

CITY OF FIRCREST

DESIGN STANDARDS AND GUIDELINES FOR STREETSCAPE ELEMENTS

Exhibit A

Adopted by Reference in FMC Chapter 22.65

Effective June 1, 2016

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1. INTRODUCTION

Streetscape Design addresses elements that create pleasant, desirable street scenes that define a community's character. The most easily identified streetscape features include street trees and other landscaping in sidewalk cut outs, planter strips (the landscaped areas between the curb and sidewalk), right-of-way easements (the areas between the back of sidewalks and private property lines), medians, city gateways and entries into the city from arterial streets. However, neighborhood places such as plazas, mini-parks along city streets, and trails where amenities such as "street furniture" (benches, trashcans, etc.) or public art are located are also a part of the city streetscape. Less obvious streetscape features include bus stops and their associated amenities such as shelters, benches and informational signs.

Functional elements such as sound walls and planting associated with right-of-way walls or fences, as well as the irrigation systems and drainage systems used to maintain the streetscape areas, are all considered a part of the streetscape.

Streetscape improvements can have positive benefits to the natural environment. The reduction of paved areas with landscape treatments can increase ground water recharge, as well as reduce the amounts of grease and oil transported to streams. They can help slow surface runoff from storms and reduce soil erosion and sedimentation of streams. Select tree species can help create habitat and food for birds and animals. Improvements may also be designed to create special conditions to protect threatened plants that would not otherwise exist in an urban setting.

The Design Standards and Guidelines for Streetscape Elements document is organized into the following sections:

- Streetscape Design for Vehicular Zone
- Streetscape Design for Pedestrian Zone

The Vehicular zone includes the area of the public right-of-way within the curb-to curb cross-section of the street that is occupied by travel lanes, parking lanes, and any medians, traffic circles, etc. that occur between the curbs. The Pedestrian zone includes the outer portions of the right-of-way that flank the street, including sidewalks and any adjoining plazas and parks. While the character and function of these two zones are closely connected, the guidelines in this chapter have been organized by zone to facilitate their use.

The standards and guidelines in this document apply to major collector streets (Alameda Avenue, Electron Way, Claremont Street, and 44th Street) and local streets associated with new development within the city as well as qualifying modifications to existing development. These standards and guidelines also provide design guidance for modifications to minor arterials (Regents Boulevard) and those portions of principal arterials (19th Street, Orchard Street and Emerson Street) that are located within Fircrest jurisdiction.

These streetscape concepts are intended to provide design professionals, property owners, residents, staff, and decision-makers with a clear and common understanding of the City's expectations for the planning, design and review of development proposals in Fircrest. If a conflict exists between these standards and guidelines and any streetscape designs adopted pursuant to a specific area plan, the specific area plan standards and guidelines shall prevail.

2. STREETScape DESIGN FOR VEHICULAR ZONE

Design Objective: To create a circulation system that provides for the safe and efficient movement of vehicles and reduces conflict with pedestrians and bicyclists and to provide roadway standards that will help create streets that are inviting, multimodal public places for vehicular traffic, bicyclists, and pedestrians.

The streetscape types and standards are intended to implement desirable and safe neighborhoods and to provide the pedestrian with a sense of safety and accessibility in Fircrest.

Section 2.1 describes the characteristics of streetscape types allowed in residential neighborhoods in Fircrest and Section 2.2 provides standards for the streetscape types.

2.1. STREETScape TYPES

The following Streetscape Types are specific to the applicable street types as defined below.

2.1.1 Major Collector

Major Collectors are two-lane streets that distribute traffic between principal traffic routes and local service streets within neighborhoods. They are capable of a medium to high amount of vehicular traffic while still maintaining a high quality pedestrian environment.

Wherever a Major Collector intersects with another street, the intersection should be designed to provide pedestrians with safe passage. Features may include pedestrian bulb-outs, differentiated accent paving or striped paint within the intersection, and pedestrian refuge areas within the medians of arterials.

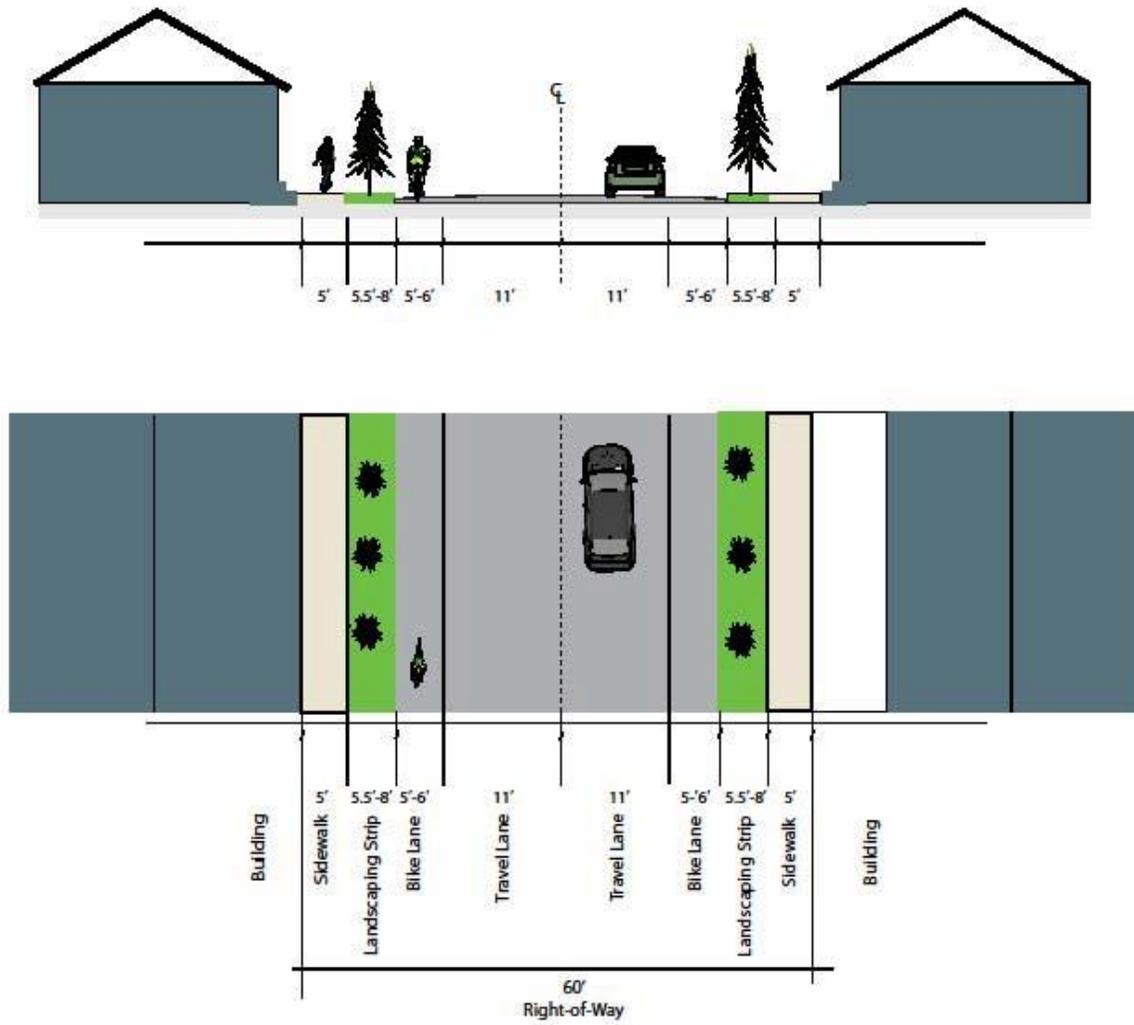
This streetscape type can be adapted to accommodate bus stops in accordance with City requirements and the specifications of Pierce Transit.

- Major Collector streets should be paved, with a 6-inch vertical cement concrete curb and gutter, a 5.5 to 8-foot planted buffer strip, and 5-foot cement concrete sidewalk on both sides of the street.
- The pavement section width may vary depending on whether bicycle lanes or parallel parking are included.
- Cul-de-sacs are prohibited.
- The road right-of-way should be a minimum of 60 feet in width. The City may require additional right-of-way width within the pavement section, the buffer strip or beyond the sidewalk when determined necessary by the City Engineer to accommodate parking, traffic signage, larger street trees or other facilities intended to serve the public.
- A Major Collector street shall be a public road.

2. STREETScape DESIGN FOR VEHICULAR ZONE

FIGURE 2-1

MAJOR COLLECTOR STREET SECTION



2.1.2 Local Street

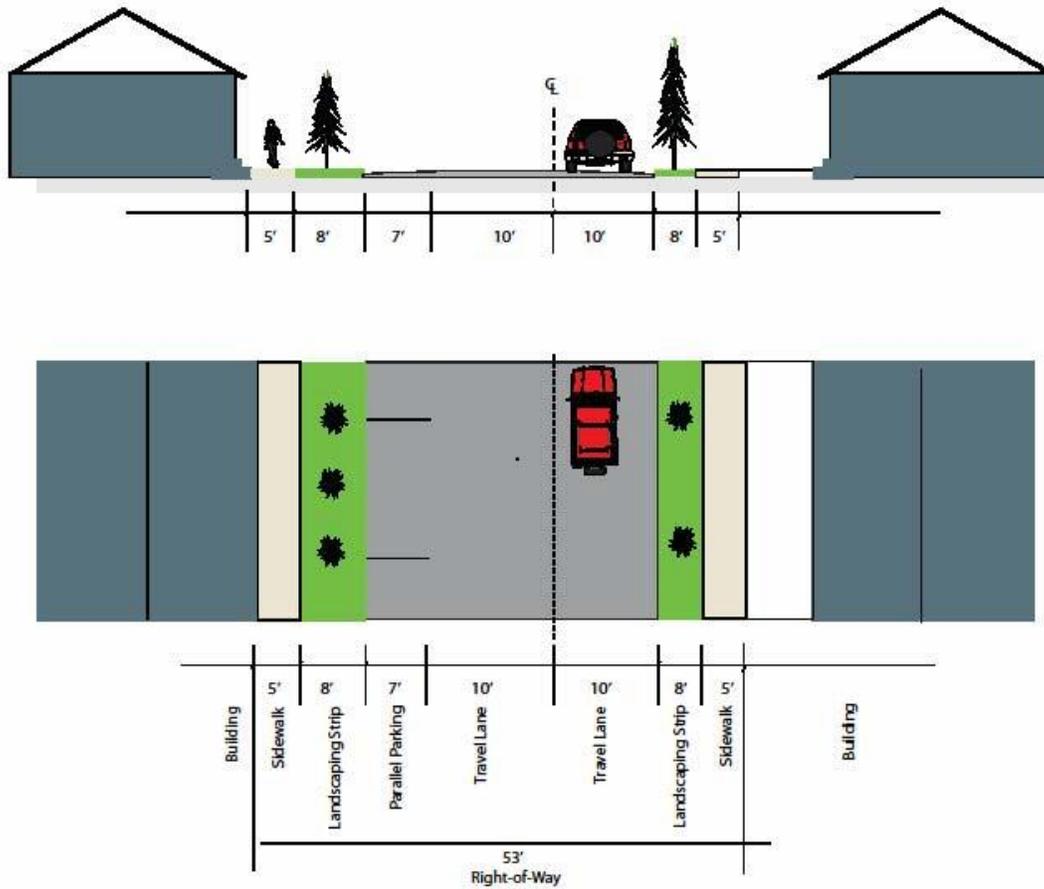
Local streets are typically internal subdivision streets providing circulation within the subdivision or between subdivisions. Travel lanes and the overall road section are relatively narrow, contributing to the residential character of the streetscape.

- Local streets should be paved, 27 feet wide from inside of curb to inside of curb, with a 6-inch vertical cement concrete curb and gutter, an 8-foot planted buffer strip, and 5-foot cement concrete sidewalk on both sides of the street.
- Seven-foot-wide, parallel parking shall be included on one side of the street. Typically, these parking bays should be framed or delineated by bulb-outs or neck-downs to reduce street width near intersections.
- Local streets should not exceed 150 feet in length without an emergency vehicle turn-around or through connection to another road. All portions of the exterior of the first floor of dwelling units accessed by these streets shall not exceed 150 feet from emergency vehicle access.
- Cul-de-sacs are prohibited on Local streets in small lot developments and discouraged in other locations. A cul-de-sac may be approved in a conventional plat where topography or other site constraints preclude an alternative design and when connectivity with the surrounding neighborhood is achieved. Such cul-de-sacs must include a central green court with bioretention facilities consistent with the City's Low Impact Development goals and objectives expressed in Policy LU11.8 of the Comprehensive Plan and the Low Impact Development Technical Guidance Manual for Puget Sound, adopted by reference in FMC 22.58.008(K).
- The road right-of-way should be 53 feet in width. The City may require additional right-of-way width within either the buffer strip or beyond the sidewalk when determined necessary by the City Engineer to accommodate traffic signage, larger street trees or other facilities intended to serve the public.
- A Local street shall be a public road.

2. STREETScape DESIGN FOR VEHICULAR ZONE

FIGURE 2-2

LOCAL STREET SECTION



2.1.3 Access Lane

Access Lanes are designed to accommodate traffic between clusters of dwelling units, most commonly within small lot developments. They are the smallest street sections that serve emergency vehicles. Access Lanes with a central green court and bioretention facilities or an auto courtyard with parking stalls are allowed in lieu of cul-de-sacs, which are prohibited.

- The Access Lane should be paved, 20 feet wide, with 6-inch vertical cement concrete curbs and gutter, and shall not be longer than 150 feet without an emergency vehicle turn-around or through connection to another road.
- All portions of the exterior of the first floor of the dwelling units shall not exceed 150 feet from emergency vehicle access.
- The road right-of-way should be a minimum of 40 feet in width. A sidewalk or path should be placed within the 10 feet of right-of-way on each side of the paved roadway unless pedestrian connectivity to homes fronting on the street and with the surrounding neighborhood is achieved with a sidewalk or path on just one side of the Access Lane.
- An Access Lane should be a public road.
- Parallel parking should not be permitted within an Access Lane's constructed roadway.
- An Access Lane should only intersect with another Access Lane, Local street or Alleyway.
- At the City's discretion, pedestrian walkways may be constructed with pervious pavement in order to achieve Low Impact Development goals and objectives.

FIGURE 2-3 ACCESS LANE SECTION



2. STREETSCAPE DESIGN FOR VEHICULAR ZONE

2.1.4 Alley

Alleys are desirable facilities that eliminate the impact of the garage door and driveway apron on the streetscape and eliminate driveway access conflicts on streets with higher traffic volumes or speeds. They enhance the pedestrian orientation of the streetscape, reduce clutter associated with utility facilities and refuse collection, and provide additional flexibility for emergency response providers.

The purpose is to promote alleys at appropriate locations, with design quality consistent with existing neighborhood streetscapes and to improve the connectivity of future development in Fircrest.

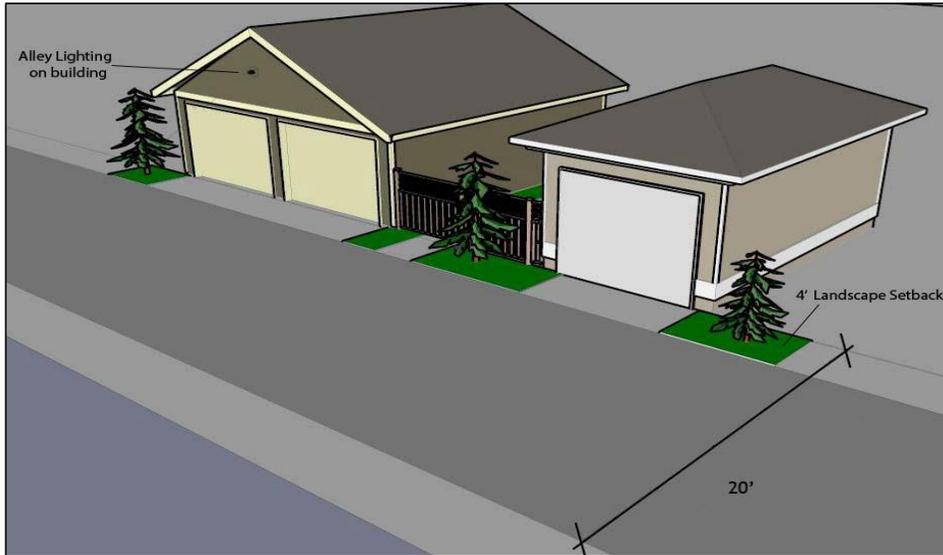
Alley Design Principles

- Alleys may have a straight layout and an unobstructed view from one end to the other when the goal is to provide the easiest access for utilities and services and the most open invitation to pedestrian and vehicular traffic.
- Alley alignments may be adjusted to create more visual privacy through the use of jogs in the travel lane, doglegs or neck-downs at entrances, and building placement, provided that utility designs and emergency or service vehicle access are not rendered impractical.
- Dead end Alleys should not be used except when there are no practical alternatives due to topography or other site constraints.
- When dead-end Alleys are used, they should be less than 150 feet in length.
- An Alley may be a public or a private road.
- An Alley may be designed to accommodate emergency response vehicles.
- Each lot fronting an Alley shall provide lighting from either an attached building light fixture or a pedestal lighting fixture that is directed downward or employs control features to avoid spillover into adjacent rear yards and homes.
- Parking shall not be permitted on either side of the alleyway unless parking bays are clearly delineated so that parked vehicles will not interfere with passage of other vehicles consistent with vehicular traffic clearance requirements in FMC 16.40.060.
- Where an alleyway intersects an adjacent right-of way, the alleyway shall be designed as a residential driveway with continuous curb, gutter, and sidewalk along the neighborhood street or access lane.
- Pervious pavement is encouraged, and may be required, in order to achieve the City's Low Impact Development goals and objectives.



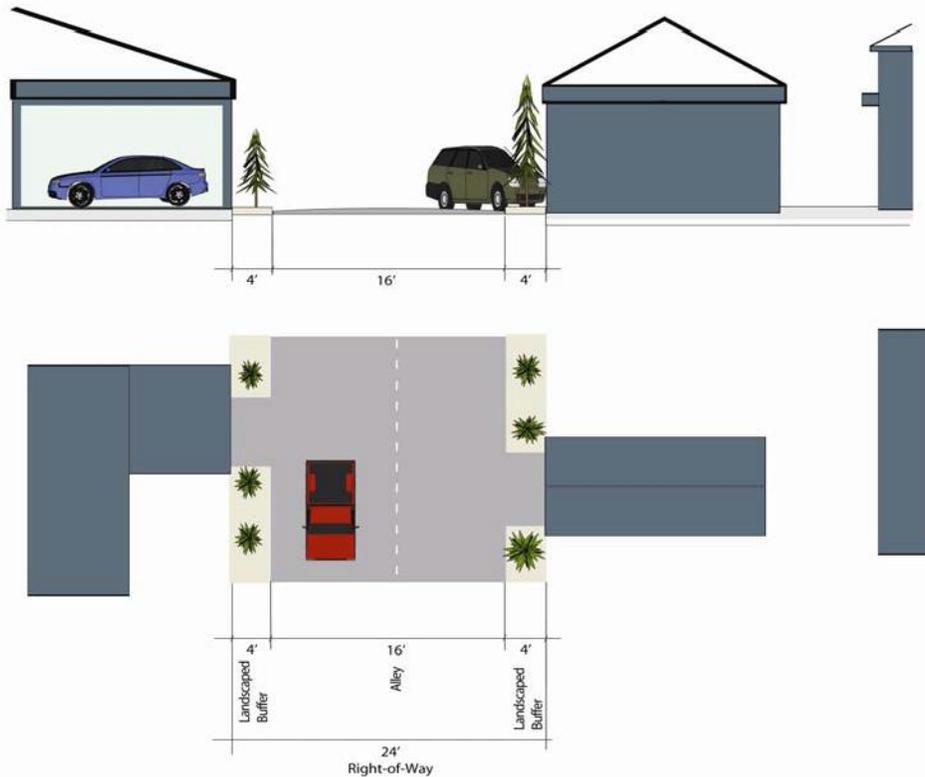
*Figure 2-4:
Desirable: Front Yard without garage or parking apron. Alleys are desirable to eliminate the impact of the garage door & driveway on the streetscape and eliminate access conflict to the street.*

**FIGURE 2-5
ALLEY**



**FIGURE 2-6
ALLEY SECTION**

(Dimensions may vary on whether alley is designed with one or two drive lanes, and with or without parking bays.)



2. STREETScape DESIGN FOR VEHICULAR ZONE

2.1.5 Paseos

Paseos are pedestrian pathways that add a dimension and improve the pedestrian circulation network. Paseos may also provide limited service access during specified periods of the day and to emergency service vehicles. In addition, portions of the Paseo may be used for outdoor dining, retail space, patios, art gardens, and related uses. Paseos should have a minimum unobstructed horizontal pedestrian clearance of 12 feet. The total width of the paseo should



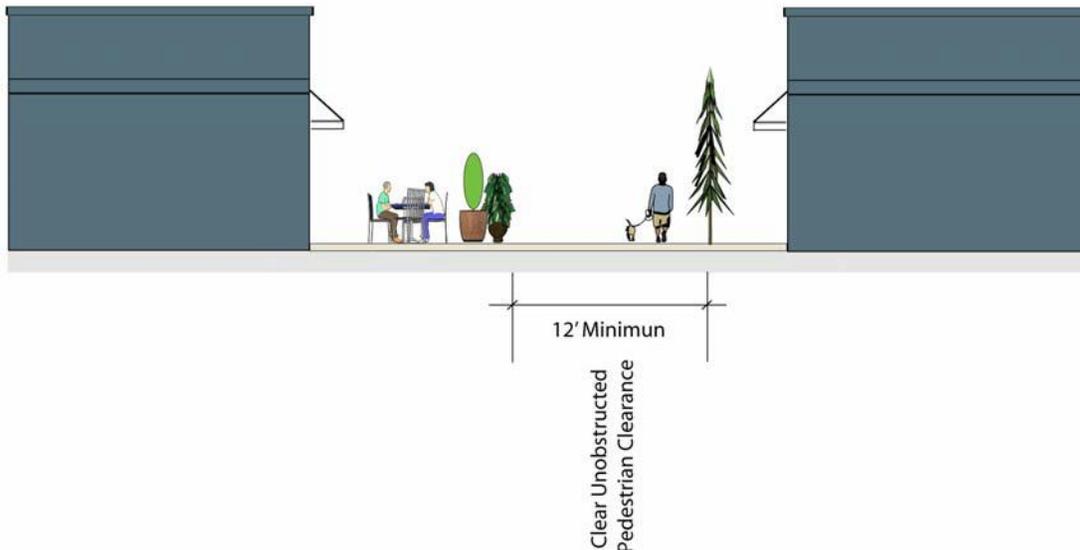
*Figure 2-7:
Desired: This paseo provide ample landscaping, benches
and lampposts, creating a preferable pedestrian
environment*

take into account intended uses and furnishings (such as tables, benches, planter pots, etc.) and provide for 12-foot clear in addition to the space required for the desired uses and furnishings. If a Paseo provides more than one pedestrian passageway (such as tables in the middle and pedestrian passage on each side), then one pedestrian passage shall be at least 12-foot clear, and any additional passageways must be a minimum of 10-foot clear.

These types of "streets" would be appropriate to connect uses and activities in a pedestrian orientation without additional public rights-of-way. Paseos can also be incorporated into development areas where unique site constraints or opportunities are present, such as

connecting front (street) and rear (alley) activity areas of the commercial block. Paseo street lighting and landscaping should be designed at a pedestrian scale.

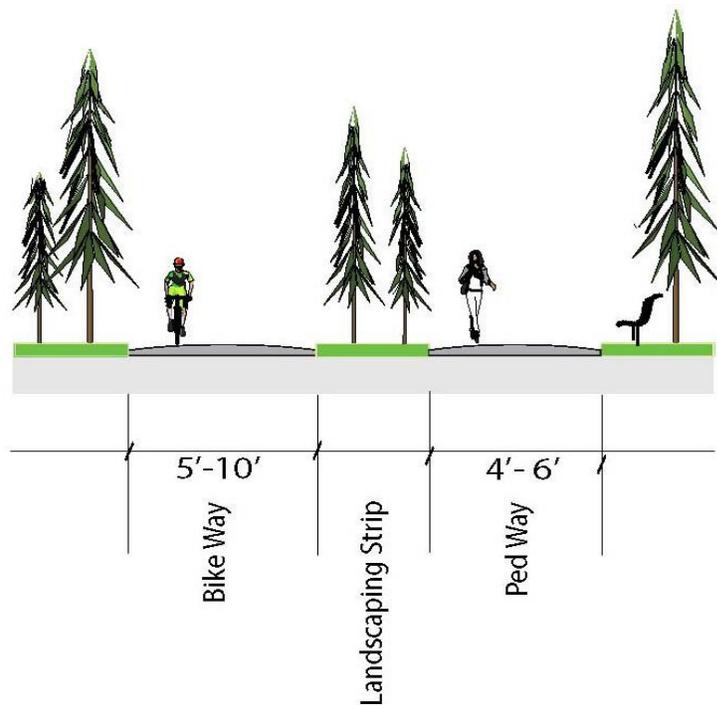
**FIGURE 2-8
PASEO SECTION**



2.1.7 Multi-Use Paths

Multi-use paths provide low-stress environments for bicycling and walking that are separate from motor vehicle traffic. They can be great places for novice and child bicyclists to try out their bicycling skills prior to taking trips on urban streets. Multi-use paths are frequently in high demand among bicyclists, joggers, in-line skaters, people walking dogs, people with disabilities, and a variety of other users. Systems of Multi-use paths in urban and suburban neighborhoods serve as the arterials of the bicycle and pedestrian transportation system. They serve as a complement to and extension of on-street facilities and offer the protection from motor vehicle traffic that many citizens seek when looking to leave their vehicle behind in favor of walking, or using a bike or a skateboard, or other form of non-motorized transportation.

**FIGURE 2-9
MULTI-USE PATH**



Accessible Path Design

Because Multi-use paths provide a transportation function, all newly constructed shared-use paths should be built to provide access for people with disabilities. In addition, existing shared-use paths should be improved to enhance access whenever possible. Key issues for accessibility include trail access points, grade, cross-slope, street crossings, curb ramp design, railings, and signage.

- Surfaces can be paved (asphalt or concrete) or unpaved (crushed stone or aggregate), but should be firm, stable, and slip-resistant.

2. STREETScape DESIGN FOR VEHICULAR ZONE

- Grades should generally be less than 5 percent, but can be up to 8 percent for short distances, such as 10 feet. Level landings or rest areas should be provided at appropriate intervals on grades steeper than five percent.
- Cross-slopes for drainage or super elevated curves should be no greater than two percent.

Trail Width

Under some conditions, the City may require a dedicated bicycle path and pedestrian path to be separated by a landscaping strip. In such cases, signage shall be provided to illustrate the dedicated bicycle and pedestrian lanes. Where space may be limited or bike and pedestrian traffic is moderate, however, a shared pathway may be acceptable. The recommended paved width for shared two-directional trails is 10 feet; however 12 to 14 feet widths are preferred where heavy traffic is expected.

2.1.8 Principal and Minor Arterials

Principal arterials include three streets that Fircrest shares jurisdiction over, including 19th Street and Orchard Street (Tacoma) and Emerson Street (University Place). A fourth principal arterial that serves the community, Mildred Street/67th Avenue West, is under the sole jurisdiction of University Place. These streets have been built to various standards by these municipalities -- as well as by Pierce County prior to the incorporation of University Place in 1995. Fircrest has one minor arterial, Regents Boulevard, which incorporates different design elements depending on location.

Rather than specify numerous standards for these street types, given their unique histories and design characteristics, *Table 2-1 Streetscape Type Standards* identifies that most vehicular and pedestrian zone components will be variable as to design and determined on a case by case basis. In some Instances, project elements will be designed in consideration of abutting land uses. Other factors may also be considered in developing the most appropriate and beneficial designs for future improvements to principal and minor arterial streets. Generally, the design guidance provided for major collector and local streets in Table 2-1, including sidewalk, planter strip, bike facility, curb radii and lane width standards, should be applied to principal and minor arterial streets -- with adjustments made to reflect these streets' unique characteristics and surroundings, and the City's goals for improvements for each street.

2. STREETScape DESIGN FOR VEHICULAR ZONE

2.2. STREETScape TYPE STANDARDS

The following table displays associated standards for each Street Type.

**TABLE 2-1
STREETScape TYPE STANDARDS**

	Principal and Minor Arterial	Major Collector	Local Street	Access Lane	Alley	Paseo	Multi-Use Path
Functional Classification	Arterial	Collector	Local	Local	Local	Pathway	Pathway
Right-of-Way Width	Variable	60'	53'	40'	20'-24'	N/A	N/A
Through Traffic Lanes	Variable	2 Lanes	2 Lanes	2 Lanes	1 Lane	Emergency Only	Emergency Only
Traffic Lane Width	Variable	11'	10'	10'	12' plus additional width if used for EVA	N/A	N/A
Parking Lanes	Variable based on abutting land use	N/A	7' Wide. Parallel (One side of street)	Not permitted	Parking bays may be permitted	N/A	N/A
Sidewalks	Variable based on abutting land use	5' (Both sides of street)	5' (Both sides of street)	Variable walkway requirement	N/A	N/A	N/A
Landscaping/ Planter Strip Width (Including Curb)	Variable based on abutting land use	5.5' – 8'	8'	10' (Includes pedestrian walkway)	2'-4'	N/A	N/A
Curb Radius (inside)	Variable	10' – 20'	20'	20'	N/A	N/A	N/A
Bike Facilities	Variable	On-street, striped 5'-6' wide	On-street, shared use	On-street, shared use	On-street, shared use	N/A	Designated or shared bicycle lane(s)

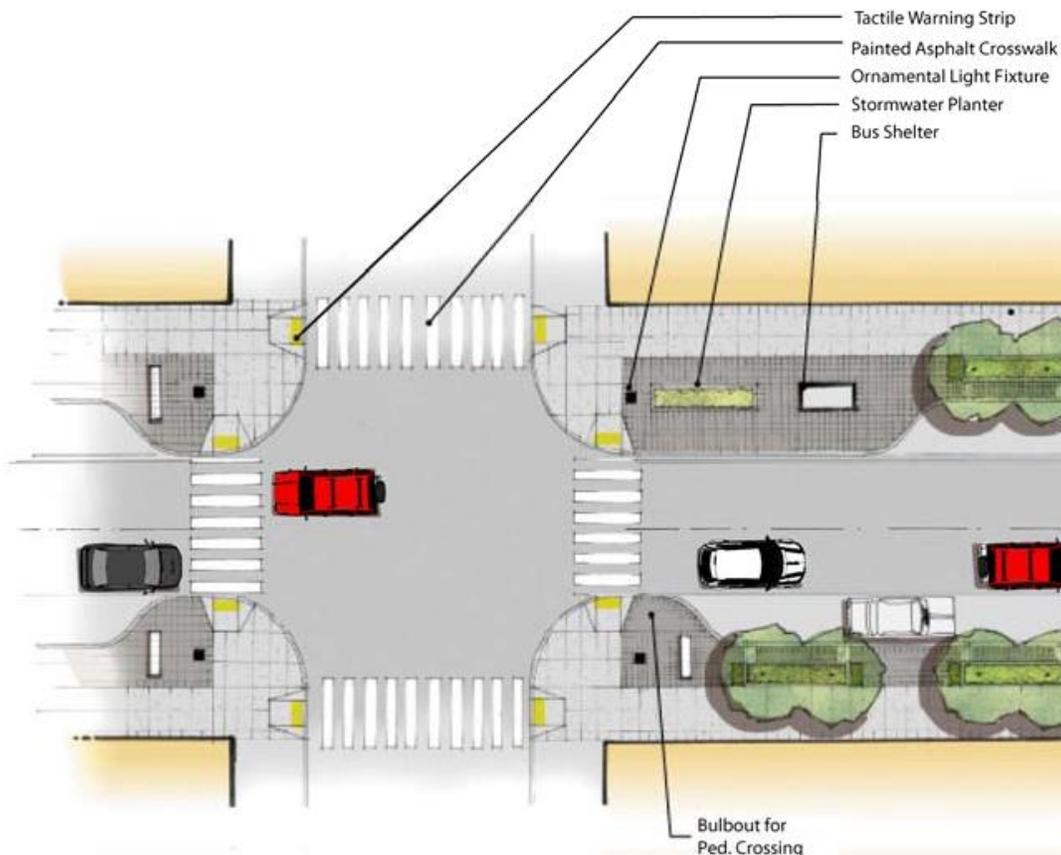
2. STREETScape DESIGN FOR VEHICULAR ZONE

2.3. INTERSECTION IMPROVEMENTS

One of the objectives of the streetscape guidelines is to create a pedestrian friendly environment. The following guidelines for the treatment of the intersection will help to integrate the future built form, create a functional and aesthetic neighborhood pedestrian corridor and provide a safe environment.

- Pedestrian crossings should be striped with a painted crosswalk to provide high visibility for both motorists and pedestrians.
- Curb extensions or bulb outs should be provided at the four corners of the intersection as a means of reducing pedestrian travel distance across the intersection, providing additional sidewalk space, providing additional opportunities for streetscape treatments and to slow traffic.
- Street trees and raised planters or LID swales should be considered where they will not interfere with pedestrian movement or obstruct sightlines for both motorists and pedestrians.
- Pedestrian crossings should be integrally designed with the rest of the intersection.

**FIGURE 2-9
INTERSECTION**



3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Design Objective: To provide a higher level of design detail and to promote walkability by improving pedestrian safety, convenience, and comfort. The guidelines focus on improving the attractiveness and effectiveness of the pedestrian network in order to encourage walking as a realistic mode of transportation. They provide design strategies for enhancing the physical safety, comfort, and convenience of the pedestrian environment as well as the aesthetic character and quality of the pedestrian experience.

This Pedestrian Zone section covers the following subcategories:

- Sidewalks
- Curb Return Radii
- Street Widths
- Street Furniture
- Bus Shelters
- Utilities
- Medians
- Planting Strips

3.1 SIDEWALKS

The sidewalk is the unifying element that knits Fircrest together, from the city's core areas to the adjacent residential neighborhoods that surround them. Providing pedestrian linkages is vital to achieving character and a sense of community. Nicely designed sidewalks that are inviting are principal factors in creating and increasing pedestrian activity. Sidewalks can also aid in decreasing the amount of traffic throughout Fircrest and providing safe routes for multiple users. Sidewalks can be designed to create a sense of community and social engagement.

Guidelines

- Dedicate adequate space within the public street right-of-way to support a safe, comfortable, attractive, and robust pedestrian environment.
- Public sidewalks should provide a direct and continuous pedestrian network that connects neighborhoods to each other with a clear, unobstructed pedestrian pathway that is designed to accommodate the needs of a broad range of users, including the elderly, those with disabilities, and young children.
- Landscaping of the public sidewalk is encouraged as a means of adding color and visual interest, softening the urban edges, providing shade, and improving air quality. Landscaping generally should be located in the amenity and frontage zones and should not obstruct through pedestrian traffic or access to the street.

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

3.2 CURB RETURN RADII

Curb returns are the curved connection of curbs formed by the intersection of two streets. A curb return's purpose is to guide vehicles in turning corners and separate vehicular traffic from pedestrian areas at intersection corners. The radius of the curve varies with longer radii used to facilitate the turning of large trucks and buses. Larger radius corners increase the length of pedestrian crosswalks. Special care must be taken in specifying curb return radii so that transportation facilities will be designed to be safe for all users regardless of the mode of travel they chose.

Generally, intersections should be designed as compact as practical. This is especially true for small lot developments, which are intended to be pedestrian-oriented in all facets of design while still accommodating the automobile. To help achieve this goal, the smallest practical curb return radii are used to shorten the length of the pedestrian crossing distance, crossing time, exposure to traffic, encourage pedestrian travel and increase safety.

According to The Institute of Traffic Engineers (ITE) Recommended Practice, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, a typical minimum curb return radius of 10 to 15 feet should be used where:

- High pedestrian volumes are present or reasonably anticipated;
- Volumes of turning vehicles are low;
- The width of the receiving intersection approach can accommodate a turning passenger vehicle without encroachment into the opposing lane;
- Passenger vehicles constitute the majority of turning vehicles;
- Bicycles and parking lanes create additional space to accommodate the “effective” turning radius of vehicles;
- Low turning speeds are required or desired; and
- Occasional encroachment of a turning school bus, moving van, fire truck or oversized delivery truck into an opposing lane is acceptable.

Per the ITE recommendations, curb radii will need to be larger than 15 feet where:

- Occasional encroachment of a turning school bus, moving van, fire truck or oversized delivery truck into an opposing lane is not acceptable;
- Curb extensions are proposed or might be added in the future; and
- Receiving street does not have parking or bicycle lanes and the receiving lane is less than 12 feet in width.

In such cases where a minimum curb return radius larger than 15 feet is proposed, it should be demonstrated that pedestrian safety will not be compromised beyond that which is necessary to accommodate other transportation facility requirements.

3.3 STREET WIDTHS

Pavement widths on many existing streets adversely affect the visual and neighborhood design character of the area being served. Wide streets are generally at odds with preserving the pedestrian scale and intimate character that contribute to successful residential neighborhoods.

Guidelines

- Design elements are encouraged to be used to reduce perceived street widths. These elements can include landscaping, street tree placement, medians and street furniture.

3.4 STREET FURNITURE

In order to transform the public streetscape from mere transportation facility to vibrant public open space it is important to add facilities and amenities that: allow people to stop and linger, provide services and information, and engage and delight the senses.

Providing comfort and convenience for pedestrians is vital to creating vibrant and walkable neighborhoods. The placement and selection of street furniture are keys to ensuring a comfortable environment for pedestrian and visual unity for all areas of Fircrest. Street furnishings should be chosen in a manner to adapt to the context of the streetscape.

Guidelines

- Street furniture should be consistent with City standards and requirements. It should contribute to the character of development and should not impact adjacent development.
- Street furniture should be clustered to provide amenity nodes for pedestrians; however placement shall not obstruct the flow of pedestrian traffic. These clusters shall be provided adjacent to neighborhood streets where they may intersect pocket parks, trails, paseos or other off street amenities.
- Adequate space should be allocated to accommodate the various types of street furniture and anticipated volumes of users.
- Graffiti-proof surfaces should be used where feasible.

3.5 BUS SHELTERS

Bus Shelters shall be in keeping with the street furniture palette and shall be approved by Pierce Transit.

Guidelines

- Bus shelters should be provided at appropriate locations to facilitate transit use by providing places of refuge, especially during periods of rain.
- Shelter design should also be compatible with the architectural design of the surrounding neighborhood.

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

- Transit shelters should be designed to provide protection from sun, wind, and rain; additional amenities, such as real-time arrival information, nighttime lighting, and trash receptacles, should be provided.
- Transit shelters should be designed to promote transit and energy efficiency by incorporating features such as solar panels, LED lights, etc.
- Graffiti-proof surfaces should be used where feasible.

3.6 UTILITIES

Above ground utilities are a common element found within the context of the streetscape. These utilities include power poles and lines, transformers, telecommunication pedestals, traffic signal control panels, etc. Often these utilities are located with little or no regard for the overall aesthetic appearance of the street. While access and maintenance issues are important and not to be overlooked, special design considerations must be taken into account in order to minimize their cumulative negative visual impact on the street.

Guidelines

- Whenever possible, utilities should be located underground. Where this is not possible utilities should be located to the side or back of a building where they will be out of view from the street.
- Utilities shall be screened from view through the use of planting, fencing or architectural screening. The design of the screen or fence should be complementary to the building material and existing fences or screens if located elsewhere on the property.



- Ensure that maintenance personnel can access the utility without obstructing the movement of pedestrians or vehicles to other parts of the street or site.
- The City should explore a combination of options to address the visibility and attractiveness of utility boxes.

- Landscaping shall not block, impede or hide fire hydrants or fire sprinkler hose connections. Fire hydrants may be aesthetically enhanced provided their accessibility and use is not impeded or compromised.

3.7 MEDIANS

Medians provide many functions for a streetscape. Properly landscaped medians can help to beautify roadways of the city while providing pedestrians a safe refuge during street crossings. Special considerations must be taken, when designing and landscaping medians to take into account pedestrian crossings and intersection visibility. Landscape planting shall also take into account the widths and placement of trees to accommodate safe traffic flow on these corridors.

Guidelines

- Landscaped medians should be implemented on arterial streets to create visual interest, a more intimate roadway scale, and a place for pedestrians to take refuge while crossing wide streets.
- Where medians are narrowed near intersections, landscaping should be graduated and include the use of small accent trees and ground cover.
- The use of groundcover or xeriscape concepts at intersections is favored over the extensive use of hardscape.
- Hardscape should only be used in medians where planting is not feasible due to site-specific constraints such as narrow median width.
- All landscaping requiring irrigation should be served by an automatic irrigation system, at least until such landscaping is well-established.

3.8 STREETScape LANDSCAPING

Street trees and other landscaping treatments are essential for creating beauty and improving the quality of life in a neighborhood setting. The benefits include: providing shade and cooling effects, providing a sense of enclosure, providing definition and scale to the street, protection from wind, separation from vehicular traffic, and reducing airborne dust and pollutants.

Many opportunities exist for street tree planting and other landscaping treatments in the existing neighborhoods of Fircrest. The most favorable locations are within sidewalks and planting strips to enhance the streetscape environment and within traffic medians to reinforce traffic calming measures.

Guidelines

Existing trees within the public right-of-way should be examined for growth characteristics, the health of the tree and suitability of the location. Every effort should be made to protect mature and suitable trees. Considerations for the selection and location of street trees include:

- The ultimate growth, height and spread of the tree canopy in order to allow for unrestricted growth;

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

- The density of the canopy, ultimate shape and branching pattern. Trees will provide varying degrees of shade due to branching habits and size and type of leaf;
- Access to adequate sunlight and rain water. Considerations of other microclimatic limitations such as reflected light sources from surface pavements and buildings and increased wind load caused by building design should be considered when locating trees either on the street or as part of a site plan development;
- The location of existing and proposed utilities to allow uninhibited growth without disturbance to the tree crown or root zone;
- Maintenance requirements of street trees including watering, fertilizing, pruning and repair of damage caused naturally and unnaturally; and
- Height of the tree canopy to protect sightlines along the street for both motorists and pedestrians.

Standards and Guidelines

3.8.1 Planting Strips

Planting strips aid in separating the pedestrian environment from the vehicular environment via street trees and other native plants and flowers. In addition, planting strips also aid in providing shade for pedestrians, help to filter air from adjacent roadways, and can facilitate a social streetscape environment. Landscaping of planting strips shall always take into account visibility at intersections and a safe passage for pedestrian movement.

Guidelines

- Landscaping in planting strips shall be adequately maintained and include the installation of an automatic irrigation system that is utilized until such landscaping is well-established, at a minimum.
- To provide a landscape separation between street and sidewalk, planting strips should be installed between the back of the curb and the sidewalk.
- Planting strips shall be designed to the extent practicable to be wide enough to accommodate medium to large street trees that have a high, broad branching canopy; a continuous streetscape planting strip, exclusive of easements, shall be located in areas adjacent to an existing or proposed public road.
- The planting strip shall be located generally parallel to the existing or proposed road and shall not be located in areas identified for road widening, road projects, drainage areas, or other public improvement projects. Minor encroachments in the planting strip by drainage easements may be approved by the City.
- Street trees shall be required to be planted within the planting strip with an even, linear spacing. If minor shifts to the linear spacing are required due to the location of existing infrastructure, development or required sight distance, these shifts may be approved by the City.

- The use of groundcover or xeriscaping concepts adjacent to intersections is favored over the extensive use of hardscape.
- Hardscape should only be used in areas where planting is not feasible due to site-specific constraints such as a narrow median width.

3.8.2 Street Trees

Generally, street trees are required on both sides of all newly created, widened, or substantially improved public and private streets to provide shade, calm traffic, and achieve additional complete street objectives. Where substantial improvements are limited to one side of a street, street tree requirements will apply to the side of the street being modified.

Guidelines

- Trees shall have a minimum caliper of 2 inches within a development at time of planting unless the City determines that a particular species or cultivar, which is available only in a smaller size, is the preferred selection for a specific location.
- Spacing of street trees, on average, shall be 30 feet on center. Wider spacing may be approved for trees having exceptionally broad canopies and narrower spacing may be required for trees having narrow canopy forms.
- Street trees shall be high-branching with a canopy that starts at least 6 to 8 feet above finished grade, depending on species or cultivar, and have roots that will not break up sidewalks or roadbeds or invade utility lines. For areas without overhead power lines, tree types shall be planted that will achieve a minimum height of 35 feet at maturity.
- Street trees shall be placed so as not to block sight distance or create a safety concern. Generally, trees should be planted at least 10 feet from utility or light poles or fire hydrants, 20 feet from street intersections, and 10 feet from driveways and alleys. The City may authorize irregular spacing to accommodate sight distance requirements for driveways or intersections or to avoid public infrastructure such as street lighting, utility poles or fire hydrants. The City should avoid the installation of street trees where they will result in an unacceptable conflict with existing underground utilities when substantial street improvements are proposed.
- Street tree species shall be approved by the City in accordance with the *Approved Street Tree Palette* in Table 3-1. The use of a variety of street trees within a development is encouraged to increase visual interest and minimize exposure to diseases that could target specific species and cause widespread damage if these species are heavily planted within an area. The City may approve trees not on the *Approved Street Tree Palette* if a registered landscape architect or certified arborist demonstrates to the satisfaction of the City that the proposed tree species or cultivar will not cause damage to infrastructure or create nuisance conditions.
- The City may authorize additional plantings of Kwanzan cherry on Regents Boulevard to maintain the historic planting plan for this street.
- For access lanes, street trees may be planted on the abutting private lot if the City determines that insufficient space exists within the public right-of-way to accommodate the trees.

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

3.8.3 Approved Street Tree Palette

The street tree palette for street tree selection includes trees selected for their survivability, drought tolerance, native habitat, ease of maintenance, and appearance. The following table is arranged by planting strip width; selections should consider planting strip width and other site characteristics.

DT – Drought tolerant

WWN – Western Washington

Native HF – Hard to find

T – May need training, multi-stemmed

WCN – West Coast Native

Highlighted – Utility Friendly

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

**TABLE 3-1
APPROVED STREET TREE PALETTE**

Tree Name	Size (H x W)	Notable Features	Attributes	Image
For planting strips 4' wide and up				
Mountain Hemlock (Tsuga mertensiana): WWN, DT	10'x4'	Bluish needles	Not for use on corners	
Swamp Magnolia (Magnolia Virginiana)	15'x15'	Fragrant flowers	Will take damp soils	
Skyrocket Juniper (Juniperus scopulorum 'Skyrocket' or other upright cultivars):DT	15'x5'	Narrow bluish needles	Evergreen	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Vine Maple (<i>Acer circinatum</i>): WWN, T	15'x6'	Yellow-red fall color	Prefers part sun/shade	
Amur Maple (<i>Acer ginnala</i>): T	18'x20'	Yellow-red fall color	Easy to transplant	
Crape Myrtle (<i>Lagerstroemia indica</i>): DT, T	20'x10'	Variety of flower and leaf colors	Prefers hot, sunny & dry	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Sentinel Crabapple (Malus 'Sentinel')	20'x20'	White fragrant flower	Bright red fruit	
Witchhazel (Hamamelis virginiana, H. mollis): T	20'x15'	Fragrant late winter flower	Open airy growth	
Star Magnolia (Magnolia stellata): T	20'x15'	White spring flowers	Slow growth	
Butterfly Magnolia (Magnolia 'butterfly')	20'x20'	Yellow flowers	Aromatic blooms	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Red Chokecherry (Prunus virginiana 'Canada Red')	25'x20'	Red foliage	Edible fruit, wildlife attractant	
Golden Desert Ash	20'x18'	Golden foliage	Seasonal interest	
Sourwood (Oxydendrum arboreum): DT, HF	25'x20'	Red fall color White summer flowers	Seasonal interest	
Stewartia: (S. koreana, pseudocamellia, monadelphica)	25'x20'	White summer flowers	Winter interest	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Amur Maackia (Maackia amurensis)	25'x25'	White summer flower	Peeling bark with maturity	
Japanese Tree Lilac (Syringa reticulata)	25'x20'	White fragrant flowers	Winter fruit	
Dogwoods: (Cornus 'Milky Way,' 'Stellar Pink,' 'Cherokee Brave,' & 'Celestial,' C. kousa)	25'x25'	White spring flowers	Choose disease resistant varieties	
Japanese Snowbell (Styrax japonicus)	25'x25'	White summer flowers	Winter interest	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Redbuds (Cercis canadensis, C. siliquastrum)	25'x30'	Dark pink spring flowers	Airy form Rounded shape	
Trident Maple (Acer buergeranum)	28'x28'	Yellow-red fall color Bronze-purple new leaves	Rounded shape	
Kobus Magnolia (Magnolia kobus): DT	35'x15'	White spring flowers	Often multi-stemmed	
Incense Cedar (Calocedrus decurrens): WCN, DT	40'x15'	Dense foliage with cones	Evergreen Slow-medium growth	
Honey locust (Gleditsia triacanthos 'Inermis'): DT	50'x40'	Open form	Fast growth Can have disease issues	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Zelkova (Zelkova serrata): DT	65'x40'	Red fall color	Urban tolerant	
Deodar Cedar (Cedrus deodara): DT	70'x30'	Graceful, pendulous branches	Evergreen Tough tree	
For planting strips 6' wide and up:				
Japanese Maple (Acer palmatum)	20'x20'	Variable fall color	Slow-medium growth	
Paperbark Maple (Acer griseum)	25'x14'	Red fall color	Exfoliating bark	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
American Smoke Tree (Cotinus obovatus): DT, HF	25'x20'	Variable fall color Airy-textured flowers	Rounded shape	
Umbrella Pine (Sciadopitys verticillata)	25'x20'	Handsome conifer	Evergreen	
Dove Tree (Davidia involucrata, aka Handkerchief Tree)	20'x20'	Large white flowers	Bracts (flowers) hang like handkerchiefs	
Katsura (Cercidiphyllum japonicum)	50'x30'	Red-purple/blue green leaves Apricot fall color	Dense foliage	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Alaska Yellow Cedar (Chamaecyparis nootkatensis): WCN	35'x12'	Weeping cultivars exist	Evergreen	
Japanese White Pine (Pinus parviflora)	40'x30'	Bluish needles Nice form	Evergreen	
Carolina Silverbell (Halesia tetraptera): HF	35'x30'	White spring flowers	Can take semi-shade	
Golden Rain Tree (Koelrueteria paniculata)	35'x30'	Yellow summer flower New growth pink	Ornamental seed pods	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Evergreen Magnolia (Magnolia grandifolia)	40'x35'	White summer flowers	Evergreen	
Black Tupelo (Nyssa sylvatica): HF	40'x35'	Yellow-red fall color	Best for residential areas	
Hinoki Cypress (Chamaecyparis obtusa)	50'x15'	Fern-like branches Excellent foliage	Evergreen Can be wind sensitive	
Sawara False Cypress (Chamaecyparis pisifera)	50'x15'	Wide range of foliage colors and textures	Evergreen Many cultivars available	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Bald Cypress (Taxodium distichum): DT	50'x15'	Deciduous conifer	Adaptable to many soils	
Cork Oak (Quercus suber)	60'x25'	Great rugged bark	Evergreen	
Oaks: Pin, Red, Scarlet, and Willow (Quercus rubra, Q. coccinea, Q. phellos)	70'x40'	Yellow-red fall color	Great street trees	
Athena elm (Ulmus parvifolia)	30'x35'	Yellow fall color Outstanding bark	Disease resistant	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
For planting strips 8' wide and up:				
Carriere Hawthorn (Crataegus x lavallei)	20'x15'	White spring flowers	Wildlife attractant	
Thorn less Cockspur Hawthorn (Crataegus crusgalli var. inermis)	25'x25'	Red-purple fall color	Wildlife attractant-red fruit Can have disease issues	
Winter King Hawthorn (Crataegus viridis 'Winter King')	25'x25'	Yellow fall color	Sharp thorns	
Blue Ice Smooth Arizona Cypress (Cupressus arizonica var. glabra 'Blue Ice'): DT	30'x15'	Blue foliage	Evergreen Prefers hot, sunny & dry	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Shore Pine (<i>Pinus contorta</i> var. <i>contorta</i>): WCN, DT	30'x15'	Irregular shape	Evergreen Native to shore areas	
Pacific/Norwegian Sunset Maples (<i>Acer</i> 'Pacific Sunset' / 'Norwegian Sunset')	30'x15'	Red-yellow fall colors	Moderate to fast growth	
Persian Ironwood (<i>Parrotia persica</i>): DT	30'x15'	Yellow fall colors	Flaky bark with age	
Silk Tree (<i>Albizzia julibrissin</i>)	30'x30'	Pink fragrant flowers	Seeds easily	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Saucer Magnolia (Magnolia x soulangiana)	30'x30'	Pink spring flowers	Multi-stemmed	
Pillar Crabapple (Malus tschonoskii)	35'x30'	Great fall color	Wildlife attractant - berries	
Jacquemont Birch (Betula utilis var. jacquemontii)	35'x30'	Yellow fall color	Winter interest	
Italian Alder (Alnus cordata): DT	40'x30'	Yellow-brown fall color	Pyramidal shape	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Golden Locust (Robinia pseudoacacia 'Frisia'): DT	40'x30'	Golden foliage	Fast growth	
Swedish Whitebeam (Sorbus aria)	40'x30'	White spring flowers	Wildlife attractant-red fruit	
Fruitless Mulberry (Morus - Fruitless Cultivars)	40'x40'	Yellow-green to dark green foliage	Fast growth	
Antarctic Beech (Nothofagus antarctica): DT, HF	45'x25'	Yellow fall color	Attractive bark	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Swamp White Oak (<i>Quercus bicolor</i>)	45'x25'		Well adapted to wet soils	
Serbian Spruce (<i>Picea omorika</i>)	50'x25'	Light green to blue-green foliage	Evergreen Graceful form Great street tree	
Oriental Spruce (<i>Picea orientalis</i>): HF	50'x25'	Short needles-fine texture	Evergreen	
Oregon Myrtle (<i>Umbellularia californica</i>): DT, WCN	50'x25'	Aromatic leaves	Evergreen native to OR and CA	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Lawson Cypress (Chamaecyparis lawsoniana): DT, WCN	50'x35'	Yellow fall color	Great winter interest	
Hackberry (Celtis occidentalis): DT	50'x40'	Purple berries	Wildlife attractant	
Chinese Paper Birch (Albosinensis)	50'x40'	Yellow fall color	Great winter interest	
Paper-Bark Birch (Betula papyrifera)	60'x30'	Yellow fall color	Great winter interest	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
River Birch (<i>Betula nigra</i>):	55'x50'	Yellow fall color	Great winter interest	
Spanish Fir (<i>Abies pinsapo</i>): DT, HF	60'x30'	Pale blue-green foliage	Evergreen	
Pagoda Tree (<i>Sophora japonica</i>): HF	60'x40'	White summer flower	Great street tree	
Ginkgo/Maidenhair Tree (<i>Ginkgo biloba</i>)	70'x40'	Yellow fall color	Urban tolerant	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
For planting strips 10' wide and up:				
Mugo Pine (Pinus mugo): DT, WCN	20'x20'	Tannenbaum is single-stem variety	Evergreen Growth size is extremely variable	
Cornelian Cherry (Cornus mas): T	25'x20'	Fragrant yellow flower	Suckering may occur	
Hedge Maple (Acer campestre)	28'x28'	Yellow fall color	Slow growth	
Japanese Plume Cedar (Cryptomeria japonica 'Elegans')	30'x10'	Green foliage changes to bronze in winter	Evergreen Fluffy and airy foliage	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Sycamore Maple (Acer pseudoplatanus)	45'x45'	Green spring flowers Flaky bark	Shade tree	
Norway Maple (Acer platanoides)	50'x40'	Yellow fall color	Shade tree	
Red Maple (Acer rubrum)	50'x40'	Yellow-red fall color Silvery underside leaves	Adaptable to variety of conditions	
Shingle Oak (Quercus imbricaria): HF	55'x50'	Yellow-red fall color	Slow-medium growth	

3. STREETScape DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Norway Spruce (<i>Picea abies</i>)	60'x30'	Dark green needles	Evergreen Can have insect problems	
Oregon White Oak (<i>Quercus garryana</i>): WWN	60'x40'	Abundant acorns	Native to Western WA Wildlife attractant	
Sugar Maple (<i>Acer saccharum</i>)	60'x40'	Yellow fall color	Shade tree	
Western Red Cedar (<i>Thuja plicata</i>): WWN, DT	70'x20'	Beautiful form and foliage	Evergreen Prefers moist soils	

3. STREETSCAPE DESIGN FOR PEDESTRIAN ZONE

Tree Name	Size (HxW)	Notable Features	Attributes	Image
Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	70'x25'	Deciduous conifer	Needs little pruning	 A photograph of a Dawn Redwood tree, which is a tall, slender, conical evergreen with dense, dark green foliage. The tree is situated in a residential area, with a brick house and a driveway visible in the background under a clear blue sky.

4. APPENDICES

A. DEFINITIONS

Bulb-outs: Bulb-outs extend the sidewalk or curb line out into the parking lane of a street to effectively reduce the street width. These measures greatly improve pedestrian crossings by reducing the crossing distance and improving the ability for pedestrians and motorists to see each other. Curb extensions also can help reduce turning speeds at an intersection and provide additional space for curb ramps and/or level sidewalk landings where space is limited. Bulb-outs are only appropriate where on-street parking exists; curb extensions should never reach into travel lanes, bicycle lanes, or shoulders.

Design guidelines: These minimum guidelines or recommendations are intended to guide the design of streets. Where conditions are not specifically addressed in the guidelines, it is the responsibility of the proponent to show that the proposed design solution meets the intent of the most closely related guidelines.

Median: The area of raised paving or planting running down the center of a street, separating the directions of traffic.

Multi-modal circulation: Refers to the circulation systems that involve multiple systems including; pedestrians, bicycles, automobiles, buses and other various forms of transportation found in Fircrest.

Multi-use paths: An off-road hard-surfaced path, that may be separated from motorized vehicular traffic by an open space or barrier, which has been designated, or designed and designated by the City for public use for human-powered travel or movement."

Paseos: Are private or public pathways that are designated for pedestrian use, and where appropriate can serve as an outdoor space for outdoor dining, public art, retail space and other activities deemed suitable by the City.

Pedestrian refuge: Pedestrian refuges are raised islands with minimum dimensions of 4-6 feet wide and 8-12 feet long, which are placed in the center of the roadway separating opposing lanes of traffic. Pedestrian refuge islands are particularly suitable for wide two-way streets with four or more lanes of moving traffic traveling at higher speeds. They are particularly useful to persons with mobility disabilities, very old or very young pedestrians who walk at slower speeds, and persons who are in wheelchairs.

Pedestrian Scale: The proportional relationship between an individual and his or her environment.

Right-of-way: The boundary of public ownership of the street. The area between private property lines is generally referred to as the public right-of-way.

Standards: Minimum/maximum requirements based on quantifiable criteria.

Streetscape: The visual character of a street as determined by elements such as structures, access, greenery, open space, view, etc. The scene as may be observed along a public street composed of natural and man-made components, including buildings, paving, planting, street hardware, and miscellaneous structures.

4. APPENDICES

Traffic calming: Refers to various design features and strategies intended to reduce vehicle traffic speeds and volumes on a particular roadway.

Xeriscape: A landscaping method that employs drought-resistant plants native to the region in an effort to conserve resources.