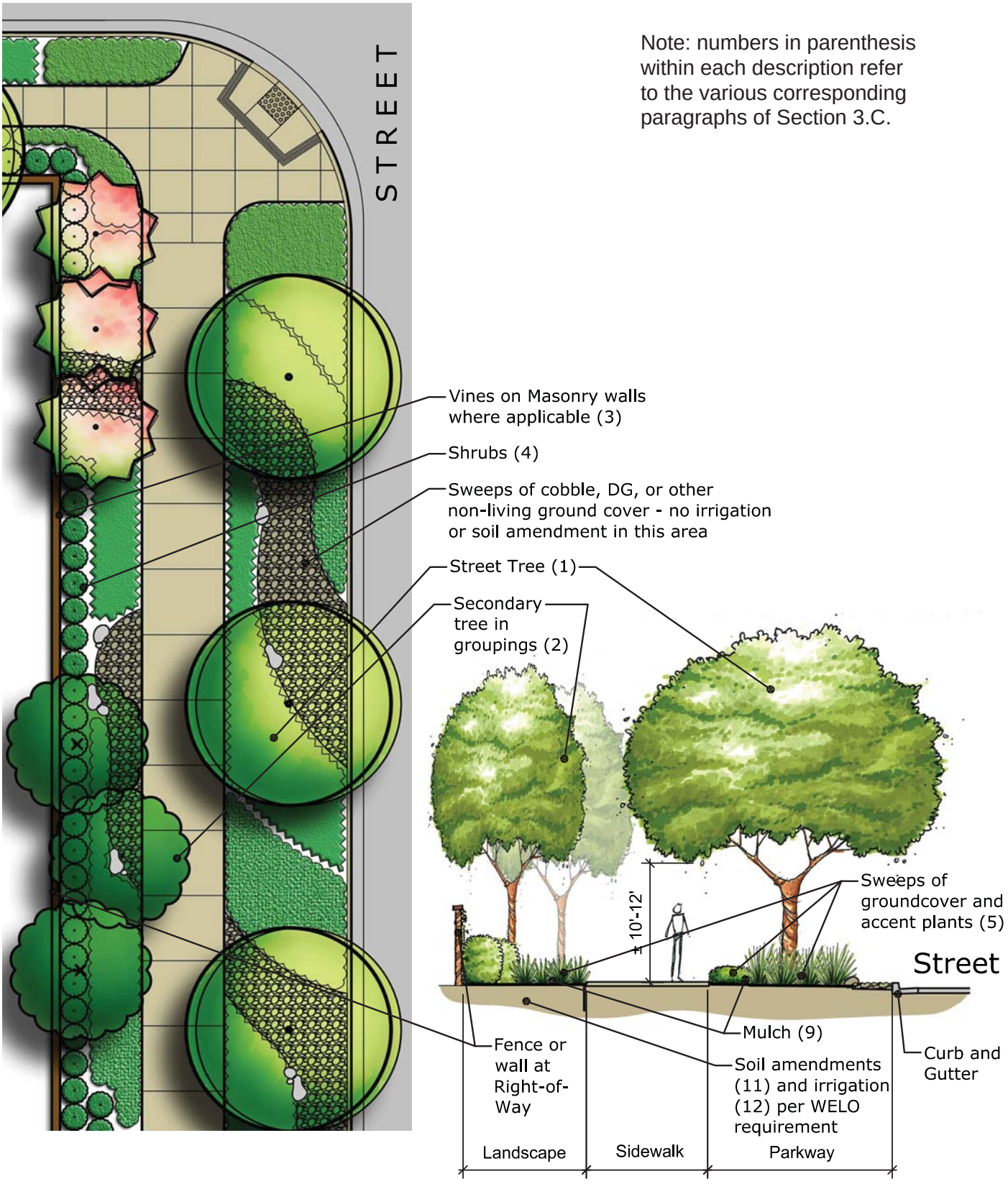


A.3 Side Street Landscape with Storm Water Filtration

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.

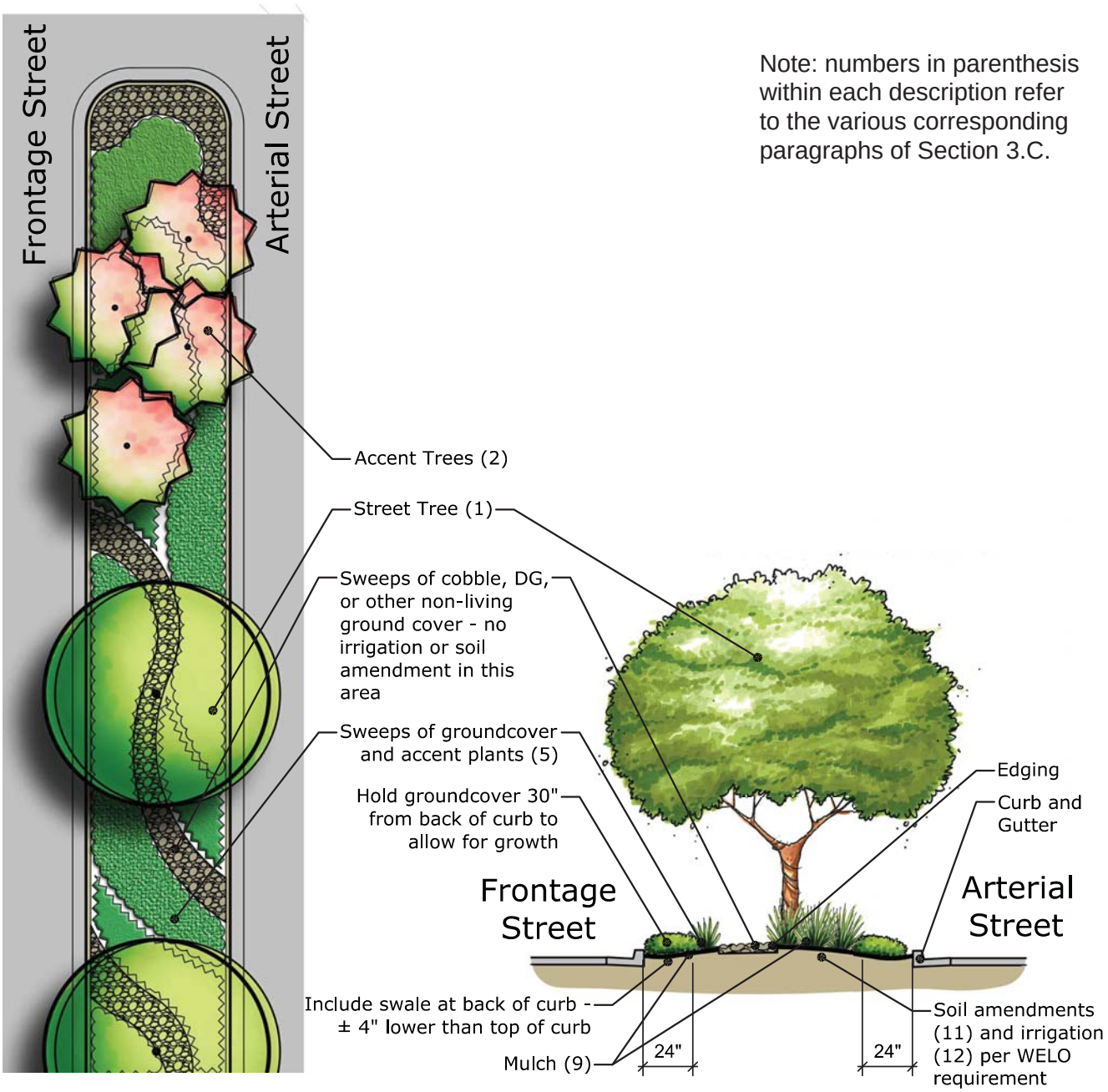


A.4 Large Site Street Landscape with Optional Non-Living Groundcover



Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.

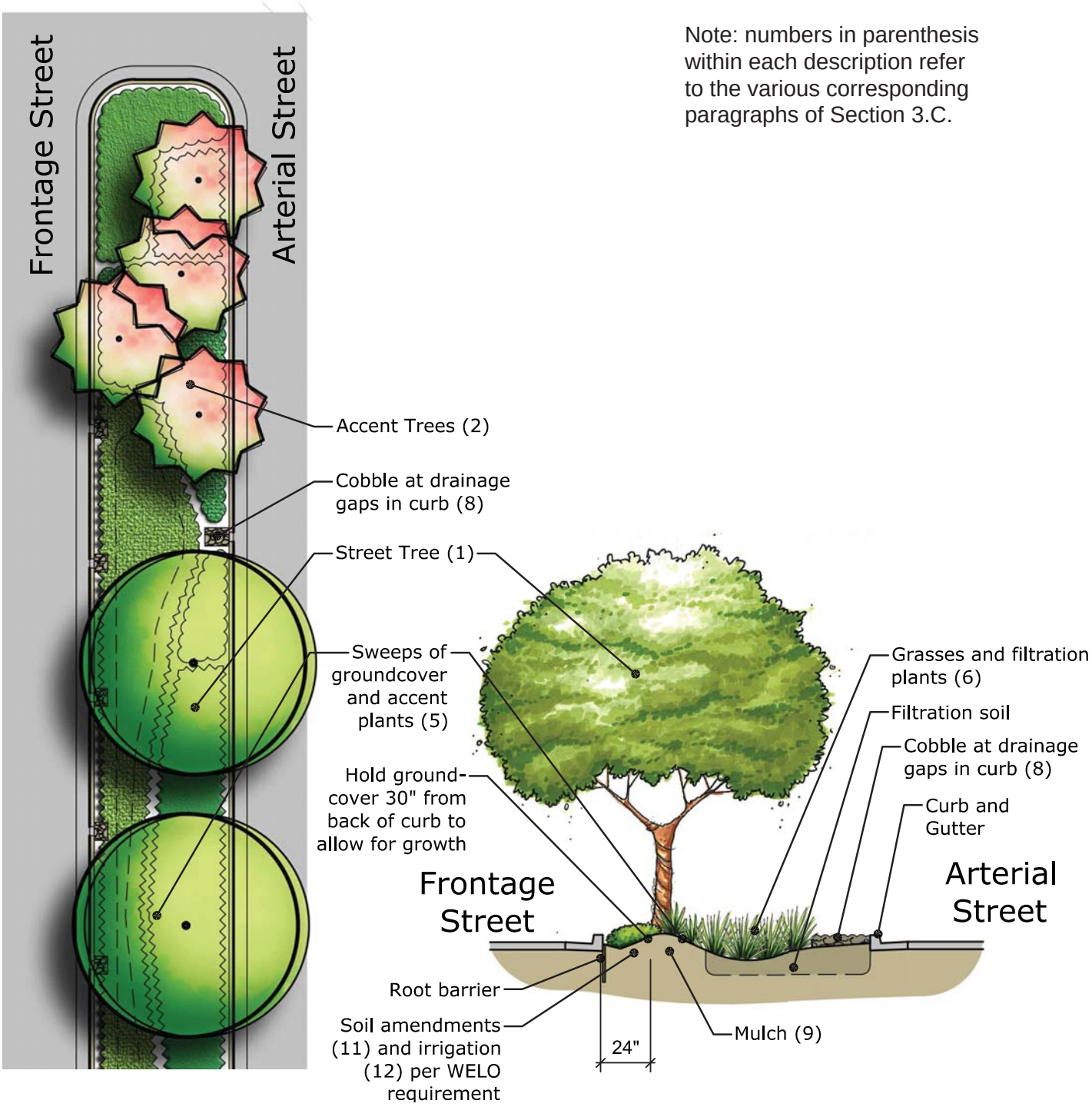
A.5 Parkway Landscape between Arterial and Frontage Streets



Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.

A.6 Parkway Landscape between Streets with Storm Water Filtration

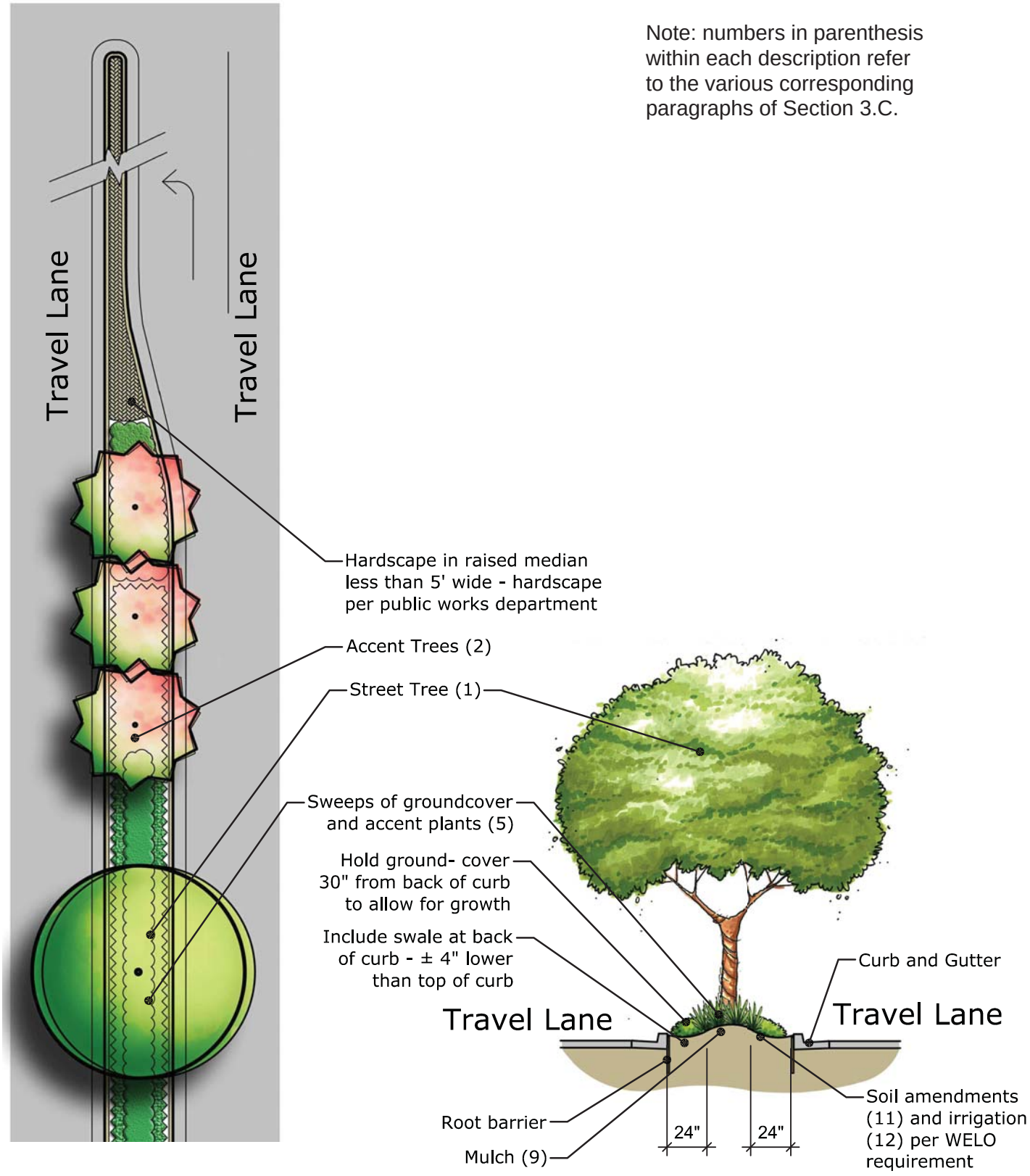
Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.



B. Medians – This is the landscape in the center of the street that provides a buffer between traffic going in opposite direction. There is no pedestrian use within the medians and the landscape serves an aesthetic and safety purpose. Street shade trees should be centered in the median with low growing shrubs and groundcover that allow for clear views. Groundcover shall be maintained clear of the curbs so that is does not grow over the curbs or require maintenance to keep it from growing into the travel lanes. When medians narrow (5' or less) for turn pockets, etc., the landscape between the curbs should be replaced with hardscape such as colored and stamped concrete, bricks or pavers, wet-set cobble, or other durable non-planted material.

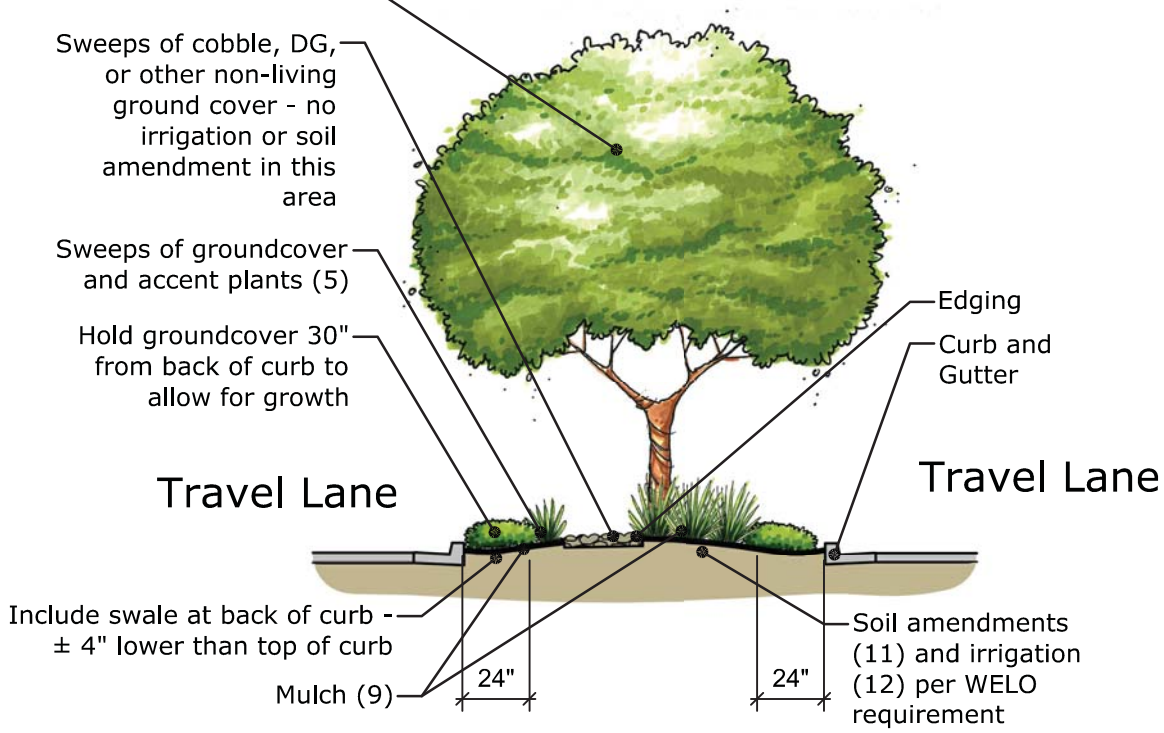
B.1 Narrow Median

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.



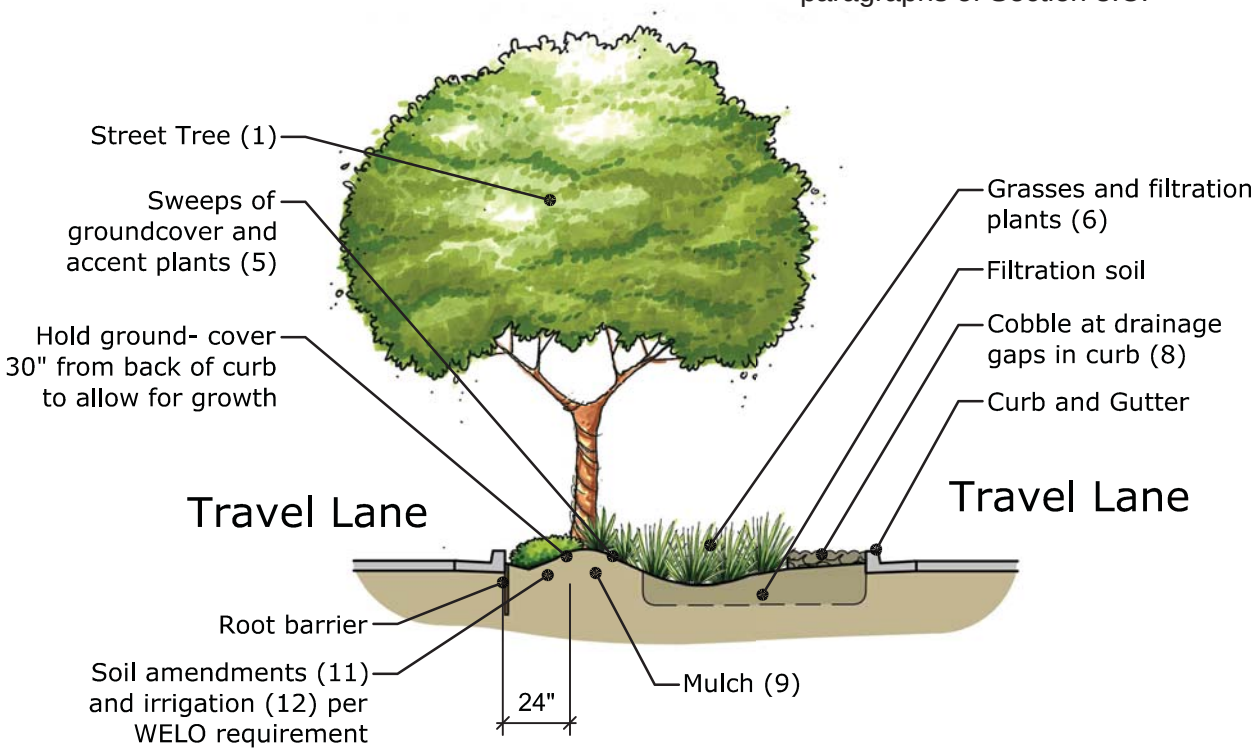
B.2 Wide Median

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.



B.3 Wide Median with Storm Water Filtration

Note: numbers in parenthesis within each description refer to the various corresponding paragraphs of Section 3.C.



C. Landscape Elements within the streetscape landscape:

1. Street Trees – Standard trees that do not have low branches or invasive roots; are not overly messy (constant leaf drop); do not produce significant amounts of fruit, pollen, or harbor insects; can be deciduous or evergreen; provide shade; do not require substantial maintenance to maintain clear views through and remain clear of vehicle and pedestrian lanes; and provide a clean and simple aesthetic. Typically single species on both sides of the street for at least several blocks before potentially changing to another species. Spacing per Appendix A based on the species and planter width with tree and street light spacing coordinated. See Appendix A also for a list of trees suitable for the various City-standard street road widths (refer also to paragraph 2.K of Section 2).
2. Secondary and Accent Trees – This category of trees is much more diverse than the street trees and is used to accent street corners and neighborhood entries, and provide buffering for residences adjacent to busy streets. Accent trees are smaller, upright trees that can be flowering to enhance/announce major street corners or neighborhood entries. Secondary or backdrop trees typically are located between the sidewalk and wall/fence and provide a buffer between the residences and the noise of the street. They are typically narrow, upright trees and are often evergreen (not required) and planted at a tighter spacing or in informal groups (20' – 25' on center). See Appendix A for a list of trees suitable for this condition.
3. Vines – Evergreen vines are to be planted on masonry sound walls (not wood fences) to discourage graffiti and provide greenery along the edge of the street.
4. Shrubs – Shrubs that are 3' – 6' tall and wide are to be used along the sound wall or fence to provide a buffer. The species shall be selected to maintain their size without growing into the sidewalk (more narrow than spreading). They are typically evergreen, low to medium water use, and low maintenance.
5. Low Groundcover and Accent Plants – These are the majority of the plants in the streetscape and are selected to adequately cover the ground while maintaining clear views through the landscape. They are to be naturally low growing, evergreen, low to medium water use, and low maintenance to maintain their size (height). Wide spreading groundcover is to be avoided in narrow planters especially when adjacent to sidewalks and streets. These plants are to be planted in large masses and/or sweeps with a variety of color and texture with flowering accent plants near the street corners.
6. Filtration Planting – These are plants that are appropriate for shallow storm water filtration and retention basins and are typically grasses and grass-like plants that are hardy to inundation.
7. Non-Living Groundcover – The use of non-living groundcover such as cobble, boulders, Decomposed Granite (DG), permeable pavers, synthetic lawn, ornamental aggregate, etc. is encouraged for larger landscape planters. The non-living groundcover is to be designed to be cohesive and complimentary with the planting design and to create an overall character and aesthetic. It is not to be used to completely replace plantings and should not exceed 40% of the total landscape area of the streetscape. Non-living groundcover is to be recessed into

the soil and to be installed with edging approved by the Community Development and Public Works Directors. Depth to be sufficient to discourage weed growth. For cobble and DG, a permeable, woven fabric weed barrier (not sheet plastic) shall be used under the full expanse of these materials. Where non-living groundcover is used, there is no need for irrigation or for soil amendments.

8. Cobble at storm drainage curb cuts – In areas where storm water is allowed to flow through gaps in the curb to enter storm water filtration areas, there shall be cobble placed at each opening to dissipate flow velocity and stop filtration planting from growing up to and potentially blocking the run-off from flowing through the gaps in the curbs. The cobble must be recessed into the grade so as not to interfere with the flow of run-off.
9. Mulch – Organic mulch is to be installed and maintained in all planted landscape areas (except potentially the filtration planting) to a minimum depth of 3".
10. Root Barriers – Linear root barriers shall be installed directly adjacent to sidewalk and curbs wherever a tree is within 7' of the curb or sidewalk. The linear root barriers shall be a minimum 18" deep with the top flush with the top of soil. They shall be minimum 10' long centered on the tree.
11. Soil amendments – The planting soil shall be amended per the recommendations of a soil fertility test that is to be performed after mass grading and prior to any landscape planting or irrigation installation. The soil fertility test is to be conducted per the requirements of WELO and the amendments are to be installed per the recommendations of the report. The report is to be provided to the City prior to installation and the City Inspector shall be notified of the installation of the amendments.
12. Irrigation – All planted landscape areas are to be irrigated in compliance with WELO requirements and per City of Ripon standards and requirements. Most landscape is to be irrigated with low-flow bubblers or drip that has been reviewed and approved by the Public Works Director. Pop-Up spray is not allowed unless special conditions warrant and it has been approved by the City. Rotator and/or gear rotor irrigation may be appropriate if the landscape space is wide enough and plantings are low enough to not interfere with the spray pattern. Any spray heads used must be kept 24" clear of the edge of curbs and/or sidewalks. Non-living groundcover is not to be irrigated. All calculations, tables, and requirements of WELO is to be provided with the landscape plans to show compliance.
13. Filtration Soil – Soil within the storm water filtration and retention zones is to be installed per the civil engineer. Grades within the filtration zones and connections to the storm drain system shall meet codes and meet the requirements of the Public Works Director.

Appendix A - Plant List

The plants in this Appendix are an example of plant species that are approved and are selected to meet the goals of these guidelines. Plants are provided in groupings of characteristics and locations for appropriate use of each species. This list is not comprehensive; use of additional appropriate plants not on this list is encouraged and permitted with approval by the City. It is the responsibility of the applicant (or their landscape architect) to select correct species and cultivars appropriate for the intended use, location, sun/shade exposure, water use and other important considerations.

TREES							
SPECIES		USES					
BOTANICAL NAME	COMMON NAME	STREET TREES	SCREEN TREE	ACCENT TREE	GENERAL LANDSCAPE USES	RECMN'D SPACING (feet)	MIN. PLANTER WIDTH (feet)
Acer palmatum	Japanese Maple			x	x	20	5
Acer rubrum 'Sunset' [1,2]	Sunset Red Maple	x		x	x	40	8
Arbutus 'Marina'	NCN		x	x	x	20	5
Carpinus betulus 'Fastigiata'	European Hornbeam	x			x	20	5
Celtis sinensis	Chinese Hackberry				x	40	8
Cercidium 'Desert Museum'	Palo Verde		x	x	x	20	5
Cercis occidentalis	Western Redbud			x	x	20	5
Cupressus sempervirens	Italian Cypress			x	x	na	5
Lagerstroemia fauriei	Crape Myrtle			x	x	20	5
Laurus nobilis 'Saratoga'	Saratoga Laurel	x	x		x	20	8
Liquidambar styraciflua 'Rotundiloba' [2]	American Sweetgum	x	x		x	40	10
Magnolia grandiflora	Southern Magnolia	x	x		x	40	8
Magnolia soulangeana	Saucer Magnolia			x	x	20	8
Nyssa sylvatica [2,3]	Tupelo	x		x	x	40	8
Olea europaea 'Swan Hill'	Fruitless Olive		x	x	x	20	8
Pinus canariensis	Canary Island Pine	x	x		x	40	8
Pinus pinea	Italian Stone Pine		x	x	x	40	8
Pistacia chinensis 'Keith Davey' [1,2]	Chinese Pistache	x			x	40	8
Platanus acerifolia [1,2]	London Plane tree	x			x	40	8
Podocarpus gracilior	Fern Pine		x	x	x	40	8
Prunus blireiana	Purple Leaf Plum			x	x	20	5
Quercus agrifolia [1,2]	Coast Live Oak	x	x		x	40	10
Quercus coccinea [1,2]	Scarlet Oak	x			x	40	8
Quercus ilex	Holly Oak		x		x	40	8
Quercus virginiana	Southern Live Oak	x	x		x	40	10
Rhus lancea	African sumac		x	x	x	40	5
Sequioa sempervirens	Coast Redwood	x			x	40	10
Trachycarpus fortunei	Windmill Palm			x	x	na	5
Ulmus parvifolia 'True Green' [2,3]	Chinese Evergreen Elm	x			x	40	8
Ulmus X frontier [2,3]	Frontier Elm	x			x	40	8
Washingtonia filifera	California Fan Palm	x		x	x	na	5
Washingtonia robusta	Mexican Fan Palm			x	x	na	5
Zelkova serrata 'Village Green' [3]	Village Green Zelkova	x	x		x	40	8

Notes:

[1] Suitable for use as a Street Tree on 102'-140' ROW (City Standard Details ST-9 and ST-10)

[2] Suitable for use as a Street Tree on 74'-82' ROW (City Standard Details ST-10a and ST-11)

[3] Suitable for use as a Street Tree on 60' ROW (City Standard Details ST-11)

LARGE SHRUBS				
SPECIES		USES		
BOTANICAL NAME	COMMON NAME	EVERGREEN	FLOWERING	LOW WATER USE
Berberis thunbergii atropurpurea	Barberry			x
Callistemon viminalis	Bottlebrush	x	x	x
Camellia sasanqua	Camellia var. (TBD)	x	x	
Ceanothus 'Julia Phelps'	Wild Lilac	x	x	x
Cotoneaster lacteus	Cotoneaster	x	x	x
Escallonia fradesii	Escallonia	x	x	
Feijoa sellowiana	Pineapple Guava	x	x	x
Juniperus species	Juniper	x		x
Leonotis leonurus	Lion's Tail	x	x	x
Leucophyllum frutescens	Texas Ranger	x	x	x
Loropetalum chinensis	Chinese Fringe Flower	x	x	
Nerium oleander	Oleander	x	x	x
Pittosporum tobira 'Variegata'	Variegated Mock Orange	x	x	
Photinia x fraseri	Photinia	x		x
Podocarpus macrophyllus	Long-leaf Yellow-wood	x		
Prunus caroliniana 'Bright 'N Tight'	Compact Caroline Laural Cherry	x		x
Prunus ilicifolia ilicifolia	Hollyleaf Cherry	x		x
Prunus laurocerasus 'Otto Luyken'	Otto Luyken English Laurel	x		
Rhaphiolepis indica 'Jack Evans'	Jack Evans Indian Hawthron	x	x	
Thuja occidentalis	American Arborvitae	x		
Xylosma congestum 'Compactum'	Shiny Xylosma	x		x

MEDIUM SHRUBS				
SPECIES		USES		
BOTANICAL NAME	COMMON NAME	EVERGREEN	FLOWERING	LOW WATER USE
Abelia grandiflora	Glossy Abelia	x		
Agave Species	Century Plant	x		x
Arctostaphylos densiflora 'Howard McMinn'	Howard McMinn Manzanita	x	x	x
Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry		x	x
Buxus microphylla japonica	Japanese Boxwood	x		
Callistemon viminalis 'Little John'	Dwarf Bottlebrush	x	x	x
Cistus purpureus	Orchid Rockrose	x	x	x
Dietes vegeta	Fortnight Lily	x	x	x
Euphorbia species	Euphorbia	x	x	x
Gaura lindheimeri	Gaura	x	x	
Ilex crenata	Japanese Holly	x		
Juniperus species	Juniper	x		x
Lantana montevidensis	Lantana	x	x	
Lavandula	Lavender	x		
Ligustrum japonicum 'Texanum'	Texas Privet	x		
Mahonia aquifolium	Oregon Grape	x	x	x
Myrica californica	Pacific Wax Myrtle	x		x
Myrtus communis 'Compacta'	Dwarf Myrtle	x		x
Nandina domestica	Heavenly Bamboo	x		
Nerium oleander 'Petite Salmon'	Dwarf Oleander	x	x	x
Olea europaea 'Little Ollie'	Little Ollie Olive	x		x
Pittosporum tobira 'Wheeler's Dwarf'	Wheelers Dwarf Mock Orange	x		
Plumbago auriculata	Cape Plumbago	x	x	
Rhaphiolepis indica 'Ballerina'	Ballerina Indiana Hawthorn	x	x	x
Rosa floribunda (etc.)	Rose	x	x	
Rosmarinus officinalis	Rosemary	x	x	x
Salvia greggii	Autumn Sage	x	x	x
Salvia species	Sage	x	x	x
Spiraea bumalda	Spiraea	x		
Zauschneria californica	California Fuchsia	x	x	x

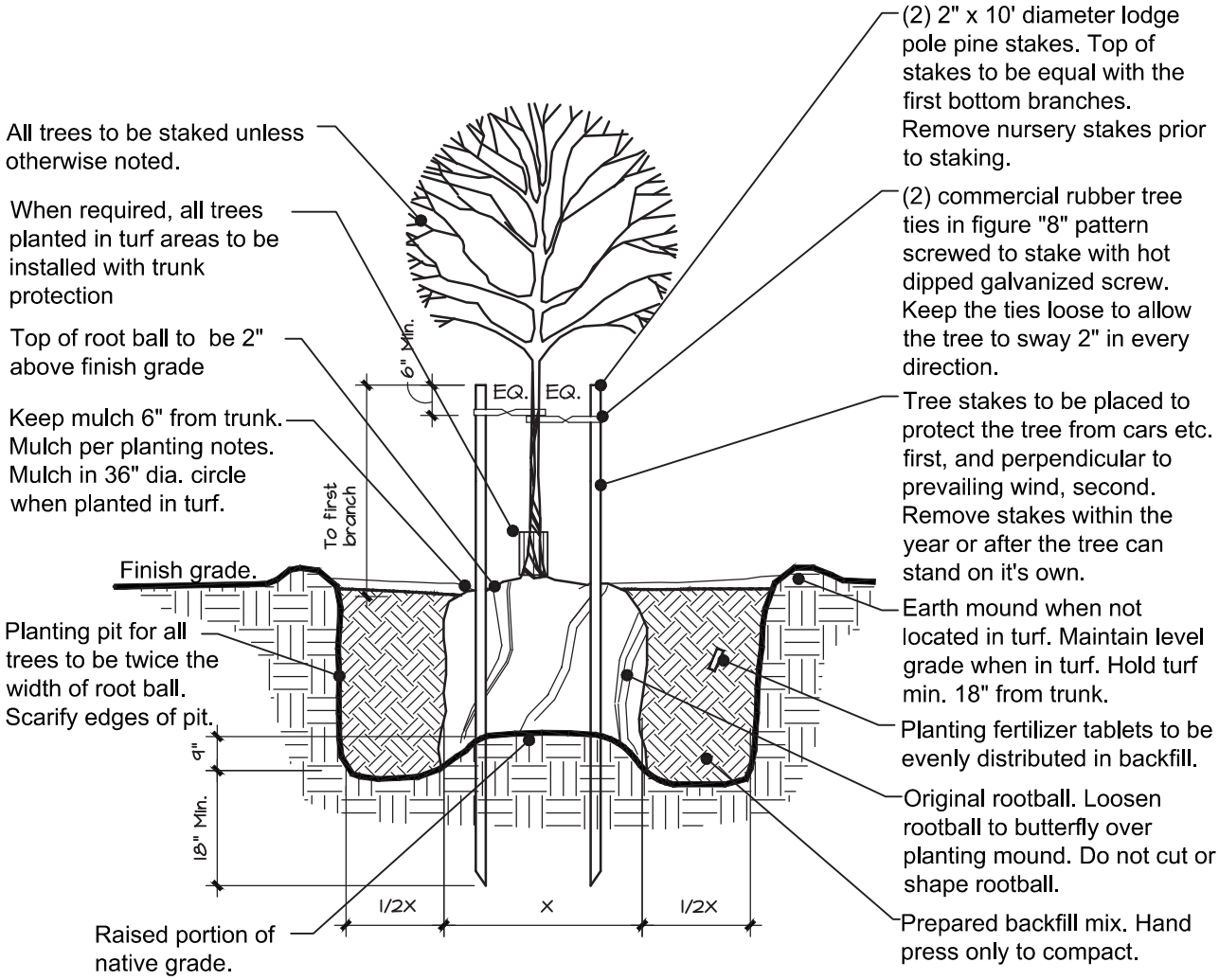
GROUNDCOVER				
SPECIES		**USES**		
BOTANICAL NAME	COMMON NAME	EVERGREEN	FLOWERING	LOW WATER USE
Acacia redolens	Acacia	X	X	X
Agapanthus africanus 'Queen Anne'	Lily-of-the-Nile	X	X	X
Ajuga reptans	Carpet bugle	X		
Arctostaphylos uva-ursi	Bearberry/ Trailing Manzanita	X		X
Armeria maritima	Sea Thrift	X	X	
Ceanothus species	Wild Lilac/Carmel Creeper	X	X	X
Coprosma pumila 'Verde Vista'	Mirror Plant	X		X
Cotoneaster 'Lowfast'	Bearberry	X	X	X
Delosperma cooperi	Ice Plant	X	X	
Dymondia margaretae	Dymondia	X	X	
Festuca ovina 'Glauca'	Blue Fescue	X		X
Fragaria chiloensis	Beach Strawberry	X	X	
Hermerocallis species	Daylily	X	X	X
Juniperus horizontalis	Juniper	X		X
Mahonia repens	Oregon Grape	X	X	X
Myoporum parvifolium	Myoporum	X		
Rosmarinus officinalis	Rosemary	X	X	X
Rosmarinus o. 'Huntington Carpet'	Huntington Carpet Rosemary	X	X	X
Scaevola 'Mauve Clusters'	Scaevola	X	X	
Sedum species	Stonecrop	X		X
Stachys byzantina	Lamb's Ear	X		
Teucrium lucidrys 'Prostrata'	Germander	X	X	X
Thymus species	Thyme	X	X	X
Trachelospermum asiaticum	Asian Jasmine	X		
Trachelospermum jasminoides	Star Jasmine	X	X	
Vinca minor	Dwarf Periwinkle	X	X	

GRASSES OR GRASS-LIKE				
SPECIES		USES		
BOTANICAL NAME	COMMON NAME	EVERGREEN	FLOWERING	LOW WATER USE
Agapanthus africanus	Lily-of-the-Nile	X	X	X
Calamagrostis a. 'Karl Foerster'	Feather Reed Grass	X		
Carex species	Sedge	X		
Cordyline australis	Cordyline	X		
Dietes vegeta	Fortnight Lily	X	X	X
Festuca species	Fescue	X		
Helictotrichon sempervirens	Blue Oat Grass	X		X
Hemerocallis Evergreen var.	Evergreen Daylily	X	X	X
Iris germanica	Bearded Iris	X	X	X
Liriope gigantea	Giant Lilyturf	X	X	
Miscanthus sinensis	Maidenhair Grass			
Muhlenbergia species	Deer Grass/Muhly	X		
Nassella Tenuissima	Mexican Feather Grass	X		
Pennisetum species	Fountain Grass			
Phormium species	New Zealand Flax	X		
Tulbaghia violacea	Society Garlic	X	X	X
Yucca species	Yucca	X		X

VINES				
SPECIES		USES		
BOTANICAL NAME	COMMON NAME	EVERGREEN	FLOWERING	LOW WATER USE
Clematis species	Clematis		X	
Clytostoma callistegioides	Violet Trumpet Vine	X	X	
Distictis buccinatoria	Blood-Red Trumpet Vine	X	X	X
Ficus pumila	Creeping Fig	X		
Hardenbergia violacea	Lilac Vine	X	X	
Jasminum species	Jasmine	X	X	
Macfadyena unguis-cati	Cat's Claw	X	X	X
Parthenocissus tricuspidata	Boston Ivy			
Trachelospermum jasminoides	Star Jasmine	X	X	
Wisteria chinensis	Wisteria		X	

Appendix A (cont.) - Tree Planting Detail

Trees shall be planted adhering to these guidelines and in accordance with the detail below.



Tree Planting and Staking

Not to Scale